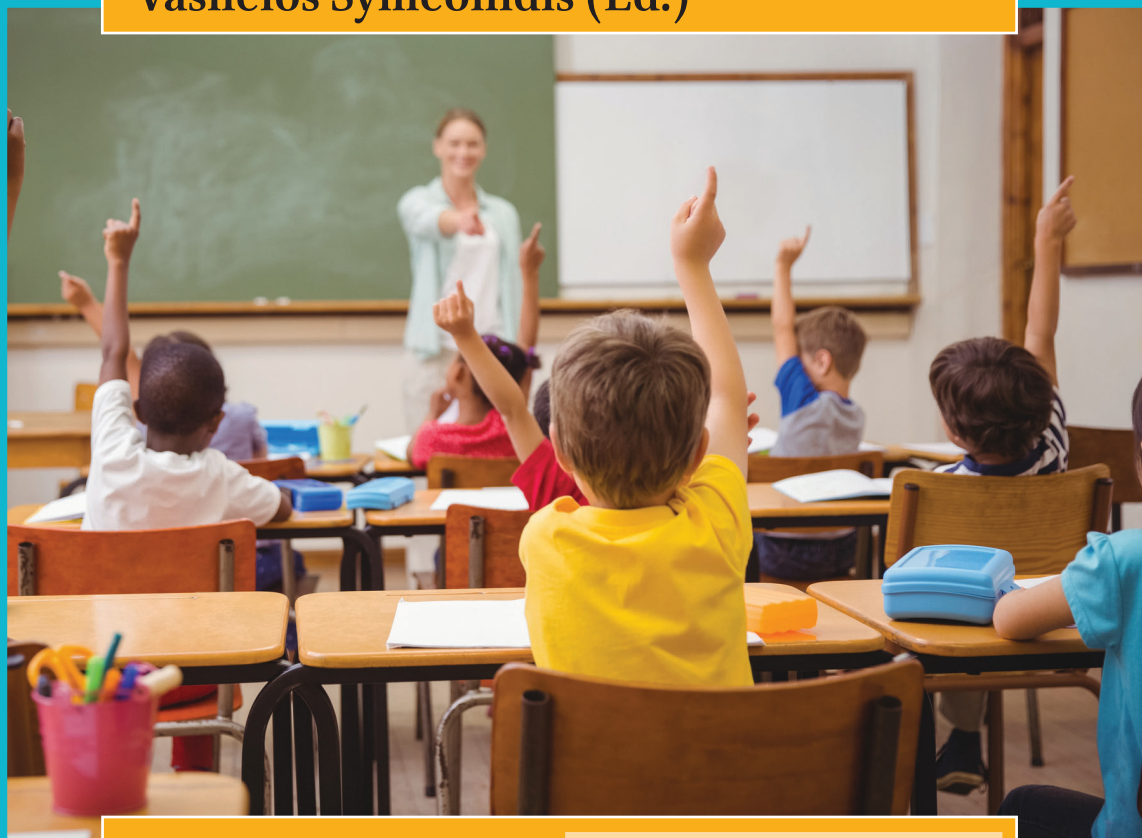


Enhancing the Value of Teacher Education Research

Implications for Policy and Practice

Vasileios Symeonidis (Ed.)



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Key Issues in Teacher Education

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Implications for Policy and Practice

Edited by

Vasileios Symeonidis



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Preface

The Teacher Education Policy in Europe (TEPE) Network is an academic network that brings together the stakeholders involved with teacher education in Europe, and is focused on improving its quality. This focus is achieved through careful comparison and analysis of teacher education practices, the sharing of practices and the outcomes of teacher education research, and by discussing the implications of such outcomes for policy at faculty, institutional, national, and European level. Underlying this mission is the recognition that teacher education concerns teacher educators, student teachers, researchers, practising teachers, school heads and boards, and policymakers at regional, national, and European level. The development of teacher education policy therefore calls for collaborative dialogue between all these stakeholders and the TEPE network aims to create a platform that facilitates such dialogue.

The TEPE Network is publishing a book series titled *Key Issues in Teacher Education: Policy, Research and Practice* with Brill. This series presents issues relating to teacher education and discussions on practice, policy and research with a view to inspiring and facilitating the necessary dialogue on teacher education as part of an ongoing process of professional development within the teaching profession, a continuum that stretches from initial teacher education through induction and on to continuing professional development. It deals with teacher education practice, policy and research from a comparative European/international view, placing value on a diversity of perspectives and viewpoints, addressing all levels of teacher education, seeking to connect research, practice and policy, and examining the implications for local, national and/or international policy, practice and research. The series editors welcome proposals for future volumes on an ongoing basis.

The current volume is the third in the TEPE series, and brings together 14 contributions from 38 authors on the topic of *Enhancing the Value of Teacher Education Research: Implications for Policy and Practice*. Several of the chapters in this book were presented at the TEPE Network's 16th annual conference, which took place from 11 to 13 April 2022 at the University of Graz, Austria and was chaired by Dr. Vasileios Symeonidis. The 2022 conference encouraged participants to reflect on the value of research in, on and for teacher education by exploring the various challenges faced by teacher education research and the implications for policy and practice. To assist with understanding and bridging these challenges, the following questions were asked:

- What is the purpose of research in teacher education? What is the value of research-based teacher education, and why do we prepare teachers as researchers?

- What are the most effective ways to generate a knowledge base for teacher education? What is the value of small-scale practitioner-based research and why is it important for teacher education? What kind of indicators do we need for standardised monitoring studies and who should be defining them? Which research topics are relevant for the field going forwards?
- How can teacher education research inform policy? How is policy utilising teacher education research? How is the governance of teacher education influencing research in specific disciplines?
- What research is meaningful for the practice of teacher education? How can we design research projects and curricula that have an optimal impact on the practices of teachers, teacher educators and student teachers? How can we ensure that teacher education research remains relevant to the practicalities of teacher education?

Both the conference and the book received financial support from the University of Graz, the City of Graz and the Austrian Society for Research and Development in Education (ÖFEB). This book would also not have been possible without the invaluable contributions of all the authors and the productive input of the publisher. Our work on this book was undertaken in 2022–2023 and all contributions have been approved following a double-blind peer review process. I would like to offer my sincere thanks to all the contributing authors, whose innovative and far-reaching work provides valuable insight into how to enhance the value of teacher education research.

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Enhancing the Value of Teacher Education Research

Introduction and Key Messages

Vasileios Symeonidis

Abstract

The purpose of this introductory chapter is to offer a conceptual background for the content and structure of this book, and to synthesise and critically reflect on some of the key messages from the various contributions. First, the chapter sets out the background context of teacher education research in the twenty-first century, discussing some of the reasons for its growing significance and expansion in recent years. It then goes on to describe the various facets of teacher education research, including what research in, on and for teacher education is understood to be. Against this conceptual background, the chapters are then organised and presented in three sections. Drawing on the lessons learned from each chapter, six key messages on enhancing the value of teacher education research that emerge across the book are identified and discussed. The chapter closes with some concluding remarks on the implications of these key messages for teacher education policy and practice.

Keywords

enhancing value – informing policy – improving practice – key messages – research in, on and for teacher education

1 The Context of Teacher Education Research in the 21st Century

The rapidly-growing interest in teacher quality on the part of policymakers worldwide has undoubtedly led to a rethinking of the value of teacher education research, and revealed a number of tensions that are inherent to this field as well as bringing new challenges. At the turn of the century numerous transnational reports on teaching and pupil attainment were published, most notably the PISA (Programme for International Student Assessment) studies, intensifying the political focus on teacher education and the need to produce ‘reliable’ evidence, especially in relation to policy and practice (Menter,

2023). Teacher education research in the twenty-first century has largely been driven by the emergence of the quality assurance movement in teacher education (Tatto, 2015) and the so-called 'third wave' of teacher education reforms (Trippstad, Swennen & Werler, 2017). This is a global phenomenon and fosters accountability, with governments assuming that tighter accountability will lead to improvements in the quality of teacher education, and in turn to improvement in the quality of teachers (Mayer & Oancea, 2021), which is thought to be a key factor in countries' economic development.

The shift from the underdevelopment of teacher education research, at least when it comes to the processes of reform and policy development, in the early 2000s towards what Menter (2023, p. 9) now describes as an 'enormous global rise' has certainly given prominence to the discipline, and increased the quantity of research produced, but it has not yet succeeded in developing a systematic knowledge base for the field (Mayer, 2021; Mayer & Oancea, 2021), nor has it yet succeeded in gaining teacher education a stable footing in the context of higher education (Zgaga, 2013, 2017). Lacking a knowledge base of large-scale and longitudinal studies and without systematic connection of small-scale studies, teacher education research is often still seen as underdeveloped (Cochran-Smith & Villegas, 2015; Menter, 2023; Murray & Kosnik, 2013) and as having limited potential to influence policy (Mayer, 2021; Darling-Hammond, 2016). At the same time, teacher education researchers are highlighting that teacher education research risks becoming irrelevant to teacher education in practice. Teacher education faculties and departments often find themselves having to choose between their educational and academic functions, creating a dangerous dichotomy that tends to foster excellence in research and neglect any connection to practice in schools (Zgaga, 2017).

In this context, teacher education research continues to be undervalued and is often misunderstood by other academic disciplines, policymakers and even teachers and teacher educators. Although teacher education has been largely integrated into the higher education sector, leading to the 'universitisation' of teacher education programmes (Menter, 2023; Zgaga, 2013), in recent years alternative routes into teaching have emerged, particularly as a result of increasing teacher shortages in some countries, but also due to critiques of university-based teacher education, and the argument that it could be conducted outside universities. Such developments make it even more imperative to undertake more collaborative and rigorous teacher education research that examines the effectiveness of teacher education, the aims and approaches of traditional and alternative teacher education programmes, curriculum design and learning outcomes (Darling-Hammond, 2016; Mayer, 2021; Mayer & Oancea, 2021; Menter, 2023; Tatto, 2015). Moreover, if university-based teacher

education is here to stay, then teacher education itself should be designed and practiced as a scholarly activity. Here, Loughran's concept (2009) of a pedagogy of teacher education that draws knowledge from an evidence base would be a useful way to align teacher education with the expectations of more established and traditional academic disciplines.

Against this background, the current volume takes a closer look at how we can enhance the value of teacher education research. This introductory chapter provides the conceptual background to the book, synthesising and critically reflecting on the lessons learned from the various contributions. After setting teacher education research in the context of the twenty first century, it goes on to describe the various facets of teacher education research, including what research in, on and for teacher education is understood to be. The chapters are then presented and organised in three sections. The introduction concludes by bringing together the main messages and reflecting on their implications for teacher education policy and practice.

2 Research In, On and For Teacher Education

The kind of research that is valuable and applicable to teacher education continues to be the subject of debate among researchers, policymakers and practitioners. To answer this question, it is important to consider the different ways teacher education research is approached by those producing and utilising it, including insiders and outsiders to the field.

Menter (2023) has previously divided teacher education and research into three main categories, namely research 'in', 'on' and 'around' teacher education. For Menter (2023), research *in* teacher education is carried out by education insiders, namely people working as practitioners, and is the common approach to teacher education research, dealing with what happens in practice. Research *on* teacher education tends to step back from the practice, examining teacher education in a more detached way, thus being more informed by theory and open to large-scale and longitudinal methods; though unfortunately, it remains scarce. Research *around* teacher education is even scarcer, as it takes an interdisciplinary approach to understanding the relationship between teacher education and society in general. Research on and around teacher education are similar, in that they are often conducted by external researchers and cannot be directly utilised to improve practice. In that sense, we agree with Noddings (1986) that we should also be engaging with research 'for' teacher education by considering how we could make effective use of research methods and findings to enhance the quality of teacher education itself.

All three approaches are important for teacher education, making different and sometimes complementary contributions to policy and practice. Research *in* teacher education actively examines the role of research as an aspect of study for those wishing to become teachers (i.e., research-based teacher education) and as a necessary task for teachers and teacher educators once they have qualified. The most common research designs include action research, design-based research, and narrative-biographical inquiry; these enable teachers and teacher educators to reflect critically on their teaching and what they would like to change about their practice. In order to utilise research in everyday teaching, however, teachers and teacher educators need time for appropriate preparation and support structures: they often have positive attitudes towards such an approach, but encounter challenges to becoming involved in research activities (Cao et al., 2023; Czerniawski et al., in this volume, p. 97; Georgiou et al., 2023; Hancock, 1997).

Research *on* and *around* teacher education can prove particularly valuable to teacher education policy, as well, of course, as being beneficial for practice, and can be conducted by both internal and external researchers as demonstrated in this book. In their quest to improve teacher quality, policymakers and other indirect stakeholders in education governance, such as educational foundations and development agencies, tend to promote and fund the development and dissemination of measurable evidence through large-scale and longitudinal studies, which apply empirical methods to the evaluation of educational interventions and school effectiveness. However, there is a lack of appropriate indicators for standardised monitoring studies in teacher education, and the question of who should be defining such indicators remains a challenging issue. Prominent scholars (see Cochran-Smith & Villegas, 2015; Darling-Hammond, 2016; Mayer, 2021; Menter, 2023), have highlighted the usefulness of evidence from large-scale studies, particularly for examining the relations between teacher characteristics or programme strategies and learning outcomes; with the caveat that caution is necessary in order to avoid oversimplifications and ‘thoughtless’ translation into policy, which was the case in the early years of research on teaching (Darling-Hammond, 2016, p. 89). Not leaving research on and around teacher education to external researchers alone gives teacher educators the opportunity to use their own research to challenge policymakers’ notions of quality and effectiveness, reclaiming what counts in teacher education and helping to construct a more professionalised accountability framework (Mayer, Goodwin, & Mockler, 2021).

Research *for* teacher education is of significant value to the practice of teaching, producing knowledge that helps teachers and teacher educators do a better job, and leading to changes in schools and teacher education institutions

(Smith, 2015). This kind of applied research was the tradition in the field of teacher education, before the need for more systematic work in and on teacher education emerged (Cochran-Smith & Villegas, 2015). In a context that increasingly favours effectiveness studies, it is important to not neglect the value of such research for improving the practice of teacher education, even if it has often been criticised as small-scale and unsystematic (Mayer, 2021; Mayer & Oancea, 2021; Menter, 2023). Research in, on and for teacher education should essentially be complementary branches, enhancing the value and validity of the field. It is clear that no single word can capture the complexity of producing and applying teacher education research, and other approaches than those mentioned above may also be relevant.

With regard to methodology, teacher education research can be seen as a subset of educational research; it has social sciences at its core and an overlap with humanities (Menter, 2023). All empirical approaches traditionally used in the social sciences, including quantitative, qualitative and mixed-methods approaches, are now also widely utilised in teacher education research. Major journals with a long history in the field, for instance the *Journal of Teacher Education*, *Teaching and Teacher Education*, *European Journal of Teacher Education*, and *Professional Development in Education*, publish articles reporting on a variety of research approaches and designs, including systematic reviews and meta-analyses. Moreover, teacher education researchers are increasingly proposing new and innovative approaches to research, both theoretical and empirical, in, on and around teacher education, as demonstrated in this volume by the examples of critical realism (Christodoulou, this volume, p. 62) and phenomenology (Agostini et al., this volume, p. 227). The basis for this boom in innovation is the need in a number of countries for teacher education to mirror the logic and structures of higher education and research to enable scholars to move across disciplines. This may of course be jeopardised by governments' efforts to control and reduce the role of universities in teacher education (Zgaga, 2013).

3 The Contribution and Structure of This Book

Previous handbooks and scholarly collections have brought together research on teacher education from various countries, exploring topics of relevance and significance for the field (see for example Mayer 2021, Menter, 2023). The purpose of this volume, on the other hand, is to reflect critically on the nature and role of teacher education research itself, identifying and exploring ways to systematically enhance its value for policy and practice. It is attempting to do so by gathering together studies that deploy a wide range of methodologies,

including small-scale practitioner-focused research and large-scale empirical studies, reflecting on the value of both approaches for the production of research that is meaningful for practice, but also valid and relevant for policy. The studies collected in this book were developed in different countries and are informed by a variety of philosophical traditions, so that lessons learned should acknowledge the contextual nature of the findings and consider the multiple facets of teacher education research.

The first part of the book, *The role and value of research in teacher education*, looks at research as an integral part of the entire continuum of teacher education, including initial teacher education and continuing professional development. In particular, it discusses and reflects upon the concept of research-based teacher education, with authors highlighting the contribution of research to the development of critically reflective professionals, the challenges faced by the lack of appropriate infrastructure and resources, and the importance of connecting theory to practice in shaping teachers' perception of research. The role of research in the professional development of teacher educators (i.e., university-based, or school-based) is also explored.

In Chapter 1, Kari Smith discusses the key role of research in teacher education, considering the concepts of evidence-based, evidence-informed and evidence-ignored teacher education. Drawing on policy documents, mainly from the Norwegian context, and international research, Smith advocates evidence-informed teacher education, which is not limited to improving practice, but also examines the beliefs and moral values of practitioners themselves. She argues that teacher education stakeholders should be producers as well as consumers of research, focusing on how to design evidence-informed teacher education at the level both of systems and individuals. Her reflections show that there is no 'one size fits all' solution, since research needs to be adapted to specific contexts by individual teacher educators.

In Chapter 2, Mirjamaija Mikkilä-Erdmann, Mirva Heikkilä, Tuike Iiskala and Anu Warinowski reflect on the value of research-based teacher education from a Finnish perspective. Reviewing the literature and exploring the integral role played by research in the Finnish teacher education system, the authors argue that research-based teacher education helps (future) teachers to become epistemically responsible and skilful professionals. Through the example of an educational science learning environment known as a research workshop, the authors illustrate how student teachers can develop their critical stance, which will be particularly useful when it comes to evaluating their students, given that there are no inspectors or obligatory standardised tests in Finnish schools. Some challenges, such as the development of research-based teacher education across the whole continuum of teaching, are also discussed.

Michalis Christodoulou, in Chapter 3, further emphasises the ability of teacher education research to enhance teachers' critical reflexivity, drawing on the philosophical tradition of critical realism. This chapter stands at the intersection between research in teacher education and research on teacher education, since it explores the potential of a critical realist perspective on the one hand to empower teachers and give them agency in the context of initial teacher education, and on the other to make teacher education research more systematic and rigorous. Christodoulou argues that learning to pose contrastive and comparative research questions can be a powerful stimulus for causal reasoning, which is at the core of a critical realist perspective, and which can thus enhance teachers' critical reflection. The author uses the example of biographical methods of teacher identity construction to illustrate how critical realism can promote research in and on teacher education.

In Chapter 4, Ricarda Derler, Lisa-Maria Lembacher and Heike Wendt explore the views of future teachers in Austria on research needs in response to the Covid-19 pandemic. Comparing the different views of full-time master's students and students who were already working in schools while studying, the authors conclude that student teachers with more practical experience were more frequently concerned with the well-being of their students, while full-time student teachers were more concerned with the practicalities of digital teaching. Derler et al. emphasise the importance of practical experience in shaping student teachers' perception of research in the context of initial teacher education.

In Chapter 5, Gerry Czerniawski, Yvonne Bain, Maria Assunção Flores, Ainat Guberman, Helma Oolbekkink-Marchand and Vasileios Symeonidis explore the complex relationship between research and practice in the professional development of school-based teacher educators (SBTES). This chapter reflects on the value of research to teachers' continuing professional development. Drawing on the largest international study of the professional learning needs of SBTES, undertaken by the International Forum of Teacher Educator Development (InFoTED), the authors provide comparative insights into SBTES' views about the role of research in teacher education and about their own research capacity. The authors highlight the need for support and resources that would allow SBTES to develop and strengthen an inquiry-based approach to teaching and teacher education.

The second part of the book, *The value of research on teacher education: informing policy*, brings together chapters exploring the relationship between teacher education research and policy. As such, this part is an effort to illustrate the importance of analysing and understanding teacher education in a more 'detached' way, providing concrete examples of how research can inform policy in different national contexts. The role of large-scale studies in

this process is critically discussed, providing indicators that may be useful for future research and reflecting on complementarity with small-scale qualitative studies. Collaboration between teacher education stakeholders, as well as between teacher educators and policymakers is also discussed here.

In Chapter 6, Charalambos Y. Charalambous highlights the value of large-scale studies for research on teacher education, drawing on large-scale studies examining the impact of the quality of teaching on student learning. Charalambous discusses the successes and failures of these studies, presenting four main lessons for future research, and considering their implications for research and policy. He argues that large-scale studies can raise the status of teacher education research, provided they are subjected to critical examination in terms of what and how they can help us achieve, and that they are used in productive combination with small-scale qualitative studies.

Herbert Altrichter, Julia Tölle and Jan Morgenstern (Chapter 7) introduce and evaluate the impact of a national programme for quality improvement in teacher education, the *Qualitätsoffensive Lehrerbildung*, which was launched in 2015 by the German federal and state governments. Drawing on quantitative and qualitative longitudinal data, the authors demonstrate how this kind of evaluative research on teacher education can provide valuable insights into the status of teacher education in different institutions, and recommendations for policymakers. Their study highlights some issues with institutionalisation processes that would be worth reflecting on in other European countries.

In Chapter 8, Conor Galvin, Joanna Madalinska-Michalak and Elena Revyakina examine the EU Erasmus+ Teacher Academies Action, a recent EU funding scheme aiming to promote cooperation between teacher education institutions and training providers. The authors take a closer look at the sixteen Teacher Academy projects launched recently, discussing the opportunities and challenges they present for teacher education research, and propose a strategy for critical examination of their activities. They also make the case for further research to address the multiple challenges, opportunities and potential issues the Action raises.

In Chapter 9, Ainat Guberman, Jonathan Mendels, Rinat Arviv-Elyashiv, Tali Berglas-Shapiro, Ilanit Avraham and Hagit Mishkin present a multiple-case study that illustrates the benefits of collaboration between teacher educators and policymakers in Israel. The authors examine the formation and maintenance of such collaborations, how they influenced the research projects in question, and the impact of those research projects on policy. The role of an inter-institutional body such as the MOFET Institute in constructing collaboration frameworks for teacher educators and policymakers is also discussed.

The third part of the book, *The value of research for teacher education: improving practice* considers how research can be utilised by student teachers, teachers and teacher educators to enhance their professional competences and improve their performance, as well as for curriculum development. Specific innovative research methods drawing on different philosophical traditions are presented that can be deployed in the context both of initial teacher education and continuing professional development. Teacher education research also proves to be particularly beneficial for the design of teacher education programmes.

In Chapter 10, Evi Agostini, Stephanie Mian, Nazime Öztürk and Cinzia Zadra present phenomenological vignettes as an innovative professionalisation tool for educators. The authors report on the findings of an international EU project aiming to establish a methodology for designing and managing quality processes in different educational areas, and using the vignette to promote professional attitudes among (future) educators. Agostini et al. argue that vignettes can affect educators' perceptions of learning, but also their understanding of learning as experience, in a way that helps educators themselves to become learners, willing to continue to develop professionally.

Fjolla Kačaniku (Chapter 11) examines the potential of a problem-solving research model to change student teachers' attitudes to and perceptions of the purpose and value of teacher research in initial teacher education in Kosovo. Kačaniku used an action research design to evaluate the model in question and her findings suggest it delivered significant improvement in student teacher attitudes to teacher research across three dimensions. Her study highlights the importance of introducing future teachers to individualised and tailor-made research activities; these can enable them to value research, seeing it as a key aspect of developing into high-performing teachers.

Katrin Poom-Valickis and Triin Ulla present in Chapter 12 the potential of a small-scale action research project to foster positive attitudes towards inclusive education in student teachers. The authors describe the design and delivery of the Inclusive Education at School course that forms part of the initial teacher education programme at Tallin University and introduces student teachers to action research. Poom-Valickis and Ulla argue that small-scale action research tasks enhanced student teachers' confidence and led them to become more willing to introduce more inclusive practices in the classroom; the authors also emphasise the need to connect theoretical knowledge with practical tasks in real-life classrooms.

In Chapter 13, Ina Cijvat, Marco Snoek and Aziza Mayo reflect on a method for connecting research, curriculum development and practice in teacher education. Drawing on a case study of a conversational community of teacher

educators and researchers, the authors illustrate how the community and the use of a conversational framework supported teacher educators with curriculum development. Their chapter argues that for many teacher educators there is still a gap between practice and research, urging us to rethink our role as researchers when examining the process of curriculum development.

The book closes with Chapter 14, in which Ulla Fürstenberg presents a project that aims to promote research literacy in language teacher education. The ‘buddy project’ on Written Collective Feedback (wcf) helps student teachers develop the research literacy theory they need to evaluate academic research on wcf, connect it with their own classroom experience and finally develop their own personal methodologies. Such a small-scale project illustrates the potential of school-university collaboration in helping student teachers understand the relevance of research to their classroom activity, and also reveals some associated challenges.

4 Key Messages on Enhancing the Value of Teacher Education Research

This section synthesises and reflects on some of the main messages (though readers may of course derive others) from the fourteen chapters that make up this volume. Authors were asked to reflect on ways of enhancing the value of teacher education research, taking account of the paradox that although research in, on and for teacher education is gaining prominence, the value of such research is often called into question, putting teacher education at a disadvantage compared with other more established academic disciplines. Acknowledging, of course, that each chapter offers unique lessons and provides examples from a distinct context, six key messages do emerge across the book with regard to enhancing the value of teacher education research, and these are set out below.

4.1 *Promoting Research-Informed Teacher Education across the Continuum of Teacher Learning*

Various chapters of this book illustrate how teacher education is gaining prominence, being understood and practiced as a scholarly activity in different national contexts. This is particularly true in the case of initial teacher education which, in all countries examined, is delivered at higher education level and follows the Bologna architecture of bachelor’s and master’s degrees. Although, as Smith notes in Chapter 1, there is no ‘one size fits all’ solution when it comes to research-informed teacher education, the authors in this volume argue

that teacher education should be informed by research and provide evidence for the effectiveness of such an approach. Enhancing the value of research in teacher education thus involves: (a) teacher educators and student teachers acting both as consumers and producers of research; (b) the content and design of teacher education programmes being informed by research, and student teachers' research literacy being developed; and (c) research being used to reflect and build upon classroom experiences in a meaningful way. Research should not aim to dictate how teachers are educated, but rather should help teacher educators and teachers engage thoughtfully with the what, why and how of practice, assisting teachers to become epistemically responsible and skilful professionals in contexts of uncertainty, as argued by Mikkilä-Erdmann et al. in Chapter 2 and Derler et al. in Chapter 4.

If teacher education is to be valued as a research-informed activity, then teacher educators need to develop a research disposition, which implies that in addition to being expert pedagogues, they also need to produce and publish research. This is the case for university-based teacher educators in particular, but the conduct of research can be useful for school-based teacher educators (SBTES) as well. In Chapter 5, Czerniawski et al. reveal how SBTES value research and can benefit from research-informed professional development opportunities, even if they encounter many difficulties with actually engaging in research. In order to ensure that both teaching and research are of high quality, the right balance needs to be struck between teacher educators' research activity and their motivation to improve the practice of teacher education itself.

The idea of research-informed teacher education is not limited to initial teacher education, but rather extends throughout the continuum of teacher learning, as chapters in this book point out. Recent initiatives in Finland are fostering the idea that research should inform all the phases of the teacher education continuum, as Mikkilä-Erdmann et al. highlight in Chapter 2, although more work remains to be done on the in-service phase. One example of a national infrastructure that supports research-informed teacher education is the Finnish Teacher Education Database FinTED, which started in 2020 as a collaboration between eight universities in Finland. The potential of research to boost teachers' willingness to continue their professional development throughout their career is also illustrated by Agostini et al. in Chapter 10, which introduces phenomenological vignettes as a professionalisation tool in different phases of teacher education. However, informing teachers' induction processes and continuing professional development with research remains a challenge; this is often associated with the diffuse and unregulated framework in which teachers' in-service learning takes place.

4.2 *Empowering Teachers and Teacher Educators as Critically Reflective Professionals*

Another key message from the chapters of this book is that teacher education research can help to empower teachers and teacher educators by developing their critical reflection skills. Although the different chapters contend that teacher education research contributes to the development of various competences (e.g., epistemic agency, inquiry stance, problem-solving skills, professional self-awareness), they all generally argue that research is key to turning out critically reflective professionals. Christodoulou (Chapter 3) draws our attention to how research and causal reasoning can empower teachers to undertake more critical reflection, which he understands, referring to Dewey (1933), as the ability to ‘jump from the known into the unknown’. The underlying logic is to develop the agency of (future) teachers by supporting them as they test out alternative teaching approaches and discover new ways of analysing teaching situations, so that they will eventually develop a form of practical theory.

Chapters in this book further interconnect the idea of critical reflection with research literacy in the context of research-informed teacher education. Mikkilä-Erdmann et al. argue in Chapter 2, for example, that a central aim of teacher education research is the cultivation of research literacy, including, among other things, teachers’ ability to critically differentiate sources of evidence and use them to inform the reasoned judgements they need to make in their professional practice in the classroom. Mikkilä-Erdmann et al. argue that research-informed teacher education prepares teachers to be critical reflectors through formal education in research methods and action research. In Chapter 14, Ulla Fürstenberg also equates the development of research literacy in language teacher education with the ability to critically engage with research and eventually produce a usable and personally relevant theory of teaching and learning. Like Christodoulou, Mikkilä-Erdmann et al. and Fürstenberg argue for teacher agency, contending that research-literate teachers should not only react as necessary to situations that arise but also model an activist stance with regard to change and development both in their own schools and in educational policy in general.

The need to develop critically reflective professionals has implications for teacher educators, too. In Chapter 13, Cijvat et al. advocate an inquiring attitude on the part of teacher educators: they need to be active agents, who reflect critically on their attitudes and practice. With regard to curriculum development, critical reflection helps to make intentions and design choices more explicit, strengthening teacher educators’ agency and the alignment of curricula. Since critical reflection cannot be taken for granted, Cijvat et al. highlight the value of a conversational framework and a conversational community that can help

teacher educators to find opportunities for interruption, suspension and sustenance (Biesta, 2017) in their daily work.

4.3 *Combining Large-Scale and Small-Scale Studies in a Productive Way*

A key message of this book is that capitalising on the benefits of both large-scale and small-scale studies in teacher education can help us to better understand the complex phenomena of teaching and student learning, ultimately raising the status of teacher education research. As Charalambous argues in Chapter 6, large-scale studies increase our understanding of what teacher qualifications and characteristics contribute to student learning, but there are limitations in the extent to which they can unravel how teacher education can support student learning, and why it should. Small-scale qualitative studies can help us arrive at a deeper understanding of the conditions under which certain variables work, challenging the simplistic associations of some scholars and explaining the inconsistent findings that often emerge from large-scale studies. A productive combination of the two approaches can deliver more consistent and applicable findings that can inform both teacher educators and policymakers.

Another example of the potential of combined quantitative and qualitative longitudinal data on teacher education to inform policy is provided by Altrichter et al. in Chapter 7. The study reports on the results of a national programme in Germany to enhance the quality and institutional status of teacher education, drawing on a rich pool of data from programme evaluation. The study and the national programme it examines are indicative of the value of a productive combination of large-scale and small-scale data for a holistic understanding of the results of a complex policy initiative comprising 91 projects submitted by 72 German universities. Similarly, Galvin et al. (Chapter 8) highlight the value of an integrative approach that combines qualitative and quantitative approaches to evaluate the EU's Teacher Academies Action. Other chapters in this book, such as Chapter 5 by Czerniawski et al. and Chapter 9 by Guberman et al. further illustrate the complementary relationship between large-scale and small-scale studies in teacher education, deriving recommendations for policymakers. It can thus be argued that critiques of the limited ability of teacher education research to inform policy decisions might be addressed by a productive combination of large-scale and small-scale studies.

4.4 *Developing Innovative Research Methodologies for Teacher Education*

Several chapters in this book argue that, if the value of teacher education research is to be enhanced, innovative research methodologies need to be developed that

can be applied to the full continuum of teacher education, with a view to both gathering data and helping to educate teachers. These calls often result from new scientific knowledge about effective approaches to teaching and learning, or the movement of scholars across disciplines which is common in academia. In Chapter 10, Agostini et al. argue for a new methodology to design and manage quality assurance processes in teacher education, and advocate the use of phenomenological vignettes to promote professional attitudes among (future) teachers. Drawing on the philosophical tradition of phenomenology, Agostini et al.'s innovative methodology can be used to collect data for teacher education research, but can also serve as a professionalisation tool within teacher education due to the need of practitioners to reflect on their accumulated experiences and develop new ways of perceiving, thinking and acting.

Another example of an innovative research methodology for teacher education is presented by Kaçaniku in Chapter 11: a problem-solving research model that enables student teachers to view research as an integral part of the teaching profession. When the model was introduced and tested in teacher education, a change in attitudes was observed, with student teachers starting to approaching research as a means of identifying solutions to pressing problems in their practice. Similarly, Poom-Valickis and Ulla (Chapter 12) utilised an action research methodology to develop positive attitudes among student teachers toward inclusive education. Their results also revealed a significant change in attitudes, with student teachers demonstrating increased confidence about applying theory in practice and an increased willingness to differentiate their teaching. The above-mentioned examples are illustrative of how innovative methodologies can be developed and utilised in and for teacher education, not only to foster (future) teachers knowledge and skills, but also to change their fundamental attitudes towards professionalisation, research and inclusion.

4.5 *Creating Synergies between Teacher Education Stakeholders*

Collaboration between teacher education stakeholders can prove beneficial for teacher education research itself, as well as enhancing its value for policy and practice. There are currently several initiatives at European, national and local level, aiming to create synergies between stakeholders within and across the different phases of the teacher education continuum, with direct and indirect implications for teacher education research. Such synergies should overcome the overly fragmented nature of teacher education, strengthen the position of teacher education in universities, and foster a professional identity and research disposition among teacher educators. However, in order to develop functioning synergies of this nature, there is a need for an institutional

framework to provide structure and guidance, as several chapters in this book indicate. Examples here include the EU's Teacher Academy Action, the German national Teacher Education Quality Initiative, the communities of practice established by the MOFET Institute, and the conversational community established by teacher education researchers in the Netherlands. Each of these presents certain opportunities and challenges for teacher education research.

The value of collaboration between different teacher education stakeholders with a view to upgrading the institutional recognition of German teacher education is explored in the study by Altrichter et al. in Chapter 7. Although collaboration between German universities has intensified in recent years, there remain significant challenges with integrating subject disciplines into the process in a sustainable manner, and cooperation with the external stakeholders involved with teacher induction and continuing professional development tends to be fragile. At the EU level, the Teacher Academy Action has funded several collaborative projects that may be considered grass-roots policy initiatives, promoting bottom-up joint working by teachers, teacher educators, and other stakeholders towards rethinking and remaking teacher education, as advocated by Galvin et al. in Chapter 8.

Long-standing and trusting relationships might be key to the cultivation of synergies in teacher education, as demonstrated by Guberman et al. in Chapter 9. The authors describe a multiple-case study, providing a number of examples of the evolution over time of relationships between policymakers and teacher educators engaged in research, in the context of a formalised framework that helped them develop a shared language and mutual understanding, leading to the gradual transformation of teacher education in Israel. The MOFET Institute's mediation between teacher educators and policymakers through its hosting of communities of practice proves to be crucial.

Finally, conversational communities between educators and researchers, as presented by Cijvat et al. in Chapter 13, are another example of successful synergy in teacher education. Reflective discussions within a conversational community can empower teacher educators to, for example, connect purpose and practice as they develop curricula. However, Cijvat et al. draw our attention to the challenges with bridging the gap between research and practice: as researchers, we need to find a way to balance the role of critical friends (who maintain distance from practice) and the role of partners who are actively contributing to the development process.

4.6 *Providing Supportive Structures and Resources*

In several countries examined in this book, the lack of appropriate infrastructure to support research in, on and for teacher education is clear. Against this

background, several chapters highlight the need for supportive structures and resources as a prerequisite for enhancing the value of teacher education research. As early as Chapter 1, Smith argues that policymakers must ensure institutions have sufficient resources to enable teacher educators to develop their capacity for and engagement in research. At the same time, institutions need to include research in teacher educators' job descriptions and provide a structure for their professional development with regard to research skills. However, simply offering professional development opportunities is not enough, as argued by Czerniawski et al. in Chapter 5, particularly if we want to go beyond uncritically implementing 'what works' and instead move towards reflection on one's own practice, and its impact and rationale. More targeted and authentic professional development is needed, focusing on the skills required to undertake research in schools.

To this end, the entire system must support and embrace research in, on and for teacher education, by providing resources and by planning and coordinating activities. The policy initiatives already mentioned, such as the EU's Teacher Academies Action and the Teacher Education Quality Initiative programme in Germany, are examples of progress in this direction, but the extent to which such supportive structures will remain in place in the long-term is an open question. It is therefore important to create national frameworks and data infrastructure, such as the Finnish Teacher Education Database FinTED, that will sustainably promote the collection of evidence to inform teacher education policy, research and practice. Research funding in the field of teacher education remains scarce and when opportunities emerge, they are often constrained by government priorities with regard to efficiency. It is vital that we overcome this uneven recognition of the value of different forms of educational research, in order to raise the status of teacher education research, as various chapters in this book argue.

5 Conclusion: Implications for Teacher Education Policy and Practice

The purpose of this introductory chapter was to explain the rationale behind the production of this volume and to provide a synthesis of some key messages that emerge from the various chapters. The volume set out to do more than reflect on the value of teacher education research; it also envisaged bringing together international perspectives on how to practically enhance the value of such research. It is thus more than a collection of teacher education research studies, and includes studies that reflect on the value of teacher education research itself, systematically considering the different approaches to

research in, on and for teacher education. It also provides examples of ways to enhance the value of teacher education research in order to raise the status of teacher education within higher education, inform teacher education policy and improve practice.

Taking into account the key messages outlined in the previous section, enhancing the value of teacher education research has certain implications for teacher education policy and practice. The first key message, on promoting the idea of research-informed teacher education across the continuum of teacher learning, implies a holistic understanding of teacher education as a complex system consisting of different phases that need to communicate and interact with each other. If policymakers concentrate all efforts to promote research solely in initial teacher education, they risk encouraging teachers to take a passive attitude towards research once initial teacher education is over. Producing research across the continuum also implies that teacher education institutions and schools should encourage university-based and school-based teacher educators to research their own practice, developing and enacting their own 'pedagogy of teacher education' (Loughran, 2009).

The second key message, on empowering teachers and teacher educators as critically reflective professionals, implies a certain mission that should be inculcated in teacher education programmes; something that cannot be limited to measurable standards. Here, the ideas of Mayer et al. (2021), on the need for teacher educators to create a more professionalised accountability framework through their own research and practice, can prove useful. Such a bottom-up approach requires an activist stance on the part of teacher educators and teacher education institutions, who must critically examine implied notions of effectiveness in policy and reclaim the teacher education research agenda.

A productive combination of large-scale and small-scale research, our third key message, can prove appealing both to policymakers and to practitioners, as it can help us grasp the complexity of teacher education phenomena and processes. It would, however, imply an openness from all sides to engaging with different types of research and would require adequate training, particularly in mixed methods studies.

Being embedded in higher education gives teacher education the opportunity to learn from other disciplines and philosophical traditions. Developing innovative research methodologies for teacher education, the fourth key message here, highlights the benefits that the exchange and movement of experts brings, making teacher education research more meaningful for practice. In order for this message to be accepted, it will be necessary to overcome the overly fragmented nature of teacher education within universities, allowing

the field to become more attractive to those wishing to pursue an academic career.

The fifth key message, on creating synergies between teacher education stakeholders, clearly points to the need for collaboration, which is an essential aspect of teacher education. Collaboration should be fostered at multiple levels, between teacher educators and policymakers, between universities and schools, between teacher educators of different disciplines, etc. For such collaboration to function properly, policymakers and teacher education institutions should ensure that adequate institutional frameworks and support are in place. Finally, providing supportive structures and resources, the sixth key message, implies the need for coordination and transparent communication on the part of policymakers, who should avoid compartmentalising educational policies and adopt a system-wide perspective.

Overall, the chapters in this volume put forward multiple arguments for the value of teacher education research. These arguments can be utilised by teacher education policymakers, practitioners and researchers who want to enhance the role of teacher education research in their own contexts. Teacher education research that is both valued and valid can help ensure the discipline is respected in the higher education landscape, and produce evidence that will inform policy and improve practice.

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PART 1

The Role and Value of Research in Teacher Education



Evidence-Based, Evidence-Informed or Evidence-Ignored Teacher Education?

The Role of Research in Teacher Education

Kari Smith

Abstract

The role of research in teacher education is widely discussed among policy makers, researchers and teacher educators, and not least practitioners. Whereas some argue for large scale studies to provide evidence of what produces the greatest impact, others claim that practice-oriented research can inform decision makers and be adapted by teacher educators in diverse contexts. There are also those who claim that teacher education is too contextual to benefit from research conducted in other contexts.

In this chapter I will discuss the view that research plays an important role in teacher education, and give serious consideration to the many practical questions this prompts. The key concept, research-informed teacher education is defined using a metaphor from older work on assessment. I will then draw briefly on official documents, mainly from the Norwegian context, before looking at some international research to seek answers to some of the practical questions. I will develop the concept of Researching Teacher Educators: here, researching is used as an adjective to indicate that teacher educators are both consumers and producers of research. My final claim is that research needs to be adapted to the practice of teacher education, and that quality teaching must be informed by relevant research. There is a need to find a balance between research and teaching in teacher education.

Keywords

research-informed teacher education – evidence-based – evidence-informed – evidence-ignored – researching teacher educators

1 Introduction

When a teacher educator writes a text on the role of research in teacher education, the argument will inevitably be informed by the career trajectory of the author. Some people enter teacher education from university with a doctorate and research experience in their specialist subject, but with little or no classroom experience. Others become teacher educators after long experience as teachers and are often head-hunted into teacher education (Murray, and Male, 2005; Smith, 2011). I belong to the second group, and I started working as a school-based teacher educator and university-based teacher educator after having taught in primary and secondary schools for more than a decade. I completed my doctorate when I was already well established in the profession, as the head of the department of teacher education in a tertiary institution. My discussion of the role of research in teacher education in this chapter will thus be influenced by the fact that my experiences are deeply rooted in practice.

The first part of the chapter is an attempt to define the concepts used in the title, namely evidence-based, evidence-informed, and evidence-ignored teacher education, and the role of research in these contexts. The second part deals with the What, Who and How of the role of research in teacher education. The conclusion briefly discusses the concept of 'researching teacher educators' in summarising the position taken in this paper.

2 Evidence-Based, Evidence-Informed, or Evidence-Ignored?

The concepts of evidence-based, evidence-informed, and evidence-ignored are inspired by literature dating back some years on exams in higher education. More than 50 years ago, Miller and Parlett (1974) conducted a large survey on UK tertiary education students' approach to exams, and their work describes three different types of students:

the 'cue seekers', who went out of their way to get out of the lecturer what was going to come up in the exam and what their personal preferences were; the 'cue conscious', who heard and paid attention to tips given out by their lecturers about what was important; and the 'cue deaf', for whom any such guidance passed straight over their heads. (reported in Gibbs, 2010, p. 2)

3 Evidence-Based Teacher Education

Purely evidence-based teacher education might be compared to a cue-seeking approach to exams. It is not possible for any educational system to get an overview of all the evidence that exists, and when decision-makers talk about evidence-based education they of necessity select from a non-exhaustive body of knowledge and create a curriculum based on that biased, selected body. All selection is inevitably subjective regardless of the number of people involved. More than two decades ago, Davies (1999) asserted that evidence-based education operates at two levels. "The first is to utilise existing evidence from worldwide research and literature on education and associated subjects" (Davies, 1999, p. 109). It is at this level, I would argue, that the selection of evidence on which the curriculum is built will always be subjective. However, in addition to the bias created by the subjectivity on which any curriculum is built, there is a problem of the quality of evidence used, which relates to Davies' (1999) second level of evidence-based education: "The second level is to establish sound evidence where existing evidence is lacking or of a questionable, uncertain, or weak nature" (Davies, 1999, p. 109). The quality of the evidence on which decisions are made needs to be assured before such decisions are put into practice in a teacher education programme. Davies claims that in addition to criteria related to the quality of the evidence, its practical relevance should also be taken into consideration. The latter is not always given sufficient priority, according to Davies (1999). This aligns with Brechin and Siddell's (2000) work, which presents three types of knowing; empirical, theoretical, and experiential, leading to the question, what type of evidence/knowledge is utilised in evidence-based teacher education? I would reason that it is mostly empirical, and perhaps not always of the highest quality, for example when the concept is deployed by decision makers. This chapter takes the view that empirical evidence is a synonym for research, and uses the two words interchangeably. Generalisation of such evidence or research is problematic, and researchers warn about generalising evidence from one context to another, as no evidence can be context-free (Davies, 1999); evidence should not be used as a cookbook for policy making (Sharples, 2013). Nutley et al. (2013, p. 4) conclude "that there is no simple answer to the question of what counts as good evidence. It depends on what we want to know, for what purposes, and in what contexts we envisage that evidence being used". The above discussion would suggest that evidence-based teacher education is not what policy makers and practitioners should strive for, and that a more appropriate focus would be evidence-informed teacher education.

4 Evidence-Informed Teacher Education

Returning to Miller and Parlett's tertiary exam preparation example (1974), evidence-informed teacher education can be compared to the cue-conscious students, those who paid careful attention to cues provided by the lecturer during the course (Gibbs, 2010). Evidence-informed teacher education draws on research, but in a critical manner, and evidence is adapted to the context in which it is drawn on (Roberts, 2015). Supporting this claim, Nelson and Campell (2017) argue that the evidence must be planted in 'fertile' ground if it is to make an impact on practice. They also argue, "... that evidence is just one of a number of factors that influence educational decisions, with educators needing to apply professional judgment, rather than being driven solely by research evidence or data" (Nelson & Campell, 2017, p. 128). Evidence is thus an important resource for decisions about practice; however, practitioners' professional and experiential knowledge will filter the evidence through a critical lens and adapt it to their personal teacher education practice (Sharples, 2013). "How I teach is the message" is a key sentence in the conceptual model of teacher educators' professional development activities developed by the International Forum for Teacher Educator Development (InFo-TEd), and first published in 2015 (Vanassche et al., 2015). Clarifying this statement, the authors contend that teacher educators' practice should be critical and inquiry oriented, self-regulated, caring, contextual responsive and informed by research (p. 347). Research plays a central role in evidence-informed teacher education. However, it does not dictate the curriculum or the practice: it informs the activities of stakeholders, decision-makers and practising teacher educators. When discussing the role of research in teacher education the rest of this chapter takes the view that teacher education should be evidence-informed.

5 Evidence-Ignored Teacher Education

Evidence-ignored teacher education denotes an approach that disregards research not only with regard to curriculum planning, but also with regard to practice, where research has no impact. In other words, a completely evidence-ignored approach to teacher education would not ask students to read research literature, and would not require teacher educators to keep themselves updated on recent developments in the field. I hope that evidence-ignored teacher education is rare; however, it might become an issue in teacher training programmes that are based solely on practice, which take a kind of apprenticeship approach. However, even in this type of programme,

the trainer(s) would transmit evidence based on their own experience. Brechin and Siddell's (2000) three types of knowing as mentioned above are relevant here, but basing teacher education only on a mentor's/instructor's experiential knowing would I believe be close to evidence-ignored teacher education, in which research played no role. This would not be consistent with the position of this chapter.

6 Role of Research in Teacher Education Policy Papers

Interestingly, policy papers often refer to the concept of evidence-based teacher education; however, they do not make clear what they mean by the term. When looking at the well-known OECD *Teachers Matter* report of 2005, it might appear that it is arguing that teachers should be trained in certain competencies and achieve specific standards. However, it also says that the teaching profession should be involved in identifying such competencies and standards, which suggests that it not only values empirical evidence, but also the professional knowledge of practitioners:

Make the profile evidence-based and build on active involvement by the teaching profession in identifying teacher competencies and standards of performance. (OECD, 2005)

The European Commission published a document in 2013 in which they stress the role of research in the education of teachers. What is noticeable here is that the Commission mentions both practice-based and theory-focused research, and does not limit research evidence to positivistic surveys and mega-reviews. They argue, "Both practice-based and theory-focused research can contribute to a deeper understanding of education and of educating teachers" (European Commission, 2013, pp. 12–13).

Norway, my own country, is more specific, stating that teacher education must be based on the latest knowledge and research, and emphasising the scientific methods to be employed in the effort to develop practice. My personal impression from the Norwegian context is that teacher educators take a more research-informed approach.

As with all other higher education, teacher education should be research-based. The content of teacher education shall be based on the latest knowledge. Research-based teaching also means that education is characterised by scientific methods and oriented towards new ways

of thinking about and developing the practice of teaching. (Norwegian Ministry of Knowledge, 2014, p. 44, author’s translation)

In a 2020 strategy, the Norwegian Ministry of Knowledge recommends seeking innovative methods in educational research and encourages practitioners to get involved in practice-oriented research:

Educational research includes research and development (R&D) with regard to teaching and learning, educational content, assessment, professional education and practice, technology, education management and organisation, and the role of education in society and work. (Norwegian Ministry of Knowledge, 2020, p. 4, author’s translation)

I find the model presented in the strategy to be useful; it also aligns to a great extent with my own perspective of the role of research in teacher education, especially in its emphasis on the concept Research and Development (R&D) as illustrated in Figure 1.1. The model suggests that the production of research involves a range of teacher education stakeholders, e.g. policy makers, researchers, teacher educators, and students. Policy makers’ involvement is likely to be mostly limited to providing funding and facilitating research, whereas the other groups might all be actively involved in the production of research itself, students

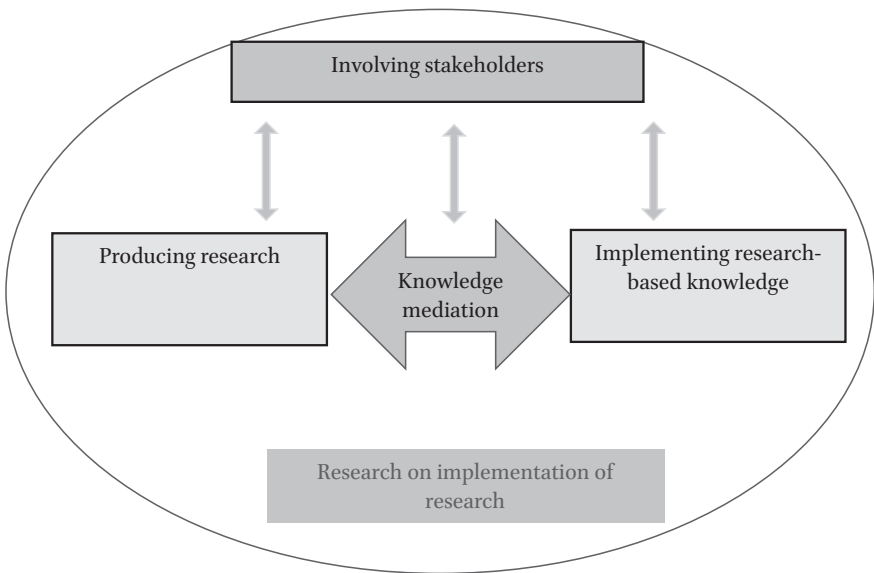


FIGURE 1.1 Role of research in Norwegian teacher education (adapted from Norwegian Ministry of Knowledge, 2020, p. 7)

through their Masters theses, for instance. However, the core of the model as I see it is the mediation of knowledge developed through research and its application in practice. There is no direct transmission of evidence-based knowledge, this has to be processed by the stakeholders before being applied in practice. Knowledge is mediated at the macro-level by policymakers through national regulations and frameworks, at the meso-level through institutions designing the structure of teacher education programmes, and at the micro-level (the majority of mediation) by university-based and school-based teacher educators, and students. Research-informed teacher education draws on research and translates it into practice in the classroom. Moreover, as I read the model there is continuous, complementary, research at all three levels with regard to application; larger surveys at the macro-level, and practitioner research including action research and self-studies at the micro-level. The Norwegian model illustrates an evidence-informed approach to the role of research in teacher education.

In the next section I will briefly consider what researchers have to say about the role of research in teacher education.

7 Role of Research in Teacher Education: Researchers

The key role of research in teacher education was emphasised by Rudduck, who argues that “Attitudes and habits supportive of research need to be encouraged in courses of initial teacher education” (Rudduck, 1985, p. 281). On the other side of the Atlantic and 30 years later, Cochran-Smith et al. (2014) warn against restricting research in teacher education, and advocate “an opening and broadening perspective that invites new questions, methods, and combinations of research tools” (Cochran-Smith et al., 2014, p. 16). The authors argue that teacher education research needs to be strengthened through open-minded approaches and by letting go of traditional research mindsets. In a later paper, Cochran-Smith et al. (2020) claim that in order to reduce inequity in teacher education, which is currently under the spotlight, especially in the United States, teacher educators themselves must be given opportunities to critically explore their own beliefs and the assumptions underpinning their practice. This suggests that research is not only relevant as evidence in teacher education, but also can be used, e.g. in the form of self-study that aims to change one’s own practice and that works towards the important goal of increased equity in education. Similar claims are presented by Bullough (2021), who says:

Within higher education questions of self, well-being, and of individual agency often are set aside in favour of more instrumental values, like

training and market-measures. By linking 'self' to 'study,' self-study seems to proclaim the importance of the person and the quality of that person's life to the quality of the practice. (p. 258)

Practitioner research in teacher education should not only focus on how to improve practice and enable teachers to become more efficient; it must also genuinely examine the beliefs and moral values of the practitioners themselves, and how these are exposed in the practice of teaching.

However, for research to be the foundation of research-informed teacher education, teacher educators need to develop what Tack & Vanderlinde (2019) call a 'researcherly disposition,' or 'inquiry as stance' as proposed by Cochran-Smith and Lytle (2009). I would suggest that all stakeholders, and above all, the main stakeholders in teacher education, namely students, and school- and university-based teacher educators, need to adopt a critical and inquisitive approach to published research and to their own practice.

Having defined the *What* as research-informed teacher education, I will, in the second part, consider the questions *Who* and *How* in relation to research in teacher education.

8 The Role of Research in Teacher Education: Who?

8.1 *Consuming Research*

This section looks at the benefits for students, and school- and university-based teacher educators, of recognising that research plays a central role in the education of teachers. All three groups are likely to be consumers of research, and to be searching regularly for new and updated knowledge. Often this is perceived as the main responsibility of university-based teacher educators as they update the reading lists for their courses. Students fulfil the requirements of their courses, ploughing through the material subjectively selected by their teacher. Even though this is an approach I have used myself, I would today criticise the practice. I suggest that courses should have a minimal compulsory reading list, and that students be encouraged to expand their reading by looking for relevant material themselves, under the guidance of their teacher educator. This would be the practice in a teacher education programme where groups or individual students were learning through inquiry: for example, they would work on research-informed assignments such as seminar papers, and Bachelor's and Master's theses.

Turning to another important component of teacher education, the practical part, school-based teacher educators play a central role here too, and have a responsibility to keep their subject knowledge, teaching techniques, and

pedagogical expertise up to date. Smith (2005) has documented the importance of teacher educators being able to articulate and explain their actions to students of teaching, supporting their reasoning with the latest knowledge. However, time must be allocated to enable school-based teacher educators to keep up with rapid developments and to collaborate with university-based teacher educators.

Ongoing reading of professional literature is an integrated part of the work of university-based teacher educators, and one of the most highly evaluated professional development activities (Czerniawski et al., 2018). University-based teacher educators are responsible for drawing up reading lists and suggesting resources to students and to school-based teacher educators. Research-informed teacher education programmes will inherently consume research, but who should be involved in producing it? This is the focus of the next section.

8.2 *Producing Research*

Turning to a complex question, namely who are the producers of research, I would argue that the same stakeholders have a responsibility to produce research, even though the type of research, the purpose of research, and the dissemination of research would differ from group to group. A common feature would be that they should all be involved in practice-oriented research, in relation to which I find the following definition useful:

All research that is performed with the primary aim to (a) support a practical problem to be solved or (b) decision to be taken. The problem calls for an intervention or a new artefact to change reality in a certain direction. (Bleijenbergh et al., 2011, p. 146)

It is the purpose of the research, not the method, that defines whether research is practice-oriented or not. This is in contradiction to the discussion with regard to evidence, which sets aside the question of quality and focuses on the method of research. Although Nutley et al. (2013) open up a wider perception of what counts as evidence, they also report on a hierarchy of evidence in which systematic meta-analyses are given the highest authority and case study reports the lowest. The argument proposed in this chapter is that in the context of research-informed education, the practical purposes of research are likely to align better with students and teacher educators, whether they are school-based or university-based.

8.3 *Students as Researchers*

Returning to the concept of *inquiry as stance* (Cochran-Smith & Lytle, 2009) as a desirable attitude for teachers to adopt in relation to their work, initial

teacher education needs to encourage students of teaching to develop a critical approach to their own and others' practice. They should be encouraged to question existing knowledge and practice by becoming research literate from the very beginning of their courses. This would require a basic knowledge of the skills required to understand and critically read research and to engage with inquiring into practice they observe, as well as their own. Becoming a professional goes beyond doing what others (policymakers, teacher educators) tell teachers to do, it is about developing an understanding of what kind of teacher they are or would like to be (Kelchtermans, 2009). Building inquiry as a stance in future teachers helps students to critically reflect on their beliefs, values, knowledge and practice; Whitehead (2009) calls this living theory, arguing that this is necessary in order to develop personal accountability and professionalism, and not sink into uncritical acceptance of external accountabilities and demands. In other words, an important role of research in teacher education is to empower future and current teachers, giving them an informed voice so they can become active agents with regard to their profession and their practice.

8.4 *Researching Teacher Educators*

Empowerment is a key word when discussing the role of research in teacher education. It is important not only for students, but also for teacher educators wherever they work. For both groups it is a question of reinventing personal professionalism, which Smith (2021) defined as autonomy, responsibility, and personal quality insurance. Cochran-Smith (2021) argues that an alternative to the top-down external accountability approach to teacher education found in many contexts would be to empower teacher educators to develop internal professional responsibility; this aligns with Crook's (2003) concept of intelligent accountability. Responsibility and trust between all parties, in this case between teacher education professionals and decision-makers, form the foundation of intelligent accountability. A relationship built on mutual trust allows for constructive critical dialogue and feedback, which acknowledges that quality is a complex concept and cannot be measured solely quantitatively. The profession itself should be involved in deciding the standards to which they will be held accountable (Cochran-Smith, 2021). Research-informed knowledge is a basic requirement if teacher educators are to be able to engage in authoritative dialogues with other education stakeholders.

Consequently, research is needed to inform teacher educators' practice, to enable them to take a critical view of their own practice, and to empower them to question policymakers and to contribute informed opinions. Teacher educators need to do more than consume research; they also need to engage with practice-oriented research and to supervise students' research projects. I

would argue that research skills are a professional requirement for all teacher educators regardless of their workplace.

Nevertheless, even though school-based teacher educators have a responsibility to consume as well as produce of research, research plays a more significant role for university-based teacher educators. The above argument that students need to become research literate during initial teacher education means that university-based teacher educators must be competent to teach research and support students who are working on inquiry-based assignments. Moreover, in contexts where teacher education is at Master's level and teachers must complete a research-based thesis in order to qualify, teacher educators must be competent to supervise this process. This has been the case in Norway since 2017. In order to work in teacher education in Norway, university-based teacher educators are required to be research-competent, not only with regard to teaching and supervising research, but also as active producers of research. They have to be 'researching teacher educators'.

Much has been written about university teacher educators' double role as Janus-faced teacher educators (Smith & Flores, 2019). University-based teacher educators not only have to be model teachers and teach students about teaching and research; they are also evaluated as producers of research, especially when promotion is at stake. As academics, their personal professional aspirations push them to produce and publish research, and as pointed out early in this chapter, not all come into teacher education with research skills. An extensive international study by Czerniawski et al. (2017) found that research competence was given a high priority by university-based teacher educators. Smith and Flores (2019) warn, however, that research activity should not take precedence over the motivation to improve practice in teacher education. Finding a balance is essential, and this will be further discussed in the next section of the chapter. How can educational systems foster evidence-informed teacher education?

9 The Role of Research in Teacher Education: How?

The consideration below of how to design evidence-informed teacher education is discussed at two levels: the systemic level and the personal level. The more systems are conducive to an evidence-informed approach, the higher the chances that personal approaches will be evidence-informed too.

9.1 *How: Systemic Level*

For teacher educators to be producers of research, they need resources such as time, competence, funding, and a supportive environment to engage in

research. This would be the responsibility of the institution, especially since producing and publishing research are prerequisites for academic promotion. In a study conducted in my own institution, we found that teacher educators who were interested in academic promotion, but did not have a PhD, felt neglected by the intuition and did not feel they were given sufficient access to the appropriate resources (Smith et al., 2020). The situation is likely to be similar in other universities, and not only in Norway. Similar findings have been reported by Vanderlinde and Braak (2010), whose Flemish study explored the gap between educational research and practice. At the systemic level teacher educators are expected to engage in research, but it remains open whether national and international resources are available and accessible to enable teacher educators to gain research skills and engage in research. Below are three examples of how research-informed teacher education can be developed at the systemic level: the Norwegian National Research School in Teacher Education (NAFOL), the European Doctorate in Teacher Education (EDITE) and the International Forum for Teacher Educator Development (InFo-TED).

9.1.1 The Norwegian National Research School in Teacher Education (NAFOL)

NAFOL was a 12-year national project (2010–2022) funded by the Norwegian Research Council with the goal of developing research-informed teacher education in Norway. It was a response to severe critiques of Norwegian educational research and the quality of teacher education. A second prompt for the initiative was the long-term plan to require all teachers to be educated to Master's level: this required institutions to have research-competent teacher educators, preferably with a PhD, to enable them to teach at Master's level. Nearly all teacher education institutions in Norway joined the NAFOL network. The overall aim was to strengthen quality across all types of teacher education, from pre-school to upper-secondary education, and it was cross-disciplinary. An additional goal of NAFOL was to strengthen the professional identity of teacher educators as researchers and teachers, hence the development of the *researching teacher educators* concept (Smith, 2022). Teacher educators are teachers of teaching who are actively involved with practice-oriented research, in dialogue with the field. The Research School itself did not award the doctorate; this was done by eligible institutions. Each NAFOL doctoral candidate was registered at a Norwegian University. NAFOL provided additional support in the form of courses tailored to developing teacher educators' research competence, and professional and social networks developed within the yearly cohorts, meeting for several days four times per year (Smith, 2022). NAFOL was a unique systemic initiative with secure funding which proved to have a strong

impact on Norwegian teacher education, as summarised in the external evaluation report from 2021:

NAFOL has been an attempt to provide researcher education for teacher education. The school has contributed to building the knowledge base in teacher education research and thus strengthened the professionalism of teacher education and its research base. The PhD theses have added great added value to teacher education research, and in a broader sense to educational research. (Schwach et al., 2021, p. 14)

It is difficult to say what the long-term impact NAFOL will be as regards the role of research in Norwegian and international teacher education. However, it is already evident that many NAFOL graduates are actively engaged in research and publication nationally and internationally. They are actively applying for research grants and take on leading roles at Master's and PhD level in their respective institutions, including supervision of Master's and doctoral students (involving personal communication with NAFOL graduates). The challenge is to maintain the focus on teacher education research at the systemic level, both nationally institutionally. It would be interesting to have a follow up study of the long-term impact of NAFOL in a few years' time.

9.1.2 The European Doctorate in Teacher Education (EDITE)

EDITE was a European initiative (Horizon 2020 project), aiming to transform teacher learning to improve student learning through a European doctoral education. Five European universities were involved, and it was coordinated by the University of Innsbruck in Austria. EDITE had several unique features; however, these also led to challenges. 15 candidates were given EDITE scholarships. The candidates were international, and came from a wide range of countries including South America, USA, Syria, Bhutan, Nepal, and European countries not involved with the project. The candidates were required to live in their host countries, and since the doctorate was a joint degree awarded by two of the EDITE institutions, they had to move to a second country during their doctorate. Much energy was invested in the bureaucracy of moving from one country to another, and diverse academic cultures and traditions appeared to be challenging when it came to two different institutions jointly awarding the PhD degree. However, despite the many challenges, EDITE was a wonderful multicultural experience that created cross-national networks through seminars in the countries of the respective partner institutions. Research-informed competent teacher educators are now making an impact on teacher education, both in Europe and beyond, e.g. in Bhutan and Nepal. The last sentence

of the final evaluation report on EDITE, authored by the Scientific Advisory Board that followed the project from the beginning, reads:

Without prejudging the answer to this question, the following can undoubtedly be said: the running and the implementation of the EDiTE project has markedly improved both the academic and organisational potential of each participating institution and their staff as well as their ability to prepare doctoral education in the field of teacher education in the future to a higher quality level. (Schultz et al., 2019)

As with NAFOL, it is impossible to predict the long-term impact of EDITE. Several students are actively involved in international collaboration, including applications for international research grants (involving personal communication with EDITE graduates). EDITE had a stronger international focus than NAFOL as regards its student population, but it had only 15 candidates, whereas NAFOL had 10 cohorts of ca. 25 students. A follow up study of EDITE graduates is also highly recommended. What seems to be missing at the systemic level is direct follow up or continuation of these doctoral schools.

9.1.3 International Forum for Teacher Educator Development (InFo-TED)

InFo-TED was established at the American Educational Research Association's annual meeting in 2013 by four European teacher educators and researchers who felt their professional group did not get sufficient attention from policymakers or the research community. The idea of a forum was further developed, and then expanded at the ISATT conference in Ghent in the autumn the same year. The core group was made up of researching teacher educators from Belgium, England, Ireland, Israel, The Netherlands, Norway, and Scotland, with supporting representatives from Australia and USA. The mission of InFo-TED is:

To bring together, exchange and promote research, policy and practice related to teacher educators' professional development so as to develop the professional identities and knowledge bases of those who prepare and support teachers as a means of advancing the state of teacher education in Europe and globally. (Lunenberg et al. 2016)

Since InFo-TED's establishment, members have produced numerous position and research papers on teacher educators' professional learning (e.g. Kelchtermans et al., 2017; Czerniawski et al., 2018). The driving force of InFo-TED is the enthusiasm of its members, and when the forum received EU Funding

(ERASMUS+) in 2016, its activities were broadened to include more teacher educators. A central activity has been the InFo-TEd Summer Academies where a group of about 30 international teacher educators meet for a week to share experiences, research, and develop a joint research agenda. External funding ended in 2019, but InFo-TEd has remained active InFo-TEd, now depending on personal funding and trying to find new sources of external funding. InFo-TEd has been and remains active in promoting and supporting researching teacher educators' professional development in Europe and beyond.

These three examples of a national, a European and a professional initiative fostering research- and evidence-informed teacher education at a systemic level enable teacher educators to engage in research at a personal level; this activity is briefly presented in the next section.

9.2 *How: Personal Level*

The combined challenge of efforts to improve teaching practice and pressure to produce research has already been referred to in this chapter. I have also argued for practice-oriented research as the main evidence to inform teacher education. The question now is how to enable teacher educators to conduct publishable research that also strengthens their own teaching practice. Personally, I have found two main approaches to research useful when trying to strike a balance between self-study and action research. They are both rooted in critical systematic inquiry into practice, either your own or the practice of others.

Self-study means systematically studying your professional beliefs and actions with the support of colleagues, so as to improve your practice and contribute to the knowledge base (notes from the AERA S-STEP SIG, webinar, 2021). Self-study was initially conceived as an individual activity that centred on the personal practice of the individual researcher. However, Zeichner (2007) criticised this, arguing that self-study must go beyond the individual to be of value; that it should be a collaborative activity undertaken by a group of teacher educators. Furthermore, Zeichner argues that the issues examined should relate to questions raised by a wider community of teacher educators. This point is central if self-studies are to contribute to research-informed teacher education, not only at the personal level, but beyond. The value lies in what teacher educators in other contexts learn from others' published self-studies.

Likewise, action research projects, especially if they are joint projects between subject-based practice and students, are likely to contribute research that will inform education and teacher education and improve practice. The research agenda for practice-oriented studies will benefit from not being set solely by policymakers or by the research community, but in collaboration with practice in the field. This requires close partnerships between schools

and universities, partnerships characterised by equality and mutual respect for diverse forms of expertise. However, the value of practice-oriented research projects should go beyond the local context and contribute evidence that can inform other contexts (Zeichner, 2007).

I would not claim that research in teacher education should be limited to self-studies and action research projects. These are meant as examples of how teacher educators can combine their professional efforts to improve practice, and at the same time expand their publications list. However, an important role of research in teacher education is also to improve the moral responsibility of education; to strengthen the goodness within educators (Bullough, 2021).

10 Conclusions

This chapter started with some personal extrapolation of mine, moving from literature on exams in higher education to a discussion of evidence-based, evidence-informed, and evidence-ignored teacher education. In the literature on evidence, Brechin and Siddell (2000) propose three various types of knowing; empirical, theoretical, and experiential. However, I strongly agree with Nutley et al. (2013) who highlight the “crucial issue about whether evidence ever really exists in isolation: perhaps information only really becomes evidence in the social context of its application” (Nutley et al., 2013, p. 5).

The basic argument of this chapter is that it is the role of research to inform teacher education, either in the form of large-scale meta studies or local case studies. All evidence must be critically read and adapted to the local context by the individual teacher educator. The main message is thus that teacher education should be informed by research, and various types of evidence must be adapted when planning teacher education curricula and practical delivery by teacher educators.

A second message is that teacher educators and students are consumers as well as producers of research. The concept of ‘researching teacher educators’ includes both aspects: teacher educators should have the skills to use research critically and adapt it to their own practice, to supervise students’ research projects, and to engage in research themselves. In other words, being research-competent and conducting research are integral aspects of teacher educators’ jobs.

Finally, I would argue that the responsibility for strengthening the role of research in teacher education lies with the system as well as with individuals. Policymakers must ensure that resources are made available to institutions to enable practising teacher educators to become research-competent and to

engage in research. Institutions need to include research in teacher educators' job descriptions and create a framework for their professional development that focuses on research skills. Practitioners are responsible for engaging in practice-oriented research. Self-studies and action research projects are examples of how research can be combined with professional development.

In summary, research plays an important role in teacher education; however, it does not dictate practice, it informs it. Research needs to be adapted to specific contexts by individual teacher educators. There is no 'one size fits all' solution when it comes to research-informed teacher education.

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Research-Based Teacher Education

A Finnish Perspective

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Abstract

Our focus in this article is to reflect on the value research-based teacher education adds now and will add in the future. First, we review the literature to investigate the nature of research-based teacher education, asking what it is and how it is envisioned and practiced. Second, we explore how research-based teacher education is evident in the Finnish teacher education system and present an example of an educational science learning environment, namely the research workshop.

Research-based teacher education seems to foster reflectiveness in practitioners and academic experts. However, a post-truth world presents challenges when it comes to supporting teachers' professional knowledge. One key challenge is how to promote learning and professional development as a continuous process for teachers, from study and qualification to the in-service phase. The idea of a continuum – and of dialogue – is central to the evolution of teacher education going forwards. We argue that research-based teacher education helps teachers to become epistemically responsible and skilful professionals.

Keywords

research-based teacher education – research workshop – reflectiveness – professional development – dialogue – epistemic responsibility

1 Introduction

In the current knowledge environment, teachers' work is undergoing a remarkable change. Children are living in a world of post-truth, where arguments are based on emotions rather than facts (Brew & Mantai, 2017; Hauke, 2019), and personal beliefs have a tendency to trump expertise and academic values

(Hughes, 2019). Thus, although teachers' work is practical in nature, nowadays it deals increasingly with knowledge and information. Prospective teachers must thus be educated to become epistemically skilful and responsible professionals. Research-based teacher education provides a strong basis for this.

In their work, teachers simultaneously draw upon multiple knowledge sources to support their practical activity (Toom & Husu, 2018). They need subject knowledge, for instance, along with knowledge of teaching techniques and pedagogical content knowledge (as defined by Shulman, 1987) and the skills to be able to reflect on the rationale for their own action (see Mikkilä-Erdmann & Iiskala, 2020a; Pintrich, 2002). Thus, teachers must combine and develop knowledge in creative ways. Student teachers can be supported to work with scientific concepts and tools to enable them to support children's learning in schools and develop their communities (Edwards, 2017). In order to deal with the unpredictable nature of life in schools, teachers cannot base their responses to problems of practice solely on prior knowledge; they must also be able to recognise epistemic dilemmas and respond agentically to them so as to introduce fresh knowledge (Hopwood, 2017). Therefore, teachers cannot be mere knowledge carriers; they need to be productive participants in the information society (Damşa et al., 2010).

However, the role of teachers differs between countries, affecting the opportunities presented to student teachers to become epistemically skilful, that is, to become aware of different knowledge bases and how knowledge is constructed and used. This also encompasses ethical awareness and responsible action with regard to knowledge. In Finland, the autonomy of teachers is guaranteed by law, as there are no standardised tests or school inspections (Mikkilä-Erdmann et al., 2021; Simola et al., 2017). Teachers' status in Finland is relatively high. Teachers are not expected to merely train children in specific skills but provide them with a more holistic education. Accountability policy in Finland is radically different from that in many other countries and initiatives are implemented by consensus, collaboration and shared development (Toom & Husu, 2021). Thus, in Finland, it is important for teachers to learn how knowledge is used, produced and reproduced in society, so that they are able to teach their pupils these skills. Because the main objective of research is critical and productive engagement with knowledge (Barnett, 2005), it is necessary for the teacher education system to engage with research in research-based teacher education.

Efforts to improve the teacher education research base have been made in countries across the world (Afdal & Damşa, 2018; Afdal & Spernes, 2018; Darling-Hammond et al., 2017). The Netherlands, Canada, Singapore and others are currently reforming their research-based teacher education systems (Baan et al., 2019). The rationale for these reforms is prior studies indicating

that research-based teacher education programmes seem to be more effective than traditional ones (Tatto, 2015). Early-stage primary teacher education programmes in Finland have followed this approach and have been identified as research-based (Darling-Hammond et al., 2017). The general starting point has been that the research base improves the quality of teacher education and, in the best cases, also has an effect on students' learning outcomes. Research-based teacher education in Finland has therefore assured a certain level of quality – when good student performance and student success has been documented by international comparative studies such as PISA, this has often been due to research-based teacher education (see Toom et al., 2010).

However, traditions and contexts differ from country to country, as do the goals and practices of research-based teacher education. In Finland, the introduction of research-based teacher education dates back to the 1970s, when basic education was reformed and the 9-year comprehensive school system was created (Tirri, 2014). The new type of school brought changes in the teaching profession, and as a consequence, primary school teachers began to study at multidisciplinary universities. In Finland, the primary teacher profession is also high-status, and primary teacher education is one of the most attractive university programmes (Mikkilä-Erdmann et al., 2019): 5 years culminating in a master's degree. Graduates are accorded general teaching qualifications and are permitted to teach grades 1–6 (ages 7–13 years). All programmes across the eight Finnish universities providing teacher education are in principle research-based. However, programmes vary in terms of curriculum and the details of delivery, for example, objectives and content relating to research skills, and methods of study. This paper presents one model for studying research skills: the 'research workshop', which was developed and is deployed at the Department of Teacher Education at the University of Turku.

Our focus in this article is to reflect on the added value provided by research-based teacher education now and in the future. First, we undertake a literature review to investigate the nature of research-based teacher education, asking what it is and how it is envisioned and practiced. Second, we explore how research-based teacher education is evident in the Finnish teacher education and present an example of an educational science learning environment, namely the research workshop.

2 What Does 'Research-Based' Mean?

A number of concepts have been used to explain what makes teacher education programmes research-based. Research-based teacher education can refer to the qualifications of teacher educators, their participation in research

projects, and the goals of teacher education programme leaders (Munthe & Rogne, 2015). At the level of teaching, research-based teacher education can focus on the one hand on the content of research and research problems and processes, or on the other hand on teacher- and student-focused practices (Healey, 2005). Tatto and Furlong (2015) set out four ways in which teacher education could be research-based. First, the content can be informed by research-based knowledge. Second, the design and structure of teacher education can be informed by research. Third, teachers and teacher educators can be equipped to engage with and become consumers of research. Fourth, teachers and teacher educators can be educated to do their own research.

Alongside research-based teacher education are other similar concepts that point in the same direction. Overall, it has been noted that 'research' as such can be used as a conduit to support the learning of future teachers, enabling them to incorporate enquiry-based approaches into their teaching (Tatto, 2015). Student teachers' development of research skills is of particular interest because such skills are concerned with how knowledge is produced in universities, and maintained and reproduced in society (Murtonen & Salmento, 2019) and cultivate the concepts, tools, and embodied skills needed to apply those insights (Heikkilä et al., 2020). They foster epistemic maturity and provide the opportunity to realise that knowledge is created by human beings and as such always uncertain (Murtonen & Salmento, 2019). Research skills have been claimed to help with the completion of teaching degrees (Toom et al., 2010), promote professional development, facilitate observation and analysis of pupils' backgrounds, encourage engagement with research-based professional literature, and help raise awareness of the links between school and society (Heikkilä et al., 2020).

Although Finnish teacher education commonly defines research as a skill, this is not generally the case in international literature (Heikkilä et al., 2020; Mikkilä-Erdmann et al., 2019; Niemi & Nevgi, 2014; Stenberg et al., 2016). Instead, researchers use analogous terms such as 'enquiry orientation' (Tatto, 2015) or 'research-based thinking' (Toom et al., 2010). Lately, the term 'research literacy' has been used to describe the aims of research-based teacher education. Boyd (2021) defines teachers' research literacy as demonstrating a reasonable understanding of the contested nature of 'ways of knowing' (epistemology) within the field of education. Research literacy includes an appreciation of the purposes and values of research, the interplay between research and practical wisdom in deciding what and how to teach, and critical evaluation skills to differentiate different sources of evidence. In other words, teachers need critical enquiry skills. Boyd further argues that teachers require research literacy to inform the reasoned judgements they need to make in their day-to-day professional practice and to inform their professional contribution to school

leadership and development of educational practice and policy (Boyd, 2021). The notion of research literacy thus highlights the necessity of epistemically proactive teachers who not only react as necessary to situations but have a researcher-like attitude towards their work and to the development of their school and of educational policy in general.

Different dimensions of research-based teacher education have been outlined (see Table 2.1, based on Mikkilä-Erdmann & Iiskala, 2020b). Research-based teacher education aims to educate teachers to be critical reflectors, through courses and empirical studies on educational science research methods that enable teachers to develop rational justifications for their pedagogical

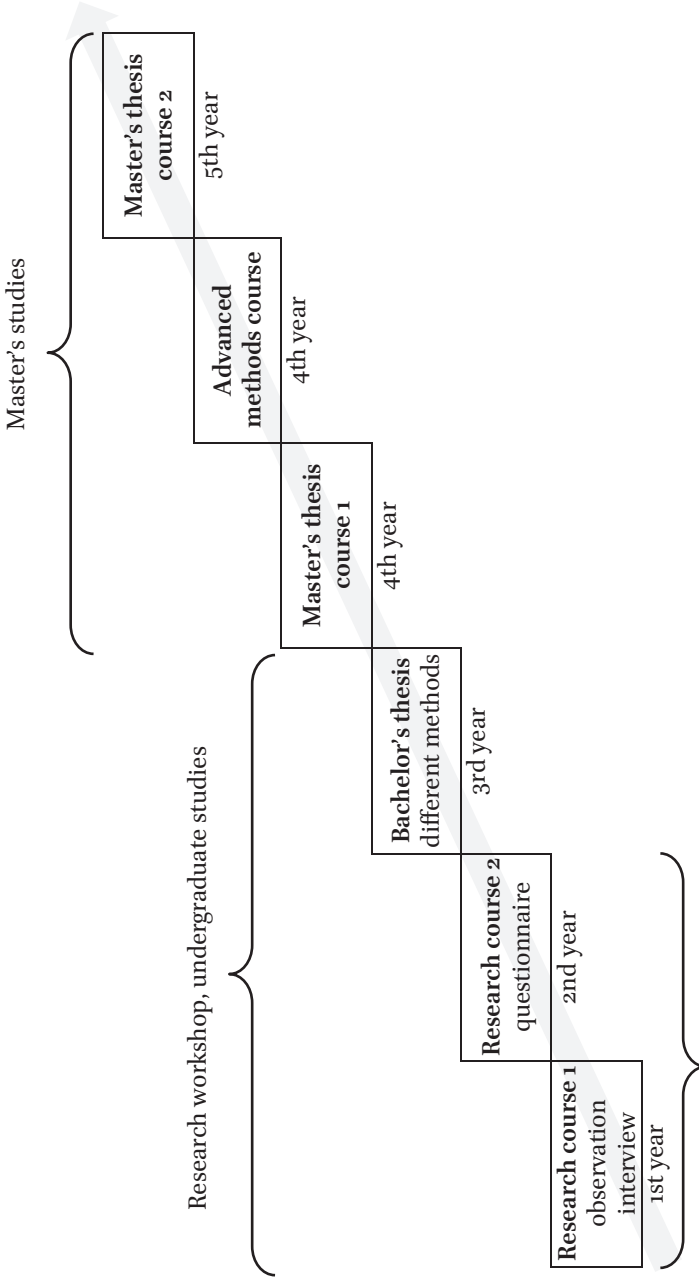
TABLE 2.1 Dimensions of research-based teacher education

Dimension	Critical reflector	School reformer	Academic expert
What does research-based mean?	Critical reflection, rationale for one's own pedagogical actions	Professional development, collaboration between individual and community	Inquiry, academic knowledge and critical reflection
How to educate?	Formal education in research methods and action research	Networking between schools and universities, action research	Formal academic education, integration of theory and practice through education, spiral curriculum
Who are educated?	Student teachers in teacher education programmes	Teachers in in-service training, school leaders	Student teachers in teacher education programmes, teachers in in-service training, teacher educators
Why is education needed?	General skills individuals will need in future	Reforming individuals, schools and universities	Individuals' development of expertise, extended knowhow expectations of teachers in future
Examples of studies	Afdal 2017; Afdal & Spernes 2018	Baan et al. 2019; Brown & Flood 2018; Cornelissen et al. 2011	Tryggvason 2009; Westbury et al. 2005; Østern 2016

decisions in the classroom (see Mikkilä-Erdmann & Iiskala, 2020b). The focus in this context is on the so-called general competences, which are at the centre of university studies. Similarly to other professionals, teachers are educated in a research-based way (see Afdal, 2017; Afdal & Spernes, 2018). The school reformer ideally views the research base as a means for enhancing the professional development of individual teachers but also the development of schools as learning organisations (Baan et al., 2019; Brown & Flood, 2018). Less attention has been given to this dimension. Support for classroom-based initiatives such as action research and small-scale empirical research also promotes student teachers' professional development and helps school communities to become learning organisations (see Baan et al., 2019). The ideal of the academic expert centres on learning via courses that enable students to integrate theory and practice and develop a critical 'stance' (Boyd, 2020) as essential part of their expertise. Using an enquiry method and ensuring that their investigations are informed by research, they are able to review their own teaching and develop expertise (see Jyrhämä et al., 2008; Toom et al., 2010). In the following section, we present an example of a learning environment and reflect on how the features of research-based teacher education are evident in the learning environment known as the research workshop.

3 Research-Based Teacher Education in Practice: The Research Workshop in Finnish Primary Teacher Education

The research workshop is a learning environment where student teachers learn empirical research skills; it is used from their first year of study of their bachelor's degree to the master's programme. Figure 2.1 illustrates the continuity of research methods in teacher education courses at the University of Turku. The theoretical principles of the research workshop have been derived from the notions of the teacher as a researcher (e.g., Anderson & Burns, 1989), problem-based learning (e.g., Boud & Feletti, 1997), collaborative learning (e.g., Bruffee, 1993), and expert–novice (e.g., Chi et al., 1997). The aim of the research workshop is to help student teachers develop their scientific thinking skills. More specifically, the purpose is to ensure student teachers take a scientific and critical attitude towards knowledge and that they become education experts who are active, science-focused participants in society. Educational theory and practice are therefore integrated into their studies from the very beginning so that they can grow within a scientifically literate environment. In practice, primary student teachers start to study educational theory such as educational psychology, subject studies (i.e., content of different school subjects taught



Basis for further methods courses
FIGURE 2.1 Research workshop model in primary teacher education

in the Finnish primary school, for instance mathematics and the Finnish language and literature), teaching techniques, and empirical research methods, from the very beginning of their studies. In parallel, students undertake practical training in order to apply the knowledge they have acquired from their in academic studies to practical situations. Finnish teacher education takes place in two contexts: academia, and university training schools, where most teaching practices are undertaken (see Mikkilä-Erdmann et al., 2019).

For example, in the first year of the research workshop, students work in small groups to write a research plan that requires knowledge of educational research methods, education psychology, subject studies, and didactics. Based on that plan, they undertake observations and interviews in their practical teacher training and collect data. After the training, the small groups write a report that follows the structure of a research article, analysing the data they have collected in order to answer their research question(s). In the second year of study, the small groups collect data from questionnaires during their practical training and analyse and report on that data in their reports. The procedure is similar to that used in the first year but the learning is deepened. In the third year, students write a bachelor's thesis alone or in pairs and move on to the Master's thesis phase (see Figure 2.1).

Throughout the research workshop, students attend seminars and lectures and are supervised by educational researchers, student tutors, statisticians, librarians, and training school teachers. Thus, individual research skills courses in the primary teacher curriculum cover research methods, information search, research ethics, data analysis methods, and scientific writing (University of Turku, 2021). Student teachers' research projects and the learning of research skills are an integral part of their studies from the very beginning right through to their fifth year. Student teachers therefore do not merely receive research-based knowledge in lecture halls, they also generate knowledge in their own right (cf. Healey, 2005). The aim of this 'research workshop' is not to train student teachers to become researchers but to facilitate a learning process, which is expected to lead them to realise the significance of educational research in teachers' practical, everyday work (University of Turku, 2021). Students, senior student tutors and teachers work together to understand education issues and to apply thinking to the school context and beyond, that is, in a wider educational context.

Our findings on student teachers' understanding of the role of research skills indicate that student teachers succeed in acquiring academic skills and are able to submit their bachelor's and master's thesis studies on time. In Finland, student teachers must work across a range of borders and gaps in the education system, such as differences in curricula between academic disciplines and

subjects and between foundation and methods courses, and navigate the major separation between school and university as two very different arenas (Sjøløie & Østern, 2021). A further challenge is that the latter two contexts have different institutionalised practices and even epistemologies (Mikkilä-Erdmann & Iiskala, 2020b) with regard to the kind of knowledge that matters.

To illustrate these difficulties, Heikkilä, Iiskala, and Mikkilä-Erdmann (2020b) examined the teacher education and training programme at the University of Turku. Data were collected from the texts of student teachers' coursework. The first year student teachers ($N = 79$) had just finished their first teaching practice in the university teacher training school. In their reports, they were instructed to reflect on their experiences during that period. The instructions included questions on a variety of topics, including the use of research skills during the teaching practice. The analysis deployed narrative and linguistic methods (e.g. Hyvärinen, 2008).

That study viewed research skills as a means of mediating the professional agency required to integrate theory and practice. On the one hand, the student teachers associated research skills with positive outcomes for teachers' work, for instance depicting them as tools or lenses, which implied taking responsibility for their own expertise and transforming the instruction they received into their own resources as they became teachers (also Edwards, 2017). This illustrated the opportunities they had to make choices in given situations, which were noted as indicators of agency (Hilppö, 2016). The student teachers not only took on board the idea of research skills but also made the tools their own through the development of their professional interests and needs (also Clark & Hordosy, 2019).

However, on the other hand, the student teachers believed that research skills also represented a burden for teachers. On this side of the argument, they saw such skills as leading only to the conduct and publishing of research, for which they did not have the time or resources. The student teachers expressed a sense of obligation and other synonyms, detailing the restrictions that either other people or they themselves had imposed on them (also Hilppö, 2016). Furthermore, the transformative impact of the learning process on the student teachers remained to some extent unrecognisable to them, restricting their agency (Heikkilä et al., 2020b).

The study indicated that the student teachers were not entirely agentic or passive. On the contrary, they expressed different levels of agency as they integrated theory and practice and teased out the role and usability of research skills in teachers' work. The study emphasised that agency is always incomplete (Loutzenheiser & Heer, 2017), and that teacher educators should embrace this plurality. No one format will give rise to agentic teachers; however agentic

behaviour can appear when research skills studies are integrated with periods of teaching practice. The study (Heikkilä et al., 2020b) found that for teachers to gain agency from research skills, they require the space and guidance to personally recognise the significance of educational knowledge and make it their own.

In another study in the context of the University of Turku programme, Heikkilä et al. (2020a) found that first-year student teachers were already finding research skills helpful in several ways. The data and analysis methods were similar to the methods referred to above, although the participants were different (coming from a different study year). The study aimed to examine the epistemic agency (Damşa et al., 2010) expressed by student teachers when engaging with research skills. Four dimensions of epistemic agency emerged in the contribution of research skills to the student teachers' approach to knowledge. All the dimensions revealed a distinct way of exercising epistemic agency through research skills (Heikkilä et al., 2020a).

First, the dimension of the self related to the student teachers' professional development, with epistemic agency directed at their own teaching. Research skills were a tool for questioning oneself and one's teaching practices. In the second dimension, that of the class, epistemic agency was directed outwards, towards events in the classroom and the characteristics of the children. Here, research skills related to systematic observation and analysis in an attempt to understand pupils and their backgrounds. The third dimension – research literature – involved critically relating oneself to existing research-based information, and research skills were used to interpret educational knowledge and assess its validity. Fourth, the dimension of everyday life emphasised the student teachers' needs to see teachers' work in a wider context. Research skills were deployed here to support teachers with the transmission of knowledge to their pupils and to demonstrate connections between learning at school and the outside world (Heikkilä et al., 2020a).

The study revealed how, in order to foster agency, attention has to be paid to student teachers' relationships with knowledge. It also prompted reflection about the purposes of research courses, which have become increasingly important given the increasing challenges to research-generated knowledge (Jensen et al., 2012). The study indicated that those purposes are several: to learn to reflect on oneself as a professional; to observe one's surroundings more clearly; to get more out of the writings about the field; and to deal with the outside world with its fake news and 'alternative facts', which requires a critical and active relationship with knowledge. The conclusion is that all of these aims are relevant to student teachers (Heikkilä et al., 2020a).

Although some student teachers mentioned a number of dimensions, most of them seemed to focus on only one. The study concluded that the attention

of student teachers could be drawn to the capability of all four dimensions to increase epistemic agency, highlighting great potential that has not yet been tapped in teacher education (Heikkilä et al., 2020a). There has been concerns that student teachers may not recognise the importance of studying research skills (Puustinen et al., 2018). However, they regard mainly subject teacher students who study educational sciences only one year, compared to primary teacher education programme with 5 years' training in educational sciences.

Hence, it is important to clear up misconceptions that putting research skills into practice in the classroom differs from teachers' 'real' day-to-day work; in the best case, research skills become innate and can help teachers to focus on children and their learning. Finally, the two research workshop studies indicate that teacher educators should be optimistic about student teachers' capacity to make versatile connections with educational research from their very first year of study.

4 Discussion

In this article, we argue that research-based teacher education helps teachers to become epistemically responsible and skilful professionals. In the best cases, research and teaching are well integrated in academic teacher education during different phases so that students can better understand the connections between different knowledge bases, both during their programme and later in their professional life. Although the status of Finnish teacher education is high, it has developed in response to historical contingencies and is therefore open and vulnerable to change (Simola et al., 2017). Student teachers need learning environments like the research workshop model to help them become aware of the different epistemologies and to overcome the gap between theory and practice. In addition, students' 'critical stance' needs to be activated and fostered by teacher educators in order to shape their approach to classroom situations and interactions: there should be a reciprocal relationship between research and practice. Professionals in general, in this case teachers, must learn to apply theoretical knowledge in their work, and, in turn, apply theoretical concepts to the interpretation of phenomena (Tynjälä et al., 2014).

The role of the teacher in today's societies is changing. In countries like Finland, the curriculum and textbooks used in schools are based on the latest scientific knowledge. Curriculum guidelines are issued at national level but the curriculum is delivered at municipal and school level. So Finnish teachers have a lot of freedom with regard to implementing the guidelines via their planning and teaching. Finnish teachers are autonomous when it comes to evaluating their students. There are no inspectors or obligatory standardised tests

in Finnish schools. This autonomous and powerful evaluatory role has to be taken seriously. Teachers' deployment of research skills and adoption of a critical stance can ensure that evaluations are reliable, valid and ethical. We would thus argue that teachers should themselves have high scientific literacy and the skills to teach these skills to their students. Teachers work as gatekeepers, mediating between scientific knowledge and everyday knowledge, particularly in an era where the latter is often influenced by emotions and post-truth era interpretations. The teacher plays an essential role in modelling and teaching critical enquiry skills, i.e., scientific literacy.

Teachers in schools are no longer only mediating between the world of scientific knowledge and the world of everyday knowledge; they are also to some extent mediating between scientific knowledge and the internet. Teachers are expected to support and teach students how to find and evaluate the reliability of knowledge that is often disseminated via different internet sources. Even for educated adults, this can be difficult because such knowledge may seem – and partly be – true; but it is often a mixture of so-called synthetic knowledge, even consisting of misconceptions. These are what are known as multiple source reading skills (Rouet et al., 2007) and the ability to teach such skills is becoming very important in the current post-factual era.

Finnish universities providing academic primary teacher education have many important goals, as they do in other countries. We need to teach students the latest scientific knowledge and theory, i.e., educational science. At the same time, we have to help student teachers understand and practise their different roles, namely to socialise children so that they become responsible members of society, and to teach the skills they will need both now and in the future. Teacher education must thus enable student teachers to become aware of these different roles and the values behind them, and to acquire the skills and knowledge required to perform them.

To support the theoretical and empirical development of Finnish teacher education, a research-based Multi-dimensional Adapted Process (MAP) model of teaching (Metsäpelto et al., 2021) was created, collaboratively at national level. The MAP model brings together and sets out the competenc(i)es needed for teaching. It also strengthens the theoretical and empirical underpinning of the continuum of teachers' professional development. The model is used, for example, to assess the suitability of candidates for programmes and in the development of teacher education curricula.

One particular challenge in teacher education compared with other academic programmes is that when students are selected for the teacher education programme, they already have approximately 12 years' experience in schools, namely in their future workplaces. Lortie (1975) called this the apprenticeship of observation. These observations can sometimes be a challenge and

require student teachers to change their approach and previous assumptions with regard to teaching and its professional underpinning (Mikkilä-Erdmann & Iiskala, 2020b).

As a profession, teaching requires its practitioners to continuously adapt to events as they unfold in the classroom and tailor their professional judgement to the specific characteristics of individual situations (Biesta, 2007). Teachers' strong relationship with knowledge is integral to the autonomy of their profession (Hermansen, 2017). In research-based teacher education programmes, teachers' professional knowledge is highlighted. However, becoming a teacher entails challenges that student teachers must be aware of. Higher education institutions, where student teachers study, are focused on the production and dissemination of research-based knowledge, whereas teachers' work in schools concentrates on educating children and young people (Risan, 2020). Higher education and schools represent distinct knowledge cultures that serve different purposes and make different assumptions about what is considered legitimate knowledge (Knorr Cetina, 1999). The interplay of different knowledge cultures is an essential aspect of any professional field. It cannot be 'solved'; students must learn to live with it.

Although it is important to give student teachers opportunities to practice their teaching, adding more practice to teacher education programmes downplays both the potential of student teachers and the work of primary teachers. Student teachers can be supported on the job to become epistemically productive, working with scientific knowledge and tools that strengthen their opportunities for creative engagement with professional knowledge. It is thus a fundamental premise of research-based teacher education that research skills and student teachers' own research assist them to see and interpret their experiences in schools in ways that would otherwise not be accessible to them (Hughes, 2019; Mikkilä-Erdmann et al., 2019). Research skills, as a key component of research-based teacher education in Finland, are central tools for integrating knowledge into teacher education. However, the balance between theoretical studies and guided teaching practice must be sustained in order to avoid the decontextualisation of teacher education (see Puustinen et al., 2018).

5 Conclusions

Challenges to teacher education also arise from societal circumstances, and these are reflected in teachers' work. Finnish society, like many European societies, is undergoing massive changes, such as the increase in multiculturalism and multilingualism, demographic changes, and crises related to the environment,

health, and security. Teacher education thus needs to acknowledge more directly teachers' role as societal influencers. The various roles of teachers, and the values underpinning the teaching profession, should be discussed.

The development of a continuum of research-based teacher education in Finland was the focus of the recent reforms of the student selection phase. The MAP model fosters the research-based continuum in teacher education. Continuing and extending the national collaboration that led to the creation of the MAP model and the selection phase, the eight universities involved have begun to put together the Finnish Teacher Education Database (FinTED), an infrastructure designed to support not only research on teacher education¹ but also research-based teacher education itself. Further work remains to be done on the in-service phase.

A critical question is how to support teachers' learning and professional development as a continuous process from student selection to the in-service phase through to the working life phase. The idea of a continuing path of professional development running from preservice to in-service is important. There is still much to do to link the three phases more closely together. The last phase, teachers' ongoing learning, is the phase that needs the most attention and reform, in many other countries as well as Finland. Teachers receive an advanced, research-based education and gain a degree, but in Finland, after they leave university and begin working, their education is very scattered and not very based on research. Mentoring programmes, and personal and social support for early-career teachers have been shown to be important in fostering versatile teachers and for securing their position in schools and the professional community (Symeonidis et al., 2023). National collaboration and dialogue have been central ways of supporting the autonomous role of universities in developing research-based preservice teacher education in Finland. In the future, research-based teacher education should support both newly qualified and experienced teachers both socially and emotionally.

Our article deals with teacher education in the national context of Finland. This context could be of interest internationally, since Finnish teacher education has a reputation for being high quality. The Finnish context does present challenges with regard to research 'on' and 'in' teacher education and some of these challenges can be seen as international or even global. Sustainability, segregation, well-being, and future competenc(i)es, for example, are linked to teacher education at international level too. New courses of action are required to tackle these global challenges. Three of our main conclusions are therefore applicable beyond national borders.

First, there is a lack of data and research infrastructure on/in teacher education. There is a tendency to pursue large-scale and longitudinal data and

studies (e.g., Mayer & Oancea, 2021). Furthermore, a variety of research methods is needed in order to gain a general picture of the quality of teacher education. In Finland, we are trying to address these challenges by collaborating nationally to construct the national database for teacher education (FinTED). Infrastructures to support teacher education research should be constructed and/or strengthened.

Second, research on/in teacher education should look at the system as a whole. Different levels of the system should be examined. Typically, the focus is on the local level (teacher education programme/university level). Broader and more systemically gathered data sets are needed. In Finland, FinTED will enable national-level data to be produced. More countries might be interested in gathering such data on/in teacher education. It would also be interesting and beneficial to collaborate at European or even global level to produce large data sets.

Third, the importance of collaboration in teacher education research could be highlighted more. It should be based on voluntary collaboration, cooperation and dialogue, not top-down approaches or obligatory evaluations dictated by the authorities or international organisations. Universities should be autonomous agents when it comes to research on/in teacher education. In Finnish society in general and in teacher education research in particular, collaboration/dialogue and agency/autonomy are key. These should also be the key concepts for research on/in teacher education.

Collaborative work covering different systemic levels and supported by research infrastructures will enable us to develop higher quality teacher education research. The value of teacher education research is vast, because it will enhance teacher education and thus improve the quality of education in societies. High quality education, in turn, is essential to the creation of a sustainable global future.

Note

- 1 <https://sites.utu.fi/finted/en/>

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A Critical Realist Perspective on Teacher Education Research

Michalis Christodoulou

Abstract

In this chapter we will argue that researching causal explanations is crucial for teacher education. To put it another way, it will be argued that the kind of research that is extremely relevant for teacher education is that which spurs teachers into searching for causal explanations. To this end, the first thing that needs clarification concerns how one makes sense of “causal explanation”, given that this kind of knowledge has been devalued by both the positivist and the phenomenological epistemological perspective. Hence, we will present how causal knowledge is approached by the philosophical tradition of Critical Realism and bring to light the merits of posing research questions which are connected with two knowledge claims. First, claims tied up with comparative explorative/explanative research questions and claims tied up with singular counterfactual explanations. The next part of the chapter focuses on how these two ways of posing research questions can enhance teachers’ critical reflexivity. To this end, we underline the role of biographical research in promoting teachers’ self-interrogation regarding their identity, their teaching methods or the relationship with their colleagues. We present methodological strategies for analysing data collected from teachers through biographical research by focusing on how the temporal and emotional grounding of teachers’ identities might make them re-think their educational assumptions and, as a consequence, change them.

Keywords

causal knowledge – critical reflexivity – critical realism – biographical methods

1 Introduction

I would like to start this chapter by posing the following question. What kind of phenomenon is “teacher education”? One of the possible answers could be that it concerns the development of educational practices (for example teachers’

in-service training, induction programs, early-career support) which empower teachers' professional identities throughout their career trajectory. In that way, teachers are initiated into seeing themselves as professionals, that is as persons who are capable of combining educational theoretical knowledge and practical mastery of teaching in various educational contexts (inter-cultural schools, schools located in disadvantaged areas or composed of disadvantaged groups, schools with children with disabilities, elite schools). Although a crucial component of this approach has to do with "professionalisation" and with constructing a technical culture comprised of measurable criteria and assessment strategies which enable professional development, it is how teachers relate to these components which determines to a large extent the merits and the effects of professionalisation. In other words, teachers' reflexivity is an essential (or ontological) dimension of their professional identity. It is not by accident that one of the founding fathers of educational sciences urged teachers to engage regularly in a reflective reconstruction of their experience (Dewey, 1933). Thus, an important strand of research on teacher education must focus on how teachers' reflexivity feeds their professional development, or to put it in Critical Realist (CR) terms, how teachers' personal self is related to their social self. In the rest of the chapter, I will put forward an argument which is based on the idea that causal knowledge can empower teachers' critical reflexivity. Given that most of the epistemological traditions which frame teacher education remain indifferent to causality for various reasons, (in the positivist camp causality is identified with the variable-centred research and with statistical generalisation while in the phenomenological camp causality is identified with determinism, both of these claims are misguided), in this chapter I want to present a recent and popular approach to causal explanation as developed by Critical Realism. CR is a philosophical strand a major toolbox of which concerns how social research can produce causal explanations of social phenomena by means of qualitative methods. For reasons of clarity, I have structured the chapter as follows: first, I provide a brief exposition of the CR's main epistemological ideas regarding the meaning of "causal explanations". Then, I present an argument detailing the reasons why posing comparative explorative/explanative research questions and/or singular counterfactual explanations are powerful devices for raising teachers' reflexivity. Finally, I provide examples which bring to light the implications of this means of posing research questions for teacher education research.

2 A Brief Exposition of the CR Approach to Causal Explanation

CR is a philosophy of social science which has received a lot of attention in the last 20 years. The most popular socio-ontological idea of CR is the iceberg

metaphor of social reality (Fletcher, 2016). What the metaphor wants to underline is that while in most epistemological traditions (Interpretivism, phenomenology, positivism) social reality is flat, for CR reality is stratified, which means that how humans make sense of reality (the Level of Experience) is one thing, while the Events in which they live their lives (the Level of Actual) is another, and the causal powers which make events take place (the Real Level) is another thing altogether (Bhaskar, 1979). The offspring of this socio-ontological idea is that the defining feature of a CR methodology is its quest for causal explanations. This makes sense only on condition that one is committed to this stratified ontology of social reality. Although the literature on mechanism-based explanation is huge and has various theoretical and philosophical backgrounds, critical realist scholars have put forward a conception of mechanisms which is structured through four main components: (a) emergence, (b) non observability, (c) tendentiality and (d) causal conjunction (Gorski, 2004). As far as (a) and (b) are concerned, mechanisms are emergent in the sense that when two or more social entities are related, then specific relational properties emerge which make things happen in a specific way and not another. The causal power of these properties is not to be found in relata's constitution but it is a power attached to relata's properties as such. "Causal power" means that mechanisms have the power to produce a change in the world since their presence or absence is tied up with outcomes which are observable and real. As far as (c) and (d) are concerned, for critical realism, social entities are enabled or constrained from acting in certain ways due to potentialities stemming from their configurational structure. The actualisation of an entity's causal power is prevented or facilitated depending on how it is related to another social entity. In other words, the effects of entities' causal power may be unexercised, may be exercised but not manifest due to other competing powers, and exercised and manifest under specific conditions. Causal powers denote capacities to behave in particular ways whilst liabilities refer to 'susceptibilities to certain kinds of change' (Sayer, 1992, p. 11). For CR, these exist as potentialities, which may or may not be exercised under particular conditions, and which may not produce a regular pattern of events. 'Generative mechanisms' simply refer to the 'causal powers or ways of acting of structured things' (Bhaskar, 2008, p. 187).

CR makes sense of mechanism-based explanations by drawing upon three interrelated ideas connected with the systemic, temporal and contextual nature of relational mechanisms. First, relations are developed within specified conditions the configurational structure of which gives shape to specific outcomes. The mechanism is relational not because it is borne out of social interactions but because of their emergent properties, that is properties which can neither be predicted from the properties of the interactional

parts nor which existed before the relation takes place. This explains the non-intendent consequences of actions. Second, relational mechanisms are temporal because, even if their causal effects are observable in the present, they have been formed in the past. This explains why they are neither knowable, observable nor accessible by people in their everyday lives. Finally, the context is a difference maker because it paves the way for how the mechanism will be activated (in a patterned way or in a “one off” way) and for when and whether it will be exercised. The fact that causal mechanisms are contextually shaped means that causal explanations for CR cover not only patterns and regularities but exceptions as well. This means that relational mechanisms are the means both for explaining some relatively enduring patterns and social morphostasis and for uncovering why social morphogenesis takes place in particular social contexts. Lawson frames this issue in the following brilliant way:

It is to be expected that many aspects of social events are relatively unique occurrences, being the conjoint effects of numerous mechanisms acting simultaneously. In other words, there is a possibility, already noted, of a continuum of pattern outcomes stretching from closed systems of constant conjunctions of events to an inchoate random flux, with contrastive demi-regs lying between these extremes. (Lawson, 1997, p. 215)

Outcomes, in this line of thought, are to be understood by means of the context + mechanism=outcome formula which means that how, when and whether a mechanism will be actualised depends on how it interacts with the context. As Pawson and Tilly (1997) argue,

- *Mechanisms* refer to how the properties of one or more entities affect those of others
- *Context* refers to what conditions are needed for an entity’s causal mechanisms be to triggered and
- *Outcomes* refer to the empirical manifestations produced by causal mechanisms being triggered in a given context

To recap, events occurring in the Actual level are composed of both how people make sense of them and of the practices they put into action for transforming or preserving them (the Experiential level), but also of the causal mechanisms which are actualised in conjunction with the relational and contextual features of the events (the Real level). For CR there is no covering-law model explaining social facts but it is the interactions of different causal mechanisms as implemented in specific contexts that which explains why some things happen in specific ways and not another. This is exactly what Tony

Lawson calls demi-regularities. For Lawson (2003, p. 204), the “demi” dimension of social facts has to do with the fact that countervailing factors sometimes co-determine outcomes and this explains why for CR entities’ causal powers are tendential and full of liabilities. This allows for seeing the social as populated by contingencies the explanation of which is captured by identifying the multiple conjunctions between causal conditions. Contingency means that people’s and social groups’ history could have been different from the one which has taken place and that what their history and present actually are, are other than might have been expected or at least imagined as a real possibility. For CR social facts do not take the form of strict regularities but express phenomena to be explained, they are not the end-points of research or mere devices to be built into formal systems.

3 Enhancing Teacher Education Research from a CR Perspective

The question arises as to what the implications of the CR prioritisation of causal thinking in research on teacher education are? My guess is methodological and revolves around how one poses research questions in educational research. Although methodology textbooks on educational research discuss research questions either by focusing on the sources for finding research questions (personal interests or theoretical preferences) or by classifying them as “why”, “how” and “what” questions, we think that should one want to obtain causal knowledge of the phenomenon of “teacher education”, (s)he would have to pose research questions in a contrastive manner, that is questions which aim (a) to tap similarities and differences between or within groups and (b) to provide explanatory details as to why a singular outcome X happens and not Y. I call the first “comparative explorative/explanative research questions” and the second “singular counterfactual” research questions. Let me explain. Exploratory questions might be “what are the outcomes which various configurations of causal conditions lead to?” In this kind of exploratory comparative research design, researchers first identify the instantiations of a phenomenon of interest and then try to explore its causal conditions and possible outcomes. For instance, a researcher might want to investigate the conditions which make some teachers highly involved in the role of teacher and to identify some of the outcomes this engagement leads to. By comparing two groups, in-service teachers and teachers who are more experienced, (s)he could bring to light the causal paths of this phenomenon. This research design is exploratory because researchers do not know beforehand either the outcomes or the causal conditions of a phenomenon.

On the contrary, an explanatory comparative research question starts by posing the question “what is the outcome for cases sharing these specific X_1 , X_2 , X_3 and X_4 causal conditions?” or “what are the causal conditions for cases sharing this specific Y outcome?” For instance, a researcher, inspired by theory related to the professional life-cycle of teachers, could compare male and female teachers passing through the “activist” phase of their career, in order to highlight similarities and differences regarding how they treat instructional materials, their methods of evaluation, their modes of grouping the students or their stance towards teachers’ trade unionism. It is obvious that the difference between these two explanatory research questions concerns temporality, in the sense that in the first case researchers know beforehand the causal conditions and then search for the reasons why this specific outcome takes place and in the second case researchers know beforehand cases sharing a specific outcome and then search for its causes. However, note that in both the exploratory and the explanatory contrastive research questions, CR educational researchers have to highlight and clearly articulate the relational mechanisms which make things happen. Second, the contrastive character of research questions might concern singular counterfactual explanations. In particular, these kinds of questions might be “why did this specific Y outcome take place and not Y_1 , Y_2 or Y_3 ?” Of course, the most intriguing feature of this style of research questions concerns how one can define the space of alternatives Y_1 , Y_2 or Y_3 in so far as counterfactual reasoning should not be identified with experimenting mentally with what would be the case if specific causes hadn’t occurred. The delimitation of the space of alternatives is not about re-writing history but emanates either from theoretical expectations or from logically derived real possibilities. For this purpose, one could seek out two (or more) situations where the outcomes might have been expected to be related in some manner other than what turns out to be the case, and to attempt to determine the reason(s). Typically, this will involve identifying at least one mechanism that operates, or does so in a particular fashion, in the one (set of) situation(s) only. As a consequence, the above remarks could lead to the idea that causal questions under a CR methodology might take, for example, the following form:

- Why don’t teachers who have attended seminars on intercultural education have the sense of readiness to handle multicultural classes, while the opposite should be the case according to X theory?
- Or in a similar vein, why do both the expectancy–value motivational model and Huberman’s theoretical model, although inconsistent as far as their socio-theoretical premises are concerned, explain the same outcome Y , that is, factors influencing teachers’ choice to become teachers?

- Why don't teachers in this specific case (area, school type, age, specialty etc.) seem to exhibit high levels of devotion to their social role to the extent that, intuitively thinking, the teachers' role offers a lot to society's well-being?
- Why are pupil's parents in a particular area intolerant towards refugee and migrant students, while the opposite should be the case given their high income and cultural capital?
- Why don't teachers facing redundancy get mobilised as a social group in order to confront the fear of job loss while the opposite should be the case?

Note that the space of the alternative possibilities can be constructed by theory, by intuition or by the research literature. In other words, in singular counterfactual explanations one is trying to detect the causal chains through which conditions and outcomes are connected, given that surprise, doubt or inconsistency prevail either between the observed phenomenon and a set of prior beliefs, or between competing explanations of it. As we noted for comparative exploratory or explanatory research questions, in the singular counterfactual explanatory questions the aim is to uncover the relational mechanism(s) which is responsible for a phenomenon, which helped to produce it or to facilitate it, too. In both of these ways to phrase a contrastive research question, we put at the forefront Bhaskar's (1978) famous question about the necessary conditions for the empirical practice of science to be possible: What are the necessary conditions in order for the X phenomenon to be what it is, or to make sense or to be that way and not another? Finally, thinking counterfactually entails the capability to imagine that which is not, but could be. This fits perfectly with an emancipatory research agenda such as those implemented by those who carry out action research in which the emancipatory potential for social change of social research is top priority.

These kinds of causal research questions are tied up with two modes of inference which foster theory development, namely abduction and retroduction. Abduction became popular in the philosophy of science through the works of Charles Peirce and, given the huge body of knowledge which spans the relevant literature, I will not repeat well known arguments but I will highlight abduction's and retroduction's implications for enabling causal explanations. Abduction is a mode of reasoning that leads to judgments about the relative pursuitworthiness of a theoretical explanation, by making practically grounded comparative recommendations, about which available hypotheses are to be tested. In other words, abduction is the kind of inference that leads to the conclusion that a certain hypothesis – which, if it were true, would explain the observed surprising fact – is worth pursuing (Britz, 2020). Abduction makes sense only in relation to a surprising fact or evidence and this, in turn,

presupposes that the researcher searches for contradictions, puzzles or unexpected findings, not only for patterns. Abduction promotes the conception of a creative hypothesis that would, if it were true, explain the observed surprising phenomena. Abduction denotes the “process of forming an explanatory hypothesis” when confronted with a set of unexplainable observations (Meyer & Lunnay, 2013). According to Peirce’s formulation, abduction is the only logical mechanism that introduces new ideas into a scientific body of knowledge and this is the reason why it is the only inferential operation that has innovative potential (Minnameier, 2004). Two things need to be underlined at this point. First, that abductive reasoning is enabled by previous theoretical elaborations which cannot explain a puzzle or the outliers. This is not a Popperian argument but we just want to prioritise that qualitative research is not purely inductive as is usually believed and that using theory “negatively” is a chance for problematisation.

Second, abductive inference is a kind of reasoning through which apparently dissimilar or unconnected things or evidence are connected by some unobservable process. This is a very crucial methodological idea which fosters comparison between seemingly dissimilar groups so that variation can be explained. It is at this point that retroduction comes to the fore. Retroduction is a mode of inference popularised mostly by CR scholars who argue in favour of the idea that abstraction presupposes connecting things. Sayer (1992) has eloquently described two ways through which things can connect to each other.

First, things are connected by searching for similarities and differences so that clusters of commonalities are formed. By bringing to light what a thing shares with all the other things composing the cluster, one can tell how different the thing is from other things located in another cluster. In that way, one uses formal relations as a device for making sense of the objects which populate his/her environment by means of subordinate and superordinate categories. Another device is to investigate how a thing gives shape to or affects another thing in some way. The cup of coffee which is located near my keyboard can be moved because my finger has the potential to exert a power upon it the outcome of which is the movement. My hand and the cup of coffee do not belong to the same cluster of objects, if one makes sense of them through formal relations, but are connected by means of the powers which these objects consist of. It is this kind of causal relation that CR methodology searches for and retroduction is the mode of inference which is used for that purpose, in conjunction with abduction. Retroduction is about identifying ‘the basic prerequisites’ for what is actual or empirically observed. Remember that for CR the real (what is), the actual (what happens regardless of whether it is observed or not) and

the empirical (what happens that is observed) are different ontological strata and the question a CR researcher is interested in is the following: How is any phenomenon, like democratic school leadership, possible? If we call this phenomena X, the question is transformed thus: What properties must exist for X to exist and to be what X is? Or, what makes X possible? (Danermark et al., 2001, p. 97). Once again, the term “condition” here can be used to denote the circumstance without which something cannot exist. A definitional approach to retroduction brings to light that retroductive reasoning works backwards in the following sense. Given that “retro” means “going backward” for a purpose, retroduction is something more than an abductive inference because it entails not only the apprehension of a surprising fact, and an ensuing hunch, but also that the hunch, once formed, is deliberately and recursively analysed as a hypothesis worthy of extensive testing. In other words, by using retroductive reasoning, researchers are pushed to identify the causes of the effects, not vice versa, and are able to link social structure with social action.

4 Empowering Critical Reflexivity through Causal Thinking

The main idea summarising what I have argued so far concerns my claim that posing contrastive and comparative research questions is a powerful generator for causal thinking and for tapping causal connections by using abduction and retroduction. This idea is the background upon which critical reflexivity in teacher education research can be advanced. In particular, I suggest that teacher education research can be empowered by how CR scholars make use of the case/phenomenon distinction. Three steps frame this distinction. The first is about de-familiarising, that is about the importance of stopping thinking about a research area in terms of sample/population distinction and, in contrast, starting to reflect on what the phenomenon of interest that the research area is an instantiation of, is (Maxwell, 2012). In that way, research on teacher education will not be about searching for generalisability through probability sampling but about reflecting on the socio-ontological properties which make the phenomenon of interest what it is. This enables researchers to create concepts by taking into account the various aspects which are essential for the phenomenon of interest, not by prioritising measurement as the gold standard for concept formation.

Second, researchers of teacher education have to focus upon a specific instantiation of the phenomenon of interest which will be investigated. In that way, research on teacher education is carried out as case-based research in which the main question is “what phenomenon is X [this specific research

problem] a case of?" (Ragin, 1992). For example, instead of posing the research question "what are teachers' views on their profession?", the first step a researcher of teacher education could take is to think about the phenomenon of interest ("teacher identity formation in beginning teachers" or "formation of motives for choosing the teaching profession") and then to pose the question "reasons for involvement in a teaching career amongst primary school teachers and mathematicians aspiring to become secondary school teachers". As a final step, researchers of teacher education should select cases of these two groups of teachers in order to conduct the research. In that way, questions regarding professional identity such as "what kind of teacher do I want to be?", and "how do I see my role as a teacher?", are given an answer in which the particular is conceived of as an instantiation of something more general, or, the personal is understood through the lens of its social shaping. This is exactly what Zeicner and Liston (1987) have in mind who, when they discuss critical reflexivity, argue that teacher education research should seek to help students situate schools, curricula, and pedagogy within their socio-historical contexts and that the critical dimension of reflexivity has to promote student teachers' understanding of the contemporary cultures of their classrooms and schools, of the relationships between these educational contexts and the surrounding social, economic, and political milieux, and of the historical development of these settings.

The idea that critical reflexivity in teacher education research might be profited by thinking in terms of the case/phenomenon distinction is in line with Dewey's (1933) approach to reflective practice as he prioritises a holistic way of responding to problems, a way of being as a teacher. For Dewey, reflection entails the act of transforming the "thing" to an "object", that is, the thing as it is used in relation to the practical concerns of everyday life "is transformed to an object of study composed of properties, structures and causes" (Dewey, 1933, p. 236). Hence, the goal of learning is to make students capable of moving from the concrete to the abstract and to cultivate in them "the delight in thinking for the sake of thinking" (Dewey, 1933, p. 236). In a similar way, for CR scholars, abstraction means bringing to light the causal powers which make an entity what it is or the conditions without which the entity could not have been what it is. I argue that both Dewey's and critical realists' approach to abstraction share in common the idea that critical reflexivity is tied up with a kind of inference through which a dubious and perplexing situation is turned into a settled and determinate one by involving a jump from the known into the unknown (Dewey, 1933, p. 165).

An additional aspect of the contribution of the CR approach to critical reflexivity concerns the common ground between abduction and how surprise

triggers reflection-in-action, as Schon (1983) calls it. For him, surprise emerges when our repertoire of expectations is blocked because a peculiar property of the situation blocks our habitual ends. This is an excellent opportunity where students have to think “out of the box” and to start putting in action abductive reasoning, namely redescribing their experience by means of another framework. When surprise comes, the teacher

is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. His inquiry is not limited to a deliberation about means which depends on a prior agreement about ends. He does not keep means and ends separate, but defines them interactively as he frames a problematic situation. He does not separate thinking from doing, ratiocinating his way to a decision which he must later convert to action. (Schon, 1983, p. 68)

This is how abduction and retroduction work, according to a critical realist perspective. By using abduction, students are engaged in crafting alternative hypotheses worthy of being pursued and tested and by retroduction they are trying to provide tentative alternative explanations for what might be the case for X to happen (Rodgers, 2002, p. 13). To this end, counterfactual reasoning is a powerful means because it forces one to think critically about alternative outcomes which could or should be realised or alternative conditions from which these outcomes could or should ensue. Note also how the inherently comparative dimension of the CR methodology is in line with the comparative grounding of critical reflection in teacher education. For instance, Zeichner and Liston (1996, pp. 4–5) argue that reflexivity means that teachers have to compare distinct ways to pose a problem and attempt to get a different purchase on the students and the issues involved. Comparative reflection brings multiple perspectives to bear on puzzles of practice through which one deals with what CR scholars call multiple conjunctural causation or process tracing theorists call “equifinality”, meaning that the same outcome is achieved through multiple and distinct configurational conditions. As Jay and Johnson (2002, p. 76) put it “through comparative reflection, different interpretations of the same matter are compared”. In other words, comparison is an essential feature of critical reflexivity because it enables one to make a judgement or a choice among actions, or integrate what (s)he has discovered into a new and better understanding of the problem, by having viewed the matter for reflection in several different ways.

Finally, enriching comparative reflection with the CR perspective on causal thinking through abduction and retroduction has implications for bridging

the gap between theory and practice in initial teacher education. Loughran (2010) argues that one of the best ways to make student teachers “practicalize theoretical knowledge” is by promoting the importance of testing out alternative teaching approaches and discovering new ways of analysing teaching situations. The consequence of this approach is not to categorise the teaching strategies as ‘practical’ or not, but to engage in a logic of ‘repair’ and ‘review’ (Griffiths & Tann, 1992). The underlying logic of this idea is to develop agency in student teachers or beginning teachers not by managing teaching or survival concerns but by making them develop a form of practical theory (Buitink, 2009). In the last section, I will try to briefly illustrate how the CR perspective on teacher education research can be applied through the use of biographical methods.

5 Using Biographical Methods in Teacher Education Research from a CR Perspective

In one of the best reconstructions (which is close to what Glaser calls “formal Grounded Theory”) of the use of biographical-narrative methods in the interpretation of a teaching career, Huberman et al. (1997) distinguish between a tradition in which autobiographical narratives of teaching, professional biographies, life histories, or case histories are used through a phenomenological, feminist, or hermeneutic epistemological background and a tradition in which the same sources are used for bringing to light patterns in the career paths taken by the teachers studied and the dynamics that underlie or explain these patterns. The main difference between them is that the first tradition is atheoretical in so far as the main goal concerns the tapping of the unfolding story of the career as the author experienced it while the second is preoccupied with theory development by using life stories as evidence for identifying regularities across many individual careers and for generalising about them by crafting causal explanations. The narrative tradition privileges life story or life history narrative of teaching because it provides a better connection to teaching practice by exploring the multitude of ways that teaching can be meaningfully understood, by valorising the authentic dimensions of teachers’ lives. It is this authenticity which enables one to access original teaching experience and through which narratives under the full control of the narrator (what teacher researchers call the teacher’s ‘voice’) are a “royal road” to that end. It is not by accident that this epistemological tradition has been used by feminists for prioritising narrative methods as a means of resistance against the socially produced power structures. In contrast to these accounts, Huberman et al.

note that the other tradition which is called paradigmatic (following the terminology of Bruner) aims at isolating causal mechanisms underlying teachers' careers (Huberman et al., 1997, p. 35).

In a manner which is similar to what we have presented in the previous sections, paradigmatic accounts strive to develop theoretical explanations in which the particular is an instance of the general (Huberman et al., 1997, p. 36). For Huberman et al. (1997) the significance of the career concept concerns, first, the fact that it enables comparison between groups of teachers (for example primary and secondary education or between different specialties) and, second, it promotes the theoretical integration of structure, culture and action (Huberman et al., 1997, p. 42). Both advantages are similar to a CR perspective on teacher education research, as we have described in the previous sections. Despite its popularity in the literature on teacher identity formation, Huberman et al.'s theory on teacher career lacks specific methodological devices for biographical research through which an inference can be made. In the rest of the section, I will try to fill this gap by presenting two such devices for handling biographical material.

The theoretical framework draws upon the works of Wengraf (2001) and Rosenthal (2018) on biographical research who clearly separate "life as lived" (narrated life history) from "life as told" (narrated life story). The first concerns what events happened, when and for how long and the second concerns how the subject reconstructs these events as narrative experiences. For CR methodology, biographical research differs from narrative research in terms of how time and temporality are conceived of. In narrative research designs the focus is on how time is emplotted through narrative schemes while in biographical research designs it is one thing what events happened, when and for how long (the biographical time), and how subjects reconstruct time narratively as a temporal orientation is quite another (biographical temporality) (Tsiolis & Christodoulou, 2021). This distinction proposed by Wengraf and Rosenthal is in line with the CR-driven epistemological distinction between Experiences, Events and Mechanisms. Wengraf tries to tap this distinction methodologically by separating two levels of analysis, the level of analysing Hard Biographical Data in which the analysis concerns the "biographical phases" which subjects have passed through and the level of analysing the Sequence of Text Form in which "thematic field analysis" takes place (Wengraf, 2001, pp. 125, 146, 176). Having clarified the main theoretical framework of biographical research, I will now present two visual devices for analysing these two levels of analysis. I call the first "Life History Grid" (LHG) and the second "Life Story Grid" (LSG), both of which are modifications of various visual techniques which have been

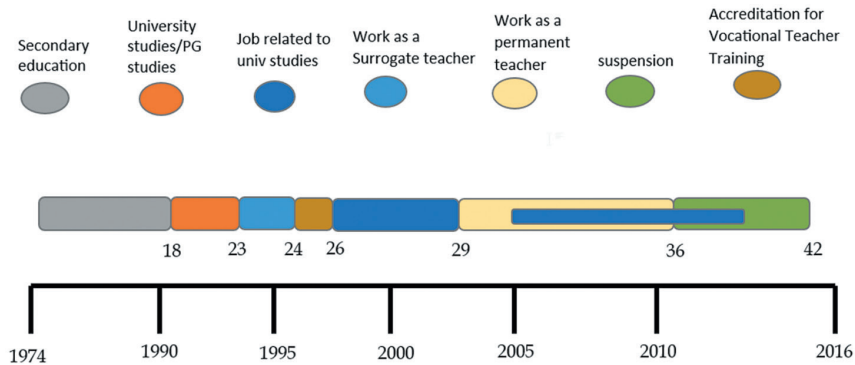


FIGURE 3.1 Example of Life History Grid (LHG)

proposed for visualising qualitative data (Richmond, 2002; Bell, 2005). LHG corresponds to “biographical phases analysis” because it is used for tapping the what, when and for how long events happened and the LSG corresponds to “thematic field analysis” because it summarises the main thematic patterns permeating subjects’ relations. Below I provide an example from an LHG.

The LHG depicted in Figure 3.1 presents the lifeline of a vocational teacher and had been used for a research project related to vocational teacher social identity formation. It taps the main educational and work-related life stages which a person has passed through, their duration and their time they began and ended by taking into account their chronological age. The purpose of the black line is for comparing the LHGs of vocational teachers who are members of the same cohort. For instance, by comparing LHGs from teachers who are in the phase of “stabilisation” (if one uses Huberman’s et al. “teacher’s career” theory), one could bring to light the structural determinants of their life careers, differences and similarities regarding the requirements for entry into the teaching profession, the educational policies which are prevalent in specific life phases or the details of their education as teachers (duration of in-service training, or other kinds of teacher training).

The methodological importance of LHGs lies in their ability to tap the Events (as CR researchers call them) of a group of teachers and to shed light on their main structural or cultural determinants which have influenced teachers’ identities and career decisions. Given that a CR perspective on research methodology tries to connect structure, culture, and biography, using the LHGs is a perfect tool for visualising how context matters for teacher education, in the sense that researchers can make sense of how teacher education systems affect teachers’ initiation into the teaching profession and their professional development (Menter, 2023, p. 9). Besides the necessity of tapping the biographical

TABLE 3.1 Example of life story grid (LSG)

Relations with						
	Family	Education	Teaching profession	Work	Turning points	Main themes
Past	Parents are absent from life plans	Strong motive for university studies Failure to study medicine and he decided to "experiment with becoming a dental technician"	He learned by chance that he could become a vocational teacher Undecided what work path to choose	He didn't like starting working as a dental technician He opened his own dental technician practice. Unsatisfied with this choice	redundancy ("it was a shock") (resistance to stereotypes regarding the usefulness of vocational education)	- Dissociation from teachers of general education and of primary education - Self-blame - His teacher identity is full of emotional contradictions. - Reconfiguration of his vocational identity after redundancy
Present	Devoted to family life	He trained in a Pedagogical School to become accredited as a teacher He started to prepare for national exams in order to enter the teaching profession ("I saw it as a joke") He followed PG studies for "self-improvement reasons" and to fight suspension	Satisfied with relations with pupils	He kept his practice while being a vocational teacher in order to fight redundancy		
Future						

Relations with

time of teachers' careers, research on teacher education which does not take into consideration teachers' narrative reconstructions of their social role is half of the story. LSG is a visual device constructed for achieving this purpose.

Although the above LSG is presented just to illustrate my main point which means that it could be more extended and contain additional themes, I would like to comment on its main contribution to teacher education research. The usefulness of the LSG lies in bringing to light the first-person experience of teachers who are at various stages of their career by presenting the main themes which frame it. The logic of creating an LSG is to identify the relationality of teachers' lives in and out of school and in conjunction with how they make sense of their past, present, and future social and professional selves. The horizontal dimension of LSG taps the relations of the teacher with his/her relational contexts while the vertical dimension aims to connect this relationality with the temporal frames of the past, present, and future. Finally, as was the case with LHG, the usefulness of LSG is that it enables comparison through which causal arguments and hypotheses can be crafted should one apply a CR-informed case-based methodology, as we presented in the previous sections.

By using both the LHG and LSG, researchers can make sense of teacher education and of professional development through the lens of teacher identity construction. The reason is that the LSG has the potential to bring to light the beliefs that student teachers bring with them as they enter teacher education, and the LHG has the potential to highlight the tensions that may arise with student teachers through the interplay between internal and external forces (Beijaard & Meijer, 2017, p. 178). In any case, my point is that thinking causally through the socio-ontological and epistemological framework of Critical Realism is a fine opportunity to enhance teacher education research. This can be done both as research *on* teacher education and as research *in* teacher education (Menter, 2023). Popularised as inquiry based, research in teacher education is based on research carried out by teachers themselves.

In so far as teachers are equipped with the appropriate skills to evaluate educational research and with the capacity to engage in enquiry themselves, teacher education programs should seek to provide trained teachers with these qualities. Research on teacher education seeks to analyse and understand teacher education in a more "detached" way, it is more theoretically informed than research in teacher education and challenges the epistemological assumptions of teacher education research which is carried out by policy makers who prioritise effectiveness. We believe that CR-informed research on teacher education as presented in this chapter is in line with both of these versions of teacher education research. For instance, posing contrastive research

questions and analysing biographical material by means of LHG and of LSG makes research in teacher education systematic and rigorous and can be used as a basis for large-scale research on teacher education through which causal arguments and theoretical arguments can be formed.

In addition, CR-informed research on teacher education promotes teachers' critical reflexivity because teachers, by identifying the causal conditions which shape outcomes, can be more active in formulating the purposes and ends of their work along with other things, and should assume leadership roles in school reform. Reflexive practice is not just a way for helping teachers facilitate their own teaching ignoring the social and institutional context in which teaching takes place or a means-end thinking which limits the substance of teachers' reflections on technical questions, but it is connected with issues of social justice and with questioning the social conditions through which teacher education limits the life chances of teachers' future students. In other words, by enhancing teachers' critical reflexivity through CR-informed teacher education research, teachers' agency is empowered, as well. Priestley et al. (2015) promote a relational approach to agency according to which agency is seen as emerging from the interaction of individual 'capacity' with environment 'conditions' (Priestley et al., 2015, p. 26). Teachers' agency concerns actors' engagement with temporal-relational contexts-for-action, it is not a quality of the actors themselves, and helps us understand how individuals are enabled and constrained by their social and material environments. In that sense, their book prioritises the need for understanding the relational and temporal grounding of teachers' identity. This is exactly what the LHG and the LSG are trying to capture in the sense that by researching how teachers' life histories are interwoven with their life stories in various contexts throughout their life course, teacher education can play a leading role in developing teachers' capacities for agency and critical reflexivity.

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Different Practical Experiences – Different Views?

An Analysis of the Views of Future Teachers in Austria on Research Needs in Response to the Covid-19 Pandemic

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Abstract

This study analyses the extent to which two groups of teacher education students with different levels of practical experience had different views on research needs. Teacher education students' arguments, produced as part of an open-book examination ($n = 305$) on gaps and challenges in education in response to the Covid-19 pandemic, were qualitatively analysed and classified by the research topics identified. Afterwards the results were quantified. We found significant differences of opinion on how the educational sciences should address the pandemic. Students with more practical experience were significantly more likely to argue for further studies on the well-being of students. Students with less practical experience suggested studies related to practicalities and modes of facilitation. Our study suggests that practical experience shapes teacher education students' perceptions of research and schooling. The paper is thus of relevance for debates on scientific knowledge and practical professional knowledge in teacher education and for discussion of both aspects in the context of the difficulties arising from the Covid-19 pandemic

Keywords

teacher education – Covid-19 – research needs – practical experience – teachers' beliefs

1 Introduction

At the beginning of 2020 the Covid pandemic caused more than a health crisis in most European countries. In Austria, as in many other countries (UNESCO, 2020a), the pandemic presented a serious challenge to the whole education

system, as institutions were closed and instructions were issued to take learning online. Students, teachers and parents faced a series of new challenges at the start of the pandemic and throughout its duration (Huber et al., 2020). Teachers were tasked with delivering distance learning to students without much government support, training, or resources and whilst having to meet the demands of a range of stakeholders, in particular students and parents, in very uncertain times (Darling-Hammond & Hyler, 2020). At the same time, there were discussions on the role of science and how to address the risks of misinformation and the rejection of scientific evidence (Barzilai & Chinn, 2020; Darner, 2019). When the results of research on learning and teaching are themselves called into question and have to compete with unscientific narratives, such misconceptions (Gardner & Brown, 2013) can – especially when firmly rooted – significantly hinder engagement with scientific knowledge (Reusser & Pauli, 2014), influence reflection-on-action and reflection-in-action and even counteract efforts to encourage research-based teaching and teacher education (Aguilar, Polikoff, & Sinatra, 2019; Bauer & Prenzel, 2012; Menz, Spinath, & Seifried, 2020; Reusser & Pauli, 2014). Given that the pandemic required new approaches to teaching and new arrangements, it is reasonable to assume that the differences of opinion could be explained by different levels of practical experience, scientific and reflective habitus and competence to reflect on professional activity. It can also be assumed that such differences are more apparent at the beginning of a professional teaching career (Keller-Schneider, 2020). The meta-review of recent pandemic-related educational studies (Helm, 2021) shows substantial differences in stakeholders' perceptions of challenges and concerns, but also in those of teachers with different levels of experience. However, these differences in response patterns to surveys have not been explored in any more detail. The present study focused on differences between Austrian teacher education students. We compared fulltime master's students and students who were working as school teachers and were upgrading their qualification to a master's degree part time. We analysed whether practical experience had an impact on future teachers' views on research needs in response to the Covid-19 pandemic. To provide a framework for our analysis, we provide a brief summary of discussions on the role of scientific knowledge and practical professional knowledge in teacher education and the thematic foci of educational research on the Covid-19 pandemic. We then present the design of our mixed-methods study and a quantitative summary of our findings. We close with a brief discussion of the significance of our findings and the limitations of our study.

2 Scientific Knowledge and Practical Professional Knowledge in Teacher Education

There has been lengthy discussion of the relationship between theory and practice within teacher education and training. In essence, the discourses focus on how scientific knowledge and practical professional knowledge and action can be combined in order to support the development of pedagogical finesse, the scientific and reflective habitus and professional competence (e.g. Rothland, 2020). The literature generally agrees that scientific knowledge and practical professional knowledge are inherently distinct and are applied differently (cf. Stadelmann, 2006; Fickermann & Edelstein, 2020). Thus, questions about the contexts in which to deploy scientific knowledge on the one hand, and teachers' knowledge on the other are particularly relevant for professional practice (ibid.). There is also consensus that although scientific knowledge cannot be applied directly to pedagogical situations, it has practical relevance as a basis for reflection and action. The rational and persuasive power of scientific knowledge does not mean that it should be applied automatically and deterministically; its effect is mediated by the activities of the agents themselves (Rothland, 2020; Bommers, Dewe, & Radtke, 1996). Among others, the challenges are (a) that science does not produce unrestricted truths or unambiguous guidance, but rather offers restricted interpretations; and (b) that decisions on which knowledge is relevant to practice and what the impact of such knowledge is the purview of practitioners, not science (cf. Rothland, 2020; Herzog, 1999). Hence, scientific knowledge must be transformed and reinterpreted in the course of its application in practice. Individual teachers have to adapt scientific knowledge and consider how to apply it, taking into account the conditions and requirements of the context in which they are operating. The expert knowledge developed in the contexts in question is highly individualised, and represents a conscious integration of different units of knowledge and specific practical (teaching) experiences in the course of subjective and constructionist processes (Rothland, 2020).

According to Blömeke, Gustafsoon, and Shavelson (2015) these processes are mediated through perception, interpretation and decision-making about courses of action (framed as the construct of 'professional vision'). The distinction between teachers' knowledge and beliefs as different facets of professional competence (Baumert & Kunter, 2006; Gill & Fives, 2015) is somewhat blurry. It is well known that students and teachers alike hold questionable beliefs about educational issues, beliefs that are not borne out by the latest

research (Bromme, Prenzel, & Jäger, 2014). Studies show that preservice teachers contest the relevance of research for their future practice (Allen, 2009; Fajet, Bello, Leftwich, Mesler, & Shaver, 2005; Gitlin, Barlow, Burbank, Kauchak, & Stevens, 1999) and teachers maintain pre-existing (erroneous) beliefs about learning and teaching, even when confronted by solid research (De Bruyckere, Kirschner, & Hulshof, 2015; Sinatra & Jacobson, 2019). As personal beliefs require no external validation (Pajares, 1992; Richardson, 1996), they are based in idiosyncratic understandings of either one's own or anecdotal experiences. In this context, professional perception becomes a mediator in teacher education. This in turn impacts on assessment and on decisions with regard to individual cases. Practical experience thus presents "a special opportunity [...] to perceive and reflect on teaching situations from an increasingly professional perspective" (Schüssler & Weyland, 2017, p. 33) and to develop a scientific and reflective habitus and the skills to reflect on professional activity. In this article, we aim to explore how differences between practical experience correlate with differing perspectives on the educational issues and challenges that arose during the Covid pandemic. Specifically, we ask whether practical experience impacts on Austrian future teachers' views on research needs in response to the Covid-19 pandemic.

3 Thematic Foci of Austrian Educational Research on the Covid-19 Pandemic

In Austria, as in many countries, the educational issues and challenges resulting from the Covid-19 pandemic were widely discussed both in public fora and in scientific literature (for an overview see Hase & Kuhl, 2021). There were a variety of attempts to document and stay abreast of rapid developments (Hase & Kuhl, 2021). For the purpose of our analysis we identify four themes relating to the educational issues and challenges that arose during the Covid-19 pandemic in Austria, namely: modes of facilitation, impact on teaching and learning, impact on well-being and equity and equality. These themes served as categories for our qualitative content analysis, and we outline them briefly below.

Literature relating to modes of facilitation documented and reflected on challenges with the organisation and delivery of schooling in the context of school closures, distance learning and emergency provision for selected cases. Studies such as the School Barometer (Huber et al., 2020) demonstrated at an early stage that only a very small percentage of school administrators and teachers had sufficient general experience, and lacked the skills and digital resources to deliver digital learning. Teachers and administrators reported

that organisation and effective delivery were hindered by short-notice policy changes and insufficient communication, constant switching between home schooling and classroom teaching and concerns about infection and teachers' own safety (University of Vienna, 2021). Delivery of subject teaching was inconsistent and not always tailored to the needs of learners at different levels (Hase & Kuhl, 2021; Huber et al., 2020). Communication between teachers, students and parents was a challenge that was repeatedly addressed, in particular with regard to technical infrastructure. Families with low socioeconomic status had more difficulties as a result of accessibility issues (Robert Bosch Stiftung, 2020). Where homeschooling shifted responsibilities for learning onto students and parents, levels of support varied widely (Universität Wien, 2021). While children at secondary level were expected to engage more easily and independently with digital devices, younger primary-level children were more dependent on support. Parents reported struggling to balance working from home, meeting personal obligations, supporting their children with homeschooling and providing technical infrastructure (Universität Wien, 2021). Subsequently, parents were found to be dissatisfied with the learning opportunities and materials provided (Voss & Wittwer 2020). Consistent, clear and transparent communication between teachers, parents and students was increasingly identified as a key factor in an efficient response to pandemic (Attig et al., 2020).

Literature dealing with the impact on teaching and learning documented and reflected on the challenges of school closures, the need for self-regulated learning, and the effects on motivation, self-concept and academic performance (Robert Bosch Stiftung, 2022). There was a particular focus on concerns about increasing inequity (UNESCO, 2020b). Other studies looked at “summer gap effects” (e.g. Voss & Witwer, 2020), showing that certain groups were difficult to reach and lacked equipment or support, and documenting that students themselves reported feeling less successful because they felt less socially included (Huber et al., 2020; Universität Wien, 2021).

Literature examining the impact on well-being documented and reflected on the effects of diverse Covid-related restrictions on the way people adapted to changes both in general and in the context of schooling (Strauß et al., 2021), identifying children and adolescents as especially vulnerable (Brakemeier et al., 2020). There was increasing discussion of risks and protective factors and of ways to promote resilience (Strauß et al., 2021). 52 percent of students surveyed for the School Barometer (2020) reported some degree of psychological stress due to the pandemic (Huber et al., 2020). Students responding to a survey for a study conducted by the University of Vienna (2021) reported that the biggest challenge resulting from the pandemic was the inability to counterbalance the pressures of studying through social contact with classmates, friends and

family or participation in sports and hobbies. Parents in this study described how difficult they found it to prevent their children from keeping in touch with friends (Universität Wien, 2021). In this regard, Wiebusch et al. (2022) found that children with siblings found it easier to cope than children who had no contact with peers at all (Wiebusch et al., 2022). Other scholars emphasised the importance of physical education in general, and also as a strengthening factor in times of uncertainty (Haycock et al., 2020).

Equity and equality and the risks of accelerating inequality were major themes in the debate. Papers focused on those who were “hard to reach” (Voss & Witwer, 2020), documenting differences in the positions students started from (Anger et al., 2020), critically reviewing the impact of policies (Hase & Kuhl, 2021), and suggesting differentiated approaches and modes of facilitation (Voss & Witwer, 2020). Anger et al. (2020) highlighted the importance of being aware that not all students start from the same point when it comes to homeschooling and distance learning. In this context, the key concepts were educational equity and inclusion.

4 Research Question and Hypotheses

This study considered whether the views of future teachers in Austria on research needs in response to the Covid-19 pandemic differed in line with different degrees of practical experience. The literature outlined in Section 2 supported the assumption that respondents’ perception of research and views on school practices were both shaped by their levels of practical experience. It seems plausible to assume that the nature of their involvement with teaching and their own practical experiences also shape their perception of the issues that educational research should address. Given the differences in practical experience and the work of Fickermann and Edelstein (2020), we expected part-time students to be more concerned about the social function of schooling. Building on Hase and Kuhl (2021), we expected fulltime students to identify different research needs, relating to the delivery of homeschooling, digital learning and educational justice, as these were those most prominent issues in public debates.

5 Methods

This study in general followed a mixed-methods design; we first qualitatively analysed student teachers’ written arguments, and then quantified the results and conducted descriptive analysis to test for group differences. Open book

examinations served as the material for the study. Under the overall topic of schooling in the era of Covid-19, examinees were asked what education research was needed in response to the pandemic, to make an argument for it and to design a research study. Examinees were free to choose the focus and design of the study and were given as much time as they needed (up to 6 months) to complete the assignment. For the purposes of our analysis, we assumed that the examinees had chosen and advocated research topics on the basis of their own concerns, since a broad systematic literature review would have been beyond the scope of the assignment for most of them. The average length of assignment submitted was eight pages, and assignments had to be a minimum of 800 words, include a minimum of 3 arguments and reference scientific literature. They were also required to propose a coherent research design.

Our initial sample was 305 University of Graz students attending the Philosophy of Science and Research Methods lecture as part of the Educational Sciences master's programme. The notable feature of the Austrian context is that as a result of reforms introduced to address teacher shortages, a wider range of status groups are currently enrolled in teacher education master's programmes (Symeonidis & Wendt, 2023). We distinguished between full-time and part-time students, the latter group being already employed in schools as teachers. Full-time students have to do internships (20 ECTS in the Bachelor's program) to build their practice experience; part-time students have to undertake these too, but are also already actively teaching in schools (with a minimum of 4 months' employment depending on the degree being studied for). For the purposes of clarity, we asked students to indicate whether they were working or "just" studying when submitting their papers on the Moodle platform, and also to confirm that their papers could be used for the study. Out of the 305 master's students, 71 did not give consent or provide confirmation, so we proceeded with data for 176 full-time students and 58 part-time students.

5.1 *Qualitative Content Analysis*

The first step was to undertake qualitative content analysis on the basis of Mayring (2015) using the MAXQDA computer software (Kuckartz, 2014). Categories were derived from the literature review, with subcategories being developed inductively (see Table 4.1). Codings for more than one theme were permitted, as research needs can be identified in several areas or at the intersection between areas. Two researchers double-coded 10 percent of all examinations. At the subcategory level, overall intercoder reliability was acceptable (77%).

5.2 *Quantitative Analysis*

The second step involved importing the MAXQDA coding information to SPSS. Subcodings were then summarised into four dimensions: Modes of Facilitation,

TABLE 4.1 Category system with anchor items

Categories and subcategories	Anchor research questions
Modes of facilitation	What were the positive effects of the pandemic for middle school learners and teachers and which of these could be applied to regular school lessons?
Homeschooling	What are the challenges with converting face-to-face teaching to online teaching in physical education and how are teachers addressing them?
General facilitation	What influences do learners' economic, cultural and social environment have on the delivery of distance learning?
Approaches and methods	Which online tools have proven effective in terms of knowledge transfer and online communication in the context of the Covid pandemic from the perspective of teachers in Styria?
Technical infrastructure and access	How many learners have daily, unrestricted access at home to the technological resources that are necessary for participation in digital teaching?
Modes of digital learning	
Modes of facilitation of teaching in schools	
Student wellbeing	With regard to high school students, how can it be ensured that the shift from face-to-face to asynchronous distance learning does not cause them to feel overload or overwhelm?
Socio-emotional development (e.g. effects of social distancing)	How have Covid-driven school closures affected the development of students' sense of identity?
Mental health (e.g. mental health and achievement)	What is the relationship between students' psychological well-being and motivation in school?
Physical activities (e.g. lack of physical activities and impact on well-being)	What is the connection between increased use of digital media and cyberbullying?
	What is the mental health impact of the Covid-19 pandemic and associated distance learning on students?

(cont.)

TABLE 4.1 Category system with anchor items (*cont.*)

Categories and subcategories	Anchor research questions
<p>Impact on learning</p> <p>Motivation (e.g. impact of homeschooling on motivation)</p> <p>Self-regulation (e.g. organisation of learning)</p> <p>Academic performance (e.g. impact of homeschooling on academic performance)</p>	<p>How can teachers increase the motivation of secondary level 1 students during distance learning?</p> <p>How has the independent work of 5th grade students in the Graz area changed in the context of the pandemic compared with previous times?</p> <p>To what extent does distance learning affect students' personal responsibility and self-management?</p> <p>What effects has the pandemic had on the students' motivation and performance?</p> <p>To what extent does a virtual classroom influence the quality of instruction?</p>
<p>Equity/Equality</p> <p>Disadvantages of homeschooling for vulnerable groups (poverty, migration, language, less supportive, disabilities)</p> <p>Home learning environment/resources (e.g. support structures, access to other formal and informal educational opportunities)</p>	<p>What are the differences between students from educationally disadvantaged families and those from educationally advantaged backgrounds?</p> <p>To what extent did the Covid pandemic affect equity with regard to Austrian secondary school students?</p> <p>During the pandemic, which socioeconomic factors had a particular impact on the education of secondary school students?</p> <p>What consequences can teachers already identify for the performance of socioeconomically disadvantaged learners as a result of the pandemic?</p> <p>What impact has the Covid-19 pandemic had on learning environments for German-as-a-second-language learners and what impact has this had on language and communication skills?</p>

Impact on Learning, Student Wellbeing and Equity/Equality. Answers were dichotomised to indicate whether a student had argued for research in a particular area or not (0 = not argued; 1 = argued). Descriptive statistics were calculated and significance tests carried out and analysed with regard to the research question.

6 Results

Table 4.2 illustrates the relative differences in the research needs identified by examinees. Most examinees argued that further research was needed on modes of facilitation, especially with regard to homeschooling (68.5%). About half of the research proposals presented (53.1%) were concerned with learning (impact on learning). 29.2 percent argued for studies on issues relating to student wellbeing, and about 25 percent for studies of educational justice, i.e. equity/equality issues.

Table 4.3 shows the percentage differences between both groups with regard to the research needs identified. We found no significant differences between the percentages of the two groups arguing for research on learning and educational justice. However, at 73 percent, full-time students argued more frequently for research on modes of facilitation than part-time students (56.9%).

TABLE 4.2 Relative differences in research gaps (% of examinees)

Categories	Frequency
Equality/Equity	25.6%
Wellbeing of students	29.2%
Impact on learning	53.1%
Modes of facilitation	68.5%

TABLE 4.3 Relative differences in research gaps by student status (% of examinees)

	N	Modes	Learning	Wellbeing	Equity/Equality
Full-time students	176	72.7% ^a	51.7%	26.7%	27.3%
Part-time students	58	56.9%	50.0%	37.9% ^a	25.4%

a Statistically significant ($p < .05$) differences in percentages between full-time students and part-time students.

By contrast, part-time students working in schools argued more frequently (37.9%) for studies focusing on wellbeing (26.7%).

7 Discussion

This study aimed to analyse to what extent the views of two groups of teacher education students with different degrees of practical experience differed with regard to research needs resulting from Covid-19. As expected we found significant differences in the issues identified.

Part-time students working in schools were more frequently concerned with themes of wellbeing, which they also connected with the social function of schooling; full-time teacher education students were more concerned with practicalities and thus with modes of facilitation. Given the findings on the psychosocial impact on young people of school closures and lockdowns during the pandemic (e.g. Fickermann & Edelstein, 2020), it seems plausible that individuals working in schools were more frequently confronted with associated effects than full-time teacher education students. Distance from practical experience may also have influenced the results: during the pandemic, full-time teacher education students may have been less connected with the topic and thus less involved, choosing more obvious topics relating to the challenges of digital teaching, which also affected them on an everyday basis as university students. Therefore, it seems reasonable to assume that students' degree of involvement and practical experience shaped their perception of the themes and issues requiring further investigation.

The low emphasis placed on research into equality issues was unexpected given the media coverage and the prominence of the theme in the literature; studies, in particular Hase and Kuhl (2021), have shown that student teachers express great concern about increasing gaps in the achievement of different students. There are two possible explanations here: examinees may have had the impression that the topic had already been well covered; or they may have felt it would be more complex to design a research study in this area and therefore chose not to risk less good results in the examination. Another plausible interpretation may be that students interpreted issues of equity or inclusion as relevant to a specific subject context and therefore found it difficult to connect knowledge about research methods with specific subject knowledge on issues of equity.

It should be noted that theoretically and methodologically, the evidence provided by this study is based on a small sample size and the study design had a relatively low degree of specificity.

Overall, in line with research on the induction phase (e.g. Keller-Schneider, 2020), our research reveals that the two different groups had different starting positions with regard to teaching and learning processes. It thus provides some initial evidence that practical experience shapes the perception of research. It would be fruitful for further research – and university teaching – to differentiate between these two groups of students. Qualitative research could explore whether students with different degrees of practical experience show differences in their scientific and reflective habitus and have different levels of competence with regard to reflecting on professional activity. If they do, teacher education courses could make more active use of the variety of experience levels. This would add value to courses and for the teaching profession itself.

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Research and Practice in the Professional Development of School-Based Teacher Educators

Comparative Insights from the International Forum for Teacher Educator Development (InFo-TED) 2021 SBTE Survey

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Abstract

Though teachers in schools are increasingly being asked to take responsibility for the education and training of prospective teachers, little empirical research has been undertaken into the support that school-based teacher educators (SBTEs) require to perform their duties as teacher educators. This chapter presents some initial findings drawing on the largest international survey ($n = 1680$) examining the professional learning needs of this group of teacher educators. This research, from the International Forum for Teacher Educator Development (InFo-TED), aims to provide insight into the professional role of SBTEs, identify their professional learning needs in different national contexts and to discuss the policy implications with regard to the development of adequate support measures for this heterogeneous group. This chapter explores their professional learning needs in six of the twenty countries involved in the survey (Austria, England, Israel, the Netherlands, Portugal and Scotland) with a specific focus on practitioner-based research activity, and scholarly reading and writing.

Keywords

school-based teacher educators – professional development – professional learning – teacher education – comparative research

1 Introduction

Evidence, enquiry and evaluation lie at the heart of what it means to be both a teacher and teacher educator. Research contributes not just to the professional development of teacher educators, but to the knowledge of the profession and to teaching and learning in general (Loughran, 2014; Willemse & Boei, 2017; Murray et al., 2019). This point is powerfully made in the foreword to the BERA-RSA Inquiry into Research and Teacher Education:

Research and enquiry has a major contribution to make to effective teacher education in a whole variety of different ways; it also contributes to the quality of students' learning in the classroom and beyond. Teachers and students thrive in the kind of settings that we describe as research-rich, and research-rich schools and colleges are those that are likely to have the greatest capacity for self-evaluation and self-improvement. (BERA, 2014, p. 3)

However, many school-based teacher educators (SBTES) not only struggle to see themselves as teacher educators but, depending on their trajectory within the teaching profession, find they are ill-equipped to carry out research. Those that do engage in research are often confronted by institutional values that are unsympathetic to those seeking to pursue professional learning opportunities through involvement in research. This relative isolation can exacerbate an already challenging employment context, requiring SBTES to juggle the competing demands of teaching, mentoring and administration (Vanderlinde et al., 2021; Czerniawski et al., 2019). Drawing on the largest international study on the professional learning needs of SBTES, this chapter explores some of the research-related challenges they face in becoming teacher educators. The chapter begins by casting a spotlight on the relationship between research-based knowledge and scholarship and examining how both can inform the professional learning and practice of teacher educators. A description of the research design for the study is followed by a summary of the findings for six of the participating countries (Austria, England, Israel, the Netherlands, Portugal and Scotland). The findings are presented and discussed in the context of SBTES' academic interests, the professional learning activities SBTES value with regard to those interests and the factors that affect their participation in such activities. While the qualitative data collected as part of the study will not be presented in this chapter, it will be alluded to in the discussion. The findings emphasise how much more needs to be done to recognise, address

and champion SBTEs' learning needs in relation to the rapidly changing socio-economic and technological contexts that underpin all education systems.

2 Literature Review

In what has been described as a 'pendulum swing' away from the dominance of Higher Education Institutions (HEIs) towards a greater role for schools and teachers in the training of early-career teachers (Murray & Mutton, 2016; Mutton et al., 2017; White & Swennen, 2021), increasing attention is being paid to the shift in policy, internationally, towards more school-based teacher education models (Boyd & Tibke, 2012; Lunenberg et al., 2014; White, 2017). However, there is little evidence that this shift is leading to a rise in commensurate and dedicated professional learning opportunities for school-based teacher educators (i.e. relating specifically to their role as teacher educators). One aspect of the role of teacher educators working in universities, or to use Murray and Male's (2005) term 'second-order practitioners', is the expectation that they will engage in research. There is a growing body of literature that stresses the importance of such second order practitioners as researchers (BERA, 2014; Loughran, 2014; Keltchtermans et al., 2017). The Organisation for Economic Cooperation and Development (OECD) defines a researcher as:

Professionals engaged in the conception or creation of new knowledge. They conduct research and improve or develop concepts, theories, models, techniques instrumentation, software or operational methods. (OECD, 2015)

However, little academic attention has been given to teacher educators working in schools (i.e. as both first- and second-order practitioners), the extent to which they can and should engage in research and the implications such engagement might have for their professional learning. As the next section indicates, that lack of attention must be addressed.

2.1 *SBTEs as Researchers*

While research plays an important role in the work of teacher educators, the dual identity of SBTEs (being both teachers and teacher educators) adds complexity when it comes to understanding the sorts of professional activities that are of most value to them (White & Timmermans, 2021; Smith & Flores, 2019). That complexity is exacerbated by the troubled history that has dogged

school-based practitioner research, with teachers being “disenfranchised” within traditional educational research communities (Elliot, 1988, p. 157). This inequitable relationship was identified by Rudduck (1987), who claimed that:

There is an urgent need to analyse the structures that govern the production and distribution of research knowledge and the right to engage in research acts. Teacher research is, at one level, a means of countering the hegemony of academic research which teachers are often distanced by. (Rudduck 1987, p. 5 – cited in Hammersley 1993, p. 434)

And yet there is a significant international tradition of championing teachers as researchers; this includes many powerful voices. ‘Classroom inquiry’, ‘action research’, ‘close-to-practice research’ and ‘teacher research’ are just some of the terms that have been used over the last seventy years to describe, in different ways, school-based research by teachers (Rudduck, 1987; Hammersley, 1993; Wyse et al., 2018). Early advocates of this type of research activity include Corey (1949) in the United States, described by Hammersley as “one of its most influential advocates” (Hammersley, 1993, p. 425) and Stenhouse (1975) in the UK who championed practitioner research as an invaluable mechanism to improve teaching and learning. Most teacher educators working in universities, many of whom are ex-teachers, do engage with research in one way or another, formally and/or informally, when planning and preparing teaching, presentations, reports and publications. Their reading includes almost any form of publication that is informed by research (e.g. journal articles, textbooks, blogs, policy documents). This preparatory scholarly activity can be identified as ‘research’, albeit research with a small ‘r’ (Murray et al., 2014). Akin to Boyer’s (1990) notion of the ‘scholarship of teaching’, this type of research can take the form of reading to inform (and hopefully enhance) personal and professional practice and, as such, is an activity undertaken by most teachers in schools as part of their daily professional practice. But as ‘smart consumers’ of research, teacher educators, Cochran-Smith (2005) argues, need to do more than just critically read and understand the epistemological background of research articles and reports. In addition to this scholarly approach, they also need to be capable of conducting research into their own practices and programmes:

taking our own professional work as educators as a research site and learning by systematically investigating our own practice and interpretive frameworks in ways that are critical, rigorous, and intended to generate both local knowledge and knowledge that is useful in more public spheres. (Cochran-Smith, 2005, p. 220)

As both first- and second-order practitioner researchers, far from just being research consumers, SBTES can, as we have seen above, generate new forms of knowledge – they undertake research with a capital ‘R’. This form of engagement with research and knowledge production has been inherently linked to the improvement of teacher educators’ own practice and the development of a public knowledge base for teacher education (Loughran, 2014; Tack & Vanderlinde, 2014). Mindful of the significance Cochran-Smith (2003) accords to the social, historical, cultural and political context in which professional practice is situated, research of this nature can improve daily practice through systematic and critical inquiry. However, Willemse and Boei (2017) identify both agentic and structural features that, they argue, can influence the extent to which teacher educators become researchers. First, for many school-based teacher educators, finding space, time and resources for research can be a huge ask when they view themselves primarily as teachers rather than researchers. Second, while their first-order expertise (Murray & Male, 2005) is teaching, many SBTES may or may not have a Master’s-level qualification, let alone a doctorate, and may therefore lack research experience.

However, in their transition to becoming second-order practitioners (teaching about teaching), SBTES can often find themselves working alongside university colleagues whose first-order experience is likely to be in research i.e. working with colleagues with subject expertise within or outside education e.g. sociology and psychology (Smith, 2015). As they try out new and emerging values born of the experience of being teachers, teacher educators and novice researchers, their polyvalent role informs and enriches their professional learning, both formally and informally. Willemse and Boei’s (2017) third and final focus is the extent to which dedicated structured support is available to foster teacher educators’ professional development with regard to research (including the existence of a clearly defined research culture within the school). In some cases, the structures do exist e.g. the emergence of new research related job roles in schools (e.g. Research Leads and Research Advocates in England) and the rise of grass roots teacher-led organisations (e.g. ResearchED). But the existence of such structures in turn raises important questions around the purpose of educational research and who, why, how, when and for whom it is carried out.

The current study aims to explore SBTES’ attitudes and involvement in research, the types of research-related professional learning activities they value, how they view their school’s attitudes towards research, and the effects of different contextual variables on their decision to participate in professional learning activities against the background of national policies.

3 Methodology and Methods

This is an exploratory study drawn from a wider project. It presents analysis of the results of a quantitative multi-national survey against the background of teacher education policies and practices in six of the twenty participating countries namely Austria, England, Israel, the Netherlands, Portugal and Scotland. For the purposes of this chapter the Research Questions are:

1. What role does research play in SBTEs' professional development?
2. To what extent do SBTEs value research in their professional development?

3.1 *Participants*

1680 SBTEs from twenty countries took part in this survey: 1075 (75.9%) female and 341 male (264 participants did not identify their gender). This chapter focuses on just 934 participants from the six countries mentioned above. The median age group was 45–54 years old, and that was also the most frequent age category, comprising 36% of the sample. Half of the participants had a Master's degree, 39.4% had a Bachelor's degree, 8.4% had a PhD, and 2.1% did not have an academic degree. About half the participants (48.9%) had high school teaching qualifications, 22.9% elementary school, 16.4% post 16, 14.1% special education and 4.7% preschool teaching qualifications. The median number of years of experience prior to being appointed as SBTEs was between 6 and 10, and that was also the median category of their experience as SBTEs. 46.4% worked with student teachers, 12.9% worked with qualified in-service teachers, and 40.7% worked with both groups. Most of the participants (88.4%) were in full-time employment. However, 77.7% reported that their work with teachers took 20% or less of their time, and 69.9% reported spending a similar amount of time on instructing student teachers. Table 5.1 presents the background characteristics of the participants from the six countries analysed in the current study.

3.2 *The Survey*

The survey is based on a questionnaire used by Czerniawski and his colleagues (2017) to explore the professional development needs of higher education-based teacher educators. Participants were asked about their professional learning preferences (30 items); attitudes towards research and research experience (18 items); variables considered before engaging in a professional learning activity (9 items); and role description and background information (15 items). Most of the items (58) were multiple-choice questions with a 7-point scale, ranging from 1 (= not at all) to 7 (= very much). Twelve items had other multiple-choice options, and four items were open questions.

TABLE 5.1 Participants

Variable	Austria	England	Israel	The Netherlands	Portugal	Scotland
N	220	159	151	123	143	138
Gender % female	77.6	77.9	86.2	69.9	6.6	72.5
Age group (Median)	45-54	25-44	45-54	45-54	45-54	45-54
Years of experience (Median)	6-10	6-10	6-10	6-10	6-10	6-10
Degree						
Non-academic	11.0	–	–	0.8	–	–
BA	40.6	55.8	19.2	39.0	39.7	66.7
MA	43.4	38.1	67.7	56.9	40.4	28.2
PhD	5.0	6.2	13.1	3.3	19.9	5.1
% work with student teachers (Median)	11-20	11-20	1-10	11-20	11-20	1-10
% work with qualified teachers (Median)	1-10	11-20	1-10	1-10	11-20	11-20

3.3 Data Gathering

The survey was translated into the participating countries' local languages and distributed online to SBTES. SBTES included teachers who mentored student teachers, interns and early-career teachers, as well as leading teachers who facilitated their colleagues' professional learning.

3.4 Data Analysis

In order to converge the data into a representative set of factors, we performed factor analyses on the whole sample for three separate sections of the survey: participants' professional learning preferences, attitudes towards research and research experience, and variables that may affect participants' decisions about taking part in professional learning activity.

Three factors were associated with professional learning preferences:

- Academic Interests: research-related activities such as attending and presenting at conferences and scholarly writing (9 items, Cronbach's alpha = .88).

- Pedagogical Interests: acquiring knowledge and skills relating to teaching and mentoring (7 items, Cronbach's alpha = .84).
- Working with colleagues: observations of and by colleagues and informal conversations with them (4 items, Cronbach's alpha = .74).

Three factors described attitudes to and experience of research:

- Personal Attitudes. This factor described the importance participants attributed to research when improving their knowledge and practices (6 items, Cronbach's alpha = .88).
- Actual Involvement in research: for example, experience with conducting and publishing research (7 items, Cronbach's alpha = .82).
- School Attitudes towards research. This factor explored the interest of school leadership and staff in research (3 items, Cronbach's alpha = .84).

Two factors concerned variables that could influence participants' decisions to engage in professional learning:

- Internal Factors, such as the providers and the content of activities (5 items, Cronbach's alpha = .77).
- External Factors, such as their location and cost (3 items, Cronbach's alpha = .71).

We used a mix of exploratory and confirmatory analytical models (EFA and CFA respectively). For the EFA, half the data were selected at random and used as a training sub-sample; and for the CFA the other half of the data was used as a test sub-sample (Osborne, 2015; Hefetz & Liberman, 2017). Overall, seven items were dropped due to multiple loadings (less than 0.2 difference between items' factor loadings).

The findings for each country are interpreted in the relevant context, and general trends and policy implications are dealt with in the discussion.

4 Results

The research questions will be dealt with separately for each country, starting with the national context and policies related to SBTEs' research, and moving on to address the survey results in relation to that context.

4.1 Austria

Context: In Austria, SBTEs include those who are mentoring novice teachers and supervising student teachers; such individuals are often appointed because

they are experienced teachers. Since 2013, the New Teacher Education (*PädagogInnenbildung Neu*) reforms and the new Service Code (*Dienstrechts-Novelle*) for teachers introduced mentors in Austrian schools and envisaged the development of accredited training programmes and certification for SBTES (Federal Law 2013, No. 211). Specifically, mentors are required to support newly qualified teachers during their first year of service (i.e. induction phase) providing them with advice, supporting their professional development, observing their lessons, drawing up their development profile and ultimately evaluating their performance by providing their expert opinion to the school principal. To qualify as mentors, teachers need to have five years of teaching experience and must complete a mentor training course at a University College of Teacher Education, which can range from 15 ECTS for primary school teachers to 30 ECTS for secondary school teachers. The Lower Austria University College of Teacher Education has developed a Master's programme on mentoring (90 ECTS, MEd), which it has delivered since 2013. Other universities are in the process of developing similar programmes.

Findings: SBTES in Austria identified themselves as mentors but did not actively characterise themselves as teacher educators. Most respondents (161, 73%) indicated that they had received specific training to prepare them for their mentoring roles. Their mean level of satisfaction with the professional learning opportunities they were presented with is medium-high ($M = 4.69$, $SD = 1.23$). Austrian SBTES placed high value on learning opportunities that involved working with colleagues ($M = 5.32$, $SD = 1.09$) and activities that fostered their interests as educators ($M = 5.04$, $SD = 1.04$). To a lesser extent, they valued professional development that enhanced their academic knowledge and skills ($M = 3.83$, $SD = 1.19$).

Overall, Austrian SBTES' personal attitudes towards research were at a medium level ($M = 3.61$, $SD = 1.33$), while their actual involvement in research ($M = 2.52$, $SD = 1.36$) and their perception of their schools' attitudes towards research ($M = 2.74$, $SD = 1.54$) were low. Although they generally valued the information provided by research (e.g., international exchanges, attending conferences), SBTES showed a stronger preference for informal conversations with colleagues and observation of each other's teaching.

4.2 *Israel*

Context: In Israel, most SBTES are teachers who support student teachers, mentors of teachers during their first two or three years of teaching and facilitators of teachers' professional learning communities (PLCs). SBTES in the latter two groups are certified teachers with at least four years of teaching experience. Mentor teachers are required to participate in a two-stage (pre-service

and in-service) course, although in practice, only about half of them had done so. Mentoring courses do not address involvement with research or the use of research in teaching. Facilitators of teachers' PLCs are recommended by their school principals and participate in a two-year preparatory course. They are supported in their work by a professional institute chosen by the Ministry of Education. PLC facilitators are expected to help teachers study their own practices and collaboratively analyse examples of teaching (such as videoed lessons and students' assignments) during PLC meetings.

Findings: Unsurprisingly, most of the participants (131, 89%) received some type of preparation or support for their role. A specific teacher education programme was the most common type of preparation, and had been attended by 89 (60%) of the participants. The structured and compulsory nature of SBTES' preparation and support may explain why internal ($M = 4.25$, $SD = 1.36$) and external ($M = 4.02$, $SD = 1.66$) factors have only a weak influence on Israeli SBTES' engagement with professional learning activities.

Overall, Israeli SBTES' level of interest in academic activities ($M = 4.26$, $SD = 1.39$) and attitudes towards research ($M = 4.10$, $SD = 1.61$) were medium. Interestingly, levels were significantly higher among SBTES who supported both student teachers and in-service teachers than among those who only supported student teachers. Levels for SBTES who only supported in-service teachers were between those for the other two groups. However, Israeli SBTES' actual involvement in research ($M = 2.33$, $SD = 1.43$) and their perceptions of schools' attitudes towards research ($M = 2.97$, $SD = 1.68$) were low, with no differences between the groups.

4.3 *The Netherlands*

Context: In the Netherlands, SBTES are mostly involved with supervising student teachers and in-service teachers (predominantly early-career teachers). SBTES are generally experienced teachers. Schools increasingly work in partnerships between what are known as school educators and workplace mentors; the former play an overall role in the facilitation of student teacher learning in schools and collaborate closely with teacher education partners, while the latter focus on mentoring student teachers. Most SBTES receive some form of formal preparation for their role; this is often provided by teacher education institutes. These courses focus primarily on (learning to) supervise (student) teachers rather than on research. Nationally, school-based educators increasingly follow the Dutch Teacher Educators Association (Velon) process, which leads to registration as a teacher educator. The process brings school-based teacher educators together to reflect collaboratively on their practice. The aim of this is not to foster research but to encourage informed reflection on their practice as teacher educators through engagement with research literature.

Findings: The majority of SBTES in the Netherlands (92.7%) received some sort of support: the largest group (45.5%) indicated that they were following a specific pathway for school-based teacher educators. Overall, the influence of internal factors on participation in professional learning were stronger ($M = 4.69$, $SD = 1.04$) than external factors ($M = 3.69$, $SD = 1.41$); this may be due to the voluntary nature of professional development.

Dutch SBTES' interest in academic activity was at a medium level ($M = 4.06$, $SD = 1.00$), as were their attitudes towards research ($M = 4.42$, $SD = 0.59$). This may be the result of a range of factors, but also of their perception of schools' (lack of) interest in research ($M = 3.58$; $SD = 1.34$). Whereas SBTES' attitudes towards research were at medium levels, their involvement in research was low ($M = 2.43$; $SD = 1.37$). This may be due to lack of opportunity or time for involvement in research (projects).

4.4 Portugal

Context: In Portugal, most SBTES supervise student teachers (in their capacity as cooperating supervisors); they also lead INSET (In-service education and training of teachers) activities for in-service teachers (in which context they are usually known as trainers) especially at Schools' Association Training Centres. According to the existing legal framework (Decree-Law n° 79/2014), cooperating supervisors are selected on the basis of the following criteria: (1) appropriate formal training and experience and (2) at least 5 years' teaching experience in a given subject area. Cooperating supervisors usually hold a Master's degree in Supervision. The vast majority of the Portuguese participants in this study (69.2%) held a postgraduate degree (e.g. academic specialisation (11.9%), Master's degree (40.4%) or PhD (19.9%)). As such, most of them had research knowledge and skills. SBTES involved with formal training for in-service teachers also generally have post-graduate level qualifications (usually a Master's degree and sometimes a PhD). A Master's degree is required for entry into any teaching sector in Portugal (from pre-school to secondary school). However, the teacher shortage is now a reality, especially in certain subjects (including ICT, Portuguese, Physics and Chemistry, and History) and the government has announced that it will be introducing as yet unspecified changes to initial teacher training.

Findings: Not surprisingly, Portuguese SBTE displayed a high level of interest in academic activities ($M = 4.85$, $SD = 1.24$) and had positive attitudes towards research ($M = 5.51$, $SD = 1.34$). However, their actual involvement in research is medium ($M = 3.56$, $SD = 1.74$); this may have been related to their perception that schools have a lack of interest in research ($M = 3.31$, $SD = 1.69$) and to heavy workloads and time management issues. In general, Portuguese SBTE

did not see themselves as teacher educators, mostly describing themselves as “school-based supervisors”, “trainers” and “INSET leaders”. In terms of preparation for the role, they mentioned specialist teacher education study programmes (e.g. Master’s degree in Supervision) (56.6%); support/training from a local university (short-term INSET activities) (45.5%); formal participation in collaborative learning with teacher educator colleagues (44.1%) and informal participation in collaborative learning with teacher educator colleagues inside or outside of their schools (44.1%). The Portuguese participants also demonstrated a high level of interest in education-related activities ($M = 5.25$, $SD = 1.38$) and in working with colleagues ($M = -4.99$, $SD = 1.23$). Internal factors ($M = 5.28$, $SD = 1.26$) had a greater influence on SBTEs’ participation in professional learning activities than external factors ($M = 4.51$, $SD = 1.61$); this may be more a function of intrinsic and emancipatory motivations rather than INSET being a prerequisite for career advancement.

4.5 Scotland

Context: The Scottish data presented in Table 5.1 might suggest that low numbers of teachers support the development of other teachers, however in Scotland, all school teachers are expected to take on the role of SBTEs. All teachers must have a relevant degree (or equivalent) and a recognised teaching qualification, and are required to uphold the professional standards set by the independent professional and regulatory body for teaching, The General Teaching Council for Scotland (GTCS). These include the requirement that teachers “work collaboratively to contribute to the professional learning and development of colleagues, including student teachers” (GTCS, 2021). This means that, in Scotland, relatively inexperienced teachers can be SBTEs and indeed of the survey respondents ($n = 138$), 25% had less than two years’ teaching experience, 25% had a Master’s degree and 5% had doctoral degrees. However, there is no mandatory formal qualification or professional learning for teachers wishing to become SBTEs. On the other hand, the GTCS requires teachers to maintain a reflective record of professional learning and development with regard to its professional standards, as part of a five-yearly professional update process. The professional standards also require all teachers to engage with, and in, research and professional enquiry (GTCS, 2021). In this context then, SBTEs can be expected at least to engage *with* research as part of their practice even if they do not engage *in* research.

Findings: SBTEs in Scotland mostly preferred the term mentor over SBTE. However, that might be influenced by the use of mentors: teachers who support the development of newly qualified teachers (NQTs) in their induction year (supported first year of employment as a qualified teacher) to help with

NQTS. The results for Scotland showed that the academic interests of SBTES are medium to low ($M = 3.37, SD = 1.03$), which was a lower level than the other countries explored in this study. However, interest in education issues ($M = 4.68, SD = 1.07$) was medium-high, similar to other countries in this study. Personal attitudes towards research ranked as medium ($M = 4.23, SD = 1.36$) whilst SBTES' perception of school attitudes towards research was slightly less favourable ($M = 3.68, SD = 1.83$) and actual involvement in research was low ($M = 2.43, SD = 1.07$). This might suggest that personal interest in research is not being supported or engaged with at school level. The support most valued by SBTES in Scotland was working with colleagues: similar to most other countries, this was ranked highly ($M = 5.22, SD = 0.96$), with observing colleagues being of particular value. In Scotland there is clearly a willingness to engage with colleagues, but it is less clear how that might lead to the creation of opportunities to engage with or in research, despite the requirement within the professional standards to do so.

4.6 *England*

Context: In England, schools are replacing universities as the decision makers on who can and who cannot be recruited into the profession. The UK Government's 2022 Initial Teacher Training (ITT) market review (DfE, 2022) announced that a total of 179 providers (including schools and universities) had been accredited to deliver ITT courses in the "reformed market" with effect from the 2024/2025 academic year (DfE, 2022). That announcement did not, however, convey that of the original 240 providers currently in existence, a third of school-based initial teacher trainers (SCITTS) and one in seven universities in England failed to gain accreditation (Schools Week, 2022). The marketisation of teacher training exemplified in England means a variety of pathways into the profession and a variety of types of school (e.g. Grammar; 'Specialist'; 'faith' and independent) are available to those choosing to train as teachers. In addition to traditional university ITT routes, pathways include school-centred Initial Teacher Training schemes (SCITTS); employment-based routes (EBITTS), School Direct, Teach First and 'teaching schools'. SBTES will often be tasked with organising some or all aspects of professional learning for both pre-service and in service teachers. This work often includes the recruitment of trainee teachers, the design, implementation and evaluation of course components, and assessments at the end of training plus any continuing professional developmental activities that might be provided for more experienced colleagues (White, Dickerson, & Weston, 2015). Delivery models vary but many SBTES work independently and/or with private providers and/or school networks while others work with universities and HEI-based teacher

educators. As the findings from this survey indicate, working with different providers can be a source of confusion, leading to differences in the ITE curriculum and assessment processes on the part of different providers.

For many SBTEs, the above context would seem to provide little or no opportunity to engage in research activity. CPD for teachers in England, including SBTEs, is largely unregulated, beyond the inclusion in the inspection framework of an obligation for school leaders to 'focus on improving staff's subject, pedagogical, and pedagogical content knowledge' (Ofsted, 2019, 'Leadership and Management' section). Indeed, the word 'research' does not appear once in the UK government's most recent (2021) update of its 2011 Teaching Standards and 'scholarship' is mentioned just once (DfE, 2022). And yet practitioner research is widespread in English schools, as is broader discussion of 'research informed' as opposed to 'scholarship informed' teaching (Gewirtz, 2013). The growth of academy chains (state funded schools that are independent of local authorities) has been accompanied by a renewed interest in school-based practitioner research; this was accelerated in 2016 by the growth of 'research schools' set up in partnership with the Education Endowment Foundation (EEF, the Institute for Effective Education (IEE) and backed by the Department for Education (DfE). Grassroots teacher research organisations (e.g. ResearchEd), learned institutions (e.g. British Educational Research Association) and the widespread take up of Professional Doctorates in Education (EdDs) by teachers across the country means that there is a vibrant and growing research culture in many (but not all) schools in England.

Findings: The majority of SBTEs described themselves as "mentors" ($n = 102$) with 45.3% of the sample ($n = 159$) attending a 'specific teacher education study programme'. However, this included mentor training which many universities in England offer their partnership schools automatically and often only takes up just a half or full day in any given academic year. The level of English SBTEs' interest in academic activities ($M = 4.09$, $SD = 1.11$) and their attitudes towards research ($M = 4.80$, $SD = 1.49$) were at medium to medium-high levels. While their actual involvement in research was statistically low ($M = 2.80$, $SD = 1.43$) this level of involvement was the second highest within the group (just below that of Portugal). Despite its medium score ($M = 4.17$, $SD = 1.84$), school attitudes to research in the English sample were the most positive within this group of countries, indicative perhaps, of the contextual factors relating to research as described above. SBTEs placed high value on learning opportunities that involved working with colleagues ($M = 5.27$, $SD = 0.98$); activities that fostered their pedagogical interests ($M = 4.77$, $SD = 1.24$) scored medium to high.

5 Discussion

This chapter has highlighted the relationship between research-based knowledge and scholarship, and how both can inform the professional learning and practice of SBTES as smart consumers and producers of research. The chapter has also drawn attention to the historic legacy and growth of school-based practitioner research as an invaluable mechanism for improving teaching and learning. But bringing these two strands together in ways that can provide impactful forms of professional development for SBTES is challenging. Our findings indicate that many SBTES receive some sort of professional development in relation to part of their role as teacher educators; however, such learning activities do not, in most cases, target research and scholarly activity.

Reflecting on different models of professional development and their appropriateness to school-based settings must be the starting point for discussions with SBTES and those who manage them; it is important to seek SBTES' views on the forms of professional learning they might value in their careers. But the efficacy of such discussions rests on the understanding that SBTES are a heterogeneous group of professionals. Factors determining such heterogeneity include location of employment; type, structure and level of school; career stage (e.g. early- or mid-career); teaching experience and teacher educator experience; and the extent to which SBTES work within higher education institutions. These factors align with the structural features identified by Willemse and Boei (2017) as influencing the extent to which SBTES are, or can be, active researchers. Our findings indicate that there are both structural and agentic differences in SBTES' views about the role of research in teacher education and about their research capacity. These differences are partially but not exclusively dependant on the participants' national contexts; their career stage (i.e. early-career; mid-career; experienced SBTES) and the level of support they receive from the schools that employ them. There is a marked difference across all participants in this study in terms of their attitudes to research and their involvement in research. Greater encouragement of practitioner engagement in research by funding agencies would boost teachers' agency by raising the status of practitioner research and enable more teachers to become both knowledge consumers and knowledge producers (MacPhail et al., 2022). It is noteworthy that Portugal recorded the highest positive personal attitudes towards research and the highest actual involvement in research, and this is almost certainly associated with the country's legal framework (Decree-Law n° 79/2014) and rigid selection criteria for SBTES as described above. It is also explained by the qualifications of the Portuguese participants in this study,

the vast majority of whom held a Master's degree or a PhD (in total around 60%). But it is also notable that there was a significant statistical gap between the desire to undertake research and the actual pursuit of research. While our study draws attention to just how much school-based teacher educators in general value educational research and opportunities to engage in such research, that desire is not necessarily shared by the colleagues they work with, including, in many cases, school leadership teams. Difficulties in engaging in research are also linked to heavy workload and time management issues. To varying degrees, SBTEs in all countries commented on the need to develop their research skills with regard to writing and research methodology. However, in the qualitative data collected for this study but not presented in this chapter, SBTEs repeatedly referred to the lack of time to engage in meaningful professional development, whether that meant reading the latest research, attending conferences, or even having staff available to provide cover for such activities.

Reducing the gap between theory and practice is often referred to as a motivation for schools' greater role in educating student teachers as well as practicing teachers (Mutton et al., 2017; White & Swennen, 2021). However, as the findings of this study suggest that the cost of this may be the elimination of research from teachers' training and professional development. Without research skills, and funds and support for teachers' research, teachers will be prevented from developing their expertise, leading to further de-professionalisation of teachers.

Acknowledging the value of practitioner-based research in professional learning, Murray (2011) called for the "re-framing of the place of research in induction and professional development in teacher education" (p. 121). Over a decade after this call, and at a time when many countries are increasing their provision of school-based teacher education, our findings are timely and indicate just how much more needs to be done by those in leadership positions in schools and higher education in terms of critically reflecting on the supply and quality of support they provide for SBTEs' research aspirations. This does, however, pose a wicked policy problem (Roberts, 2000) for any government whose auditing mechanisms only address research output from universities. To what extent such mechanisms should be introduced into schools is a discussion that goes beyond the remit of this chapter. Nevertheless, in order for this reframing to take place, we hope that policy makers, subject discipline and research associations, and leadership teams in schools, colleges and universities can reflect on the implications of this study for the professional development of all teacher educators and not just those based in schools.

6 Conclusion

In this chapter we have explored the complex relationships between research and practice in the professional development of SBTES as well as the many challenges they face in becoming teacher educator-researchers. But the efficacy of this exploration would be undermined if we did not acknowledge its policy implications and the need for more effective interactions between research, policy and practice (Menter & Flores, 2021). Colleagues have written elsewhere (Czerniawski et al., 2018) about their fears with regard to the potential diminution of the role played by research in the quality of ITE, teacher educators' professional learning and teacher professionalism. To some extent, this chapter offers complex hope by casting a spotlight on the substantial involvement in research activity acknowledged by many SBTES in this survey. Our survey also shows that SBTES' attitudes towards research are positive. But SBTES require not only research skills but also greater support and resources (including time and CPD opportunities) to develop and strengthen an inquiry-based approach to teaching and teacher education. However, in most of the countries we examined, policymakers and schools do not provide the infrastructure to support research. It is important to acknowledge this lack of provision in light of the significant evidence on the role that research and enquiry plays in effective teacher education, professionalism and the quality of student learning (BERA-RSA, 2014). Learning from Portugal, it seems that supportive legislation should be brought forward, and budget and assessment criteria developed, to ensure that SBTES are research-literate practitioners providing high quality education to their mentees and who can play an active role in the development of their profession.

Taken together, the findings presented here highlight the need for more targeted and authentic professional development focusing on the skills needed to undertake school-based research, if more SBTES are to engage in research activity. For policymakers, this finding is important because, as Gewirtz (2013) argues, the danger in talking about research-informed teacher education is that this merely reinforces a reductionist, techno-engineering model of teacher education where prospective teachers simply implement 'what works' uncritically rather than reflecting on their practice, and its impact and rationale. In a similar vein, at the TEPE conference in 2022, Rachel Lofthouse expressed fears that there is a danger that research will be reduced to focusing on the 'what', the 'where', and the 'why' – but not the 'how'. The nurturing of SBTE's scholarly and researcherly inclinations (Tack and Vanderlinde 2014) must, therefore, be a prerequisite for authentic and enduring professional learning

and professional development. It is also a prerequisite for future practice in teacher education that will help a new generation of teachers to go beyond 'what works' and engage in a genuine educational transformation of the system and its learners.

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PART 2

*The Value of Research on Teacher Education:
Informing Policy*



Drawing on Large-Scale Studies to Examine the Contribution of Teacher Quality to Student Learning

A Critical Reflection on the Literature

Charalambos Y. Charalambous

Abstract

Over the past three decades, significant research efforts have been invested in understanding how teacher quality – namely different teacher characteristics and qualifications – contribute to student learning, on the grounds that such empirical evidence could inform teacher education programs and initiatives. Responding to calls to focus on large-scale studies in teacher education, this chapter first examines what large-scale studies suggest about the contribution of teacher preparation and qualifications, teaching experience, teacher knowledge, and professional development to student learning. Critically reflecting on these findings, the chapter then discusses four lessons that can inform future studies: the importance of exploring more comprehensively the effect of teacher quality factors; the need for in-depth explorations of seemingly inconsistent results; the necessity of combining teacher quality with teaching quality investigations; and the critical role that smaller-scale (qualitative) studies can play in better understanding the phenomena of interest. The chapter concludes by considering the implications of these four lessons for teacher education research and discussing how large-scale studies can help enhance its value.

Keywords

large-scale studies – professional development – teacher knowledge – teacher preparation and qualifications – teacher quality – teaching experience

1 Introduction

Although teacher education research comprises a relatively newly developed field (Grossman & McDonald, 2008), it has often been under attack for being underdeveloped, small scale, undertheorised, fragmentary, and somewhat parochial (Mayer, 2021; Mayer & Oancea, 2021). Critics of this field often lament that it has failed to reveal how teacher education can uplift teacher quality, which in turn, is assumed to lead to better teaching quality, and eventually to raise student learning (cf. Cochran-Smith, 2021; Tatto & Pippin, 2017). As accountability pressures increase, and as voices about the importance of “fixing” teacher education become more intense, calls have repeatedly been made to conduct large-scale studies and longitudinal studies that can track the impact of different teacher education programs on teacher quality (cf. Grossman & McDonald, 2008; Mayer & Oancea, 2021).

Unsurprisingly, during the last 15 years, some large-scale studies that aimed to examine the outcomes of teacher education on prospective and practicing teachers have been undertaken. For example, starting in 2008 and being conducted every five years, the *Teaching and Learning International Study* (TALIS) aims to investigate the perceptions of teachers worldwide about their preparation and job satisfaction (OECD, 2009, 2014, 2019). Similarly, focusing on mathematics, the *Teacher Education and Development Study in Mathematics* (TEDS-M, Tatto et al., 2012) explored the mathematics preparation of teachers at the primary and lower secondary levels in 17 participating countries. Another large-scale study conducted in Australia, *Studying the Effectiveness of Teacher Education* (cited in Mayer, 2021), examined the effectiveness of teacher education for early career teachers in Australia by following over 5000 graduates from teacher education programs into their early years of teaching. Taken together, these studies have provided important insights into teachers’ perceptions of their preparation and their sense of preparedness. Their importance notwithstanding, these studies do not meet one of the key concerns echoed by accountability critiques: no actual links are made between the aspects studied and their contribution to student learning outcomes. Aiming to address this limitation, this chapter focuses on and reviews large-scale studies that examined the contribution of different aspects of teacher quality to student learning.

The remainder of this chapter is organised into three sections. The first section provides an overview of the results of such large-scale studies. Critically reflecting on these findings, in the next section we discuss four lessons learned that pertain to how the limitations of such large-scale studies can be turned into affordances in future research. In the last section, we consider the

implications of these four lessons for teacher education research and conclude by discussing how the value of teacher education research can be enhanced through large-scale studies.

2 Using Large-Scale Studies to Examine the Contribution of Teacher Quality to Student Learning

2.1 *Defining Terms*

Teacher quality captures “teacher qualifications and characteristics (inputs) that are assumed to influence teaching and student outcomes” (Nilsen et al., 2016, p. 5). Our focus on *teacher* as opposed to *teaching* quality in this chapter hinges on that the first term directly corresponds to aspects of teacher education, which are the focus of this book, whereas the second term probes on teachers’ practice, without necessarily exploring the inputs contributing to the quality of teachers’ work (Nilsen et al., 2016).

Large-scale studies have been influential in examining how different teacher-quality attributes contribute to student learning. As Kyriakides and Charalambous (2014) point out, such studies have provided the means to start understanding how different factors – in our case relating to teacher characteristics and qualifications – support different types of student learning (cognitive, metacognitive, affective, and psychomotor). In addition, such studies become even more pivotal when conducted at an international level. As Nielsen and colleagues (2016) explain, by “using the world as a global educational laboratory” international large-scale studies “may contribute toward an international understanding of teacher quality [...] and establish their importance for student learning outcomes across and within countries and over time” (p. 2).

But what exactly are “large-scale” studies? Attempting to bring some consensus on this issue, Middleton and colleagues (2015) list four criteria (by drawing on a list of criteria originally proposed by Anderson and Postlethwaite, 2007): (a) sample size, (b) purpose of the research, (c) generalisability of results, and (d) type and complexity of data analysis. In terms of sample size, they propose that studies should include sample sizes of at least 2500 participants for national studies or at least 7500 participants for international studies. In terms of their purpose, large-scale studies should aspire to examine and understand systems and phenomena more broadly rather than focusing on very specific aspects of them. Generalisability of results captures the goal of producing findings that are transferable beyond the local context examined, whereas the type and complexity of data analysis stipulates that more advanced and complex methods are utilised to analyse the data collected.

Although other classifications might be possible, in this chapter we adopt this classification because there seems to be a great variety in what scholars call large-scale studies, especially in terms of their sample size. In fact, a first exploration of studies we collected for the purposes of this chapter which were identified by their authors as being “large-scale” revealed a notable variation in terms of their sample size (ranging from 1043 to 100,288 student participants). Therefore, to bring some consistency in the corpus of studies examined, it was necessary to adopt certain criteria which would, in consequence, exclude a significant number of studies. Nevertheless, given the intention of this chapter – not to provide a comprehensive or systematic review of large-scale studies on the characteristics and qualifications examined but rather to make a point about the affordances and the limitations of large-scale studies exploring teacher quality – we thought that the merits of adopting such a classification outweighed the limitations. Furthermore, although meta-analyses cannot be considered as large-scale studies, they were included in this chapter for two reasons. First, meta-analyses themselves often draw on large-scale studies. Hence, instead of going back to the original studies, it was preferred to utilise the meta-analyses themselves. And second, by summarising several studies (which amount to significantly larger sample sizes than those discussed above), meta-analyses better lend themselves to identifying patterns and deviations thereof, which were critical for the arguments advanced in this chapter.

2.2 *Sampling Teacher Characteristics and Qualifications*

In one of the earliest meta-analyses of studies published between 1960 and 1976, Begle (1979) examined the contribution of several teacher characteristics and qualifications on students’ mathematics learning. Given the inconsistent results yielded from this meta-analysis, Begle urged researchers to channel their efforts to other directions. He lamented (pp. 54–55, emphasis added):

We are no nearer any answers to questions about teacher effectiveness than our predecessors were some generations ago. What is worse, no promising lines of further research have been opened up. Evidently our attempts to improve mathematics education would not profit from further studies of teachers and their characteristics. *Our efforts should be pointed in other directions.*

Nonetheless, contrary to Begle’s plea, scholars in the following years have continued examining a gamut of teacher characteristics and qualifications. From this wide array, for the purposes of this chapter, we focus on four such characteristics and qualifications that are related to teacher education: (a)

teacher preparation and qualifications, (b) teaching experience, (c) professional development, and (d) teacher knowledge. The first aspect directly captures indicators of teacher education; the second aspect can be considered as compensation for the limitations in initial teacher education; the third aspect captures teachers' ongoing education, and the last aspect can be thought as gauging a by-product of teachers' initial or ongoing education.

2.3 *Large-Scale Studies on the Effect of Selected Teacher Characteristics and Qualifications: A Brief Overview*

2.3.1 Teacher Preparation and Qualifications

From the indicators examined in this category, we focus on the following three: (a) college quality, (b) certification, and (c) coursework and degrees obtained.

Research findings seem to converge on the first two indicators. In particular, meta-analyses suggest a positive correlation between college ratings and student learning since students of teachers who attended more competitive colleges were found to perform better than students of teachers who attended less competitive colleges (Coenen et al., 2018; Wayne & Youngs, 2003). Subject-matter certification also appears to matter, particularly with respect to subject matters like mathematics and language arts; however, it has not been positively related to student learning for other subject matters (Coenen et al., 2018; Wayne & Youngs, 2003).

Study findings, however, seem to diverge when it comes to coursework and the degrees obtained. Whereas some studies (Çakır & Bichelmeyer, 2016; Canales & Maldonado, 2018) showed no effects on student learning, others (Goldhaber & Brewer, 1997; Harris & Sass, 2011; Toropova et al., 2019) reported positive effects, especially for middle-school mathematics. Harris and Sass (2011) also showed that the timing of acquiring an advanced degree appears to matter. Furthermore, mixed results have also been yielded from meta-analyses. For example, in Greenwald et al. (1996), 15% of the studies reported positive significant effects, 13% negative significant effects, and 72% no significant effects. No significant effects were also found in two other meta-analyses (Coenen et al., 2018; Wayne & Youngs, 2003) for degrees or coursework in different subject matters, with the exception of mathematics and, to some extent, science. Hence, it seems that subject-matter specificity appears to moderate the effect of coursework and degrees obtained on student learning.

2.3.2 Teaching Experience

Research findings appear to be equally inconclusive regarding the contribution of teaching experience to student learning. Whereas a number of studies (e.g., Çakır & Bichelmeyer, 2016; Jung et al., 2014; Wenglinsky, 2002) reported

no statistically significant findings, other studies reported positive effects, either for the total number of years of experience (e.g., Goldhaber & Brewer, 1997) or for teaching experience in the school currently working (e.g., Canales & Maldonado, 2018). Additionally, other studies found positive effects only for experience at particular grade levels [e.g., Harris and Sass (2011) found positive effects only for elementary and middle-school, but not for high-school] or empirically corroborated curvilinear effects of teaching experience, yet with different peak levels [e.g., in Kukla-Acevedo (2009) the peak was in 14 years, whereas in Toropova et al. (2019) it was in 19 years].

Meta-analyses do not appear to shed more light on the effect of teaching experience on student learning either. For instance, in Greenwald et al. (1996) only 29% of the studies reported positive significant effects, whereas in 3% of the studies negative significant effects were reported; in most of the studies (68%), no significant effects were yielded. Other meta-analyses that were published during the last two decades (Coenen et al., 2018; Wayne & Youngs, 2003) found positive effects more consistently but in the latter one results were difficult to interpret because of different confounding factors. In the former one, findings diverged as some studies reported a positive effect only for the first three to five years and others a continuous beneficial effect of teaching experience, even up to 27 years.

In sum, although research findings provide some warrants that teaching experience appears to matter for student learning, the mixed study findings suggest that more work is needed to understand in what particular ways and under what specific conditions teaching experience does so.

2.3.3 Professional Development

A similar picture of mixed findings is also depicted in previous studies regarding the effect of professional development on student learning. Whereas no studies have been found to report negative effects, findings again range with some studies (e.g., Jacob & Lefgren, 2004; Loyalka et al., 2019) reporting no effects and others positive, albeit small effects (e.g., Wallace, 2009). Yet, there are nuances even in studies that paint a favourable picture of the contribution of professional development to student learning.

Specifically, it was shown that this effect is only present for particular grade levels and particular subject matters. For instance, Harris and Sass (2011) reported positive effects only for middle and high school mathematics teachers. Additionally, other studies showed that the content of professional development matters. For example, Wenglinsky (2002) found positive effects of professional development programs focusing on higher-order thinking skills and diversity. Desimone and colleagues (2010) went further by listing a set of

quality content characteristics that effective professional development programs had; those included a specific focus on content, active learning, coherence, duration, and the inclusion of collaborative activities. Similarly, in a recent meta-analysis of STEM programs, Lynch et al. (2019) listed a number of content and format features of effective professional development programs based on their meta-analysis findings. Content-wise, those included: (a) supporting teachers on the use of curriculum materials, (b) focusing on improving teachers' content and pedagogical content knowledge, and (c) understanding how students learn. Format-wise, they consisted of teacher meetings to troubleshoot and discuss implementation, as well as summer workshops.

In conclusion, despite inconclusive findings, there seems to be a pattern of positive findings especially when adding the content of the professional development programs into the equation. Nevertheless, future studies are needed to further explore how exactly specific aspects of professional development programs contribute to their effectiveness in terms of supporting student learning.

2.3.4 Teacher Knowledge

An increasingly growing body of studies has focused on the effects of teacher knowledge on student learning, examining different aspects of teacher knowledge, including content knowledge (CK) and pedagogical content knowledge (PCK). To a great extent, these studies support that teacher knowledge has a positive effect on student learning as different types of teacher knowledge have been examined. For example, positive associations between students' performance and teachers' CK were identified (e.g., Metzler & Woessman, 2012). Moreover, studies have shown teachers' PCK to be a better predictor of student learning compared to teachers' CK (e.g., Baumert et al., 2010; Campbell et al., 2014; see also the meta-analysis by Depaepe et al., 2013).¹ Hence, these positive findings are important for teacher education, especially when taking into consideration that PCK can be developed during initial or ongoing teacher education.

2.4 *Summarising Existing Evidence*

Summarising the findings reported above and seeing the glass half empty, one could wonder whether we have really made any progress or whether we are more or less where Begle had arrived more than 40 years ago. In fact, a cynical critic might even argue that the inconclusiveness in the findings reported actually vindicates Begle's admonition that scholarly attention should be directed to other, more productive, paths. Yet, seeing the glass half full, one could argue that we are now aware of certain teacher characteristics for which there seems to be a positive pattern of contribution (e.g., teacher knowledge

and professional development under certain conditions). What is more, even the inconclusiveness in the findings should not be taken as an indication of failure but should rather be seen as the underlining of a need for more work to untangle the nuances in the phenomena examined. Scheerens (2015) talks about taking such a stance when urging scholars to not be afraid to look at “the dark side of the moon” – at factors that at first hand do not seem to “work”. In light of this recommendation, in the next section, we focus on four lessons that can be learned from the successes and failures in understanding how teacher quality characteristics contribute to student learning.

3 Four Lessons Learned from the Results of Large-Scale Studies Focusing on Teacher Quality

3.1 *Seeing the Bigger Picture*

Several of the studies reviewed above have considered the focal teacher characteristics and qualifications mostly in isolation, without any of them bringing different characteristics together. It is thus necessary to explore teacher quality characteristics more comprehensively as some of the disparate findings reported above can be attributed to omitted variable bias (cf. Hill et al., 2019).

At least five studies attempted to examine the contribution of teacher quality characteristics more comprehensively (Boonen et al., 2014; Campbell et al., 2014; Grubb, 2008; Hill et al., 2019; Palardy & Rumberger, 2008). In addition to the four categories of teacher qualifications and characteristics explored above, these studies also examined teacher attitudes and beliefs. For example, by focusing on teacher preparation and experience as well as teacher attitudes, Palardy and Rumberger (2008) found that whereas preparation and experience did not explain student learning, teacher attitudes, and in particular, teachers’ efficacy beliefs did. Grubb (2008) reported positive relationships between student outcomes in mathematics in the NELS:88 data and a variety of teacher background and preparation characteristics (e.g., experience, teaching in-field, education track), along with teacher efficacy beliefs. In Boonen and colleagues’ (2014) work, teaching experience and job satisfaction – a background characteristic and attitude respectively – predicted Flemish students’ mathematics outcomes. Lastly, Campbell et al. (2014) found that teacher knowledge was positively associated with student outcomes in contrast to special education certification which was negatively associated with them. Teacher attitudes and beliefs largely had no effects outside interactions with knowledge itself.

Building on a wider set of teacher qualifications and characteristics from different categories (teacher preparation, teaching experience, teacher knowledge, and teacher attitudes and beliefs), Hill and colleagues (2019) have more recently examined the contribution of different teacher quality aspects on student learning. They did so by using two different types of student tests: (a) standardised state mathematics tests primarily focusing on basic skills and problem solving, and (b) a cognitively demanding test capturing students' mathematical reasoning and higher levels of thinking. By bringing together different teacher quality characteristics, these scholars were able to examine their effect net of that of other variables. For instance, this exploration showed coursework (both content and methods courses) as well as teacher knowledge to be positively related to student learning on both types of tests; teaching experience to be related only to student learning as measured by the state mathematics tests, and teacher beliefs and attitudes to have no significant effect on student learning. Interestingly, when bringing these different variables together, the two sets of variables that were directly related to teacher education – teacher coursework and knowledge – were found to be important contributors to different types of student learning whereas other variables not directly related to teacher education were not. As such, this study showcases the promise of more comprehensive explorations when examining the effect of teacher education on student learning. However, given that the effects obtained even from this study were small to moderate at best, more comprehensive studies that examine even a wider set of teacher quality aspects are warranted.

3.2 *Exploring (In)Consistency*

Inconclusive results have often been regarded as problematic and have been associated with the “noise” that exists in a system when studying a phenomenon. Under this assumption, attempts are made to minimise the noise in order to better detect “the signal”. However, several scholars (e.g., Hall et al., 2020; Scheerens, 2015; Scheerens & Blömeke, 2016) increasingly propose adopting a different stance; one that regards such inconclusive results as part of the signal rather than the noise. In this context, they argue that attempts should be made to better understand what contributes to the inconsistencies identified upon examining a particular phenomenon.

About 40 years ago, Shulman (1986) advocated the inclusion of content back in the equation of teaching understanding. Since then, scholars have increasingly attended to the demands that teaching particular subject matters imposes on teachers (see, for example, the emphasis placed on identifying

different teaching practices for different subject matters: in mathematics, see, for example, Mitchell et al., 2014; in history, see Fogo, 2014; in science, see Windschitl et al., 2012; for a more general discussion, see Grossman, 2018). Scholars within the field of educational effectiveness (e.g., Charalambous et al., 2014; Muijs et al., 2016; Scheerens, 2016) have also underlined the importance of moving beyond generic practices to also explore differences in effectiveness across subject matters – a need that has been empirically corroborated by recent evidence (e.g., Charalambous et al., 2019; Cohen, 2018). The overview of studies presented in the previous section underlines the necessity to introduce subject matter as a moderator in the explorations undertaken, since, notable differences were identified across subject matters regarding the contribution of several indicators of teacher quality to student learning.

In addition to considering the role of the content, Hall and colleagues (2020) urge for resisting the “context-stripping” tendency that appears to have permeated research on educational effectiveness during the past decades. Thus, the role of context also needs to be carefully examined as a potential contributor to the results obtained in studies exploring teacher effects. This implies that scholars need to invest in examining the consistency of teacher effects across different educational systems and countries [especially systems and countries that differ in their teacher education policies, see more on those differences in Tatto and Pippin (2017) as well as Brown (2017)]; across different student populations, in terms of their age and other background characteristics; as well as across different levels of schooling (pre-primary, primary, secondary-general, secondary-vocational, and tertiary education).

Research attempts can also be invested in considering different types of student outcomes as in most of the studies examined, scholars have focused on cognitive outcomes. Given that different types of student outcomes can lead to different conclusions about the contribution of teacher quality indicators to student learning (cf. Cappella et al., 2016; Lindorff et al., 2020; Reynolds et al., 2016; Scheerens & Blömeke, 2016) future studies need to broaden the type of outcomes examined to also incorporate non-cognitive outcomes. The results of Hill et al.’s (2019) study recounted above, that showed differences even across dissimilar cognitive outcomes, also underline the value of expanding the examination of both cognitive and non-cognitive types of outcomes, as well as differentiating even within the same type of outcomes.

Two relatively recent large-scale studies (Blömeke et al., 2016; Blömeke & Olsen, 2019) suffice for stressing the importance of emphasising and understanding the inconsistencies found in teacher quality effectiveness research. In the first study, the authors examined five teacher characteristics (teaching experience, teacher education degree, major focus in studies, professional

development, and sense of preparedness) across 47 participating countries. Their results showed significant variation across countries, leading the authors to conclude that no empirical support can be provided for a universal model. Similar results were obtained in the second study that examined the effect of four teacher quality indicators (i.e., teacher education major, teaching experience, professional development, and sense of preparedness) on two student outcomes (achievement, and motivation) across five countries, by recruiting students from two grades (Gr. 4 and Gr. 8) and focusing on two subject matters (mathematics and science). The study showed little consistency, if at all, both across and even more critically within countries, with respect to the outcomes, the subject matters, and the student populations examined. In conjunction, both these studies suggest that inconsistencies are to be expected when introducing different moderating factors (e.g., educational system/country, subject matter, student population, type of outcomes) into the equation. More than expecting such inconsistencies, scholars (e.g., Scheerens, 2016; Lindorff et al., 2020) advocate their systematic exploration and understanding, shifting in consequence the question “what works?” into also investigating under what conditions, how, and for which particular reasons different teacher quality factors might contribute to student learning.

3.3 *Adding Teaching Quality to the Equation*

The studies reviewed in Section 2 have mostly considered teacher quality but did not open up the black box of teaching in order to understand how different teacher characteristics and qualifications can contribute to student learning through the improvement of teaching quality. Hence, it is encouraging that over the past two decades scholars within the field of educational effectiveness have not only stressed the importance of bringing together teacher and teaching quality factors – in an attempt to better understand what contributes to student learning – but have also proposed different theoretical frameworks and models for doing so (see, for example, Blömeke et al., 2015; Creemers & Kyriakides, 2008; Nilsen et al., 2016; Scheerens, 2016).

Studies that have explored both teacher and teaching quality effects corroborate the need of adding teaching quality into the equation. This becomes quintessential for at least two reasons. First, teacher characteristics and qualifications might have an indirect effect on student learning through teaching quality. This was suggested, for example, in Blömeke et al.’s (2016) study, which, in addition to the teacher characteristics and qualifications discussed above, also considered teaching quality. In that study, whereas the direct impact of professional development on student performance was not significant in most of the 47 countries examined, professional development turned out to be the

strongest predictor of teaching quality in 23 of the countries. This implied that professional development could have an effect on student learning largely because of its contribution to teaching quality. Second, introducing teaching quality to the equation can help better link teacher to teaching quality aspects. For instance, studies (albeit smaller-scale, qualitative ones) have shown that teachers with different levels of knowledge (e.g., Hill et al., 2008; Santagata & Lee, 2021), beliefs and attitudes (e.g., Sleep & Eskelson, 2012) or combinations thereof (e.g., Charalambous, 2015; Zhang, 2022) differ in the quality of their lessons, thus pointing to an important link between certain teacher characteristics and aspects of their teaching. In sum, by incorporating teaching quality into the picture, scholars might be in a better place to understand how teacher education can contribute to teachers' work, and in turn, to student learning.

3.4 *Capitalising on Complementarity*

Large-scale studies – be they national or international – are important for understanding *what* teacher qualifications and characteristics contribute to student learning. Yet, as suggested by the review of the studies in the previous section, they have their own limitations in shedding light on *how* and *why* teacher education can support student learning. This is because, due to their design, such studies cannot provide answers on how teacher and teaching quality can contribute to student learning, how teacher education might support (or not) changes in teaching quality and through that, changes in student learning, and *why* (in)consistent results emerge.

Due to these limitations, it is argued that there is significant benefit in combining large-scale with small-scale studies. Indeed, for years, an overemphasis on small-scale studies has been accused of producing results that oftentimes were very particular to the context in which they were generated and could hardly inform broader educational policies. For example, almost thirty years ago, Cooney (1994) bemoaned the limitations of small-scale studies – and particularly case-studies – in teacher education, urging scholars to “move beyond collecting interesting stories” to start seeing “how those stories begin to tell a larger story” (p. 627). However, moving away from small-scale studies completely runs the risk of pushing the pendulum to the exact opposite end (large-scale studies only). Hence, our argument here is that we need to strike a balance between both types of studies, capitalising on the benefits of both, since such complementarity can help better understand the complex phenomena of teaching and student learning.

Small-scale (qualitative) studies have a number of affordances upon which future scholarly work can capitalise. First, they can unravel the mechanisms of how teachers learn and how this learning might affect their teaching, and

consequently student learning. Such explorations might actually challenge what is considered by some scholars (e.g., Cochran-Smith, 2021; Mayer, 2021) as a simplistic chain of associations (teacher learning → improved teaching quality → improvements in student learning), thus helping better understand complexities and nuances in these associations. Second, small-scale studies can assist in discerning the conditions under which teacher and consequently student learning can be supported. This resonates with the scholarly calls listed above of achieving a deeper understanding of the conditions under which certain factors/variables work. Third, and equally important, small-scale studies can help explain the inconsistent findings often emerging from large-scale studies.

To illustrate the promise of these studies, we next briefly share two such studies from our work, one conducted with pre-service teachers and another conducted with in-service teachers. Neither study is meant to be presented as exemplary; rather, both of them illustrate how doing research in and on teacher education can yield important insights into supporting teacher learning.

The first study (Charalambous et al., 2018) focuses on three pre-service teachers who were followed during their practicum and were also supported in their work by being engaged in guided analyses of teaching practice – theirs and that of their colleagues – in a video-club setting (see more on such settings in Sherin & van Es, 2009). The analysis of these pre-service teachers' lessons during their practicum documented differences in the learning trajectories both in planning and enacting of their lessons. More than suggesting that teachers benefit in different degrees when exposed to particular interventions, these differences challenge a tendency to consider teacher learning on the average – an inherent feature of large-scale studies. As such, these findings illustrate the need to better understand why such differences occur and how pre-service teachers' characteristics along with the characteristics of the intervention interact, yielding these different learning trajectories.

Utilising the same idea of video-clubs, the second study (Charalambous et al., 2023) examined in-service teachers' experimentation with ambitious teaching. The study documented how practicing teachers can be scaffolded to materialise such ambitious teaching visions in their practice through the use of certain praxis tools – namely tools that can help them materialise complex theoretical ideas in their practice. By portraying the changes that five practicing teachers introduced in their teaching and the challenges they encountered while trying to teach ambitiously, this study provided an account of what “typical” practicing teachers can achieve in their daily practice. Therefore, such studies can provide what Lampert et al. (2011) called “images and narratives for ambitious teaching that portray how one can be a mere mortal and yet

capably meet its routine demands” (p. 1394). Such images and narratives are important as they help illustrate that types of more demanding teaching are feasible even for “typical”/average teachers. At the same time, by documenting the challenges that these teachers face in their practice, such studies can provide important insights for teacher educators in terms of how they can better support practicing teachers in responding to more complex types of teaching. We argue that large-scale studies do not easily lend themselves to producing such important insights and lessons, whereas smaller-scale, qualitative studies can better support such explorations.

4 Looking Forward

What was discussed in the previous two sections has important implications for teacher education research. In this last section, we discuss three such implications and conclude by discussing how the value of teacher education research can be enhanced through large-scale studies.

The first implication relates to the value of continuing explorations on the contribution of certain promising teacher characteristics to teaching quality and student learning through large-scale studies. Although studies of this type have been conducted in abundance in the previous decades, we argue that there is merit in continuing this line of work (but also adapting and complementing it as will be discussed next). For example, one of the most promising characteristics yielded from prior research relates to teacher knowledge. Yet, several questions remain unaddressed – or are partly addressed – when it comes to its contribution. For instance, what types of teacher knowledge have larger effects and why? How consistent are the results across different contents and contexts? If inconsistencies arise, what might account for them? Equally critical, if teacher knowledge is so important, how do these types of knowledge develop during initial and ongoing teacher education? As already argued, addressing all these questions only through large-scale studies is impossible given that large-scale studies can, at best, help us address only what works and under which conditions. Hence, there is a need to complement such large-scale studies with small-scale (qualitative studies) that can help unravel how and why things work.

The second implication relates to the importance of continuing the investigations of not so promising characteristics and others for which extant studies have yielded inconclusive and mixed results (e.g., professional development). Future studies should, however, not be geared toward replicating the results of prior research, but largely to help better understand under what conditions the

effects of these characteristics might be strengthened or even optimised. For example, when it comes to professional development – a key feature of teacher education – future scholarly attempts could be directed toward addressing questions such as, what characteristics render professional development programs more or less effective? Why is this the case? In addition, smaller scale studies can also help examine the mechanisms through which professional development can inform teaching quality and through that student learning.

The third implication relates to using more comprehensive designs in how we examine teacher and teaching effects. The recent OECD (2020) TALIS video-study *Global Teaching InSights* provides one such example of a large-scale study conducted at an international level. Focusing on eight different countries, in this study, scholars explored different teacher characteristics, aspects of teaching quality, and types of student learning. Such studies, especially when conducted at an international level, can help explore different moderation and mediation effects, thus further enhancing existing knowledge about the contribution of teacher and teaching characteristics to different types of student learning. However, when such comprehensive designs are difficult to run at an international level, national research agencies and centres might complement (international) large-scale studies by adding the missing pieces of the complex chain of associations that links teachers, teaching, and student learning. This is something that, for instance, scholars of the COACTIV project did in the past (see Baumert et al., 2010), when complementing the PISA study with research components that better allowed the concurrent studying of teacher characteristics (such as teacher knowledge), different aspects of teaching quality, and student learning.

At the beginning of this chapter, we referred to critiques often voiced regarding the field of teacher education research – critiques that, to some extent, might be nurtured by the difficulties of this body of research to directly inform policy decisions. Coming full circle, we conclude by discussing how large-scale studies can help enhance the value of this field of research. We see three ways in which this can be done.

First, although generalisations are often particularly desirable for policy making, nowadays it seems to be increasingly understood that generalizable patterns might be neither feasible nor productive to derive, especially when it comes to studying complex phenomena like teaching and learning. By exploring different moderators to the association between teacher characteristics, teaching quality characteristics, and student learning, large-scale studies can produce results that, albeit of limited generalisability than those policymakers might be longing for, take into consideration different contextual factors. Doing so is important not only for further developing teacher education research but

also for producing less inconclusive results – which can also be considered a significant limitation of teacher education research.

Second, neither large-scale studies nor small-scale studies alone can help us understand comprehensively the complex chain of associations between teacher characteristics, teaching, and student learning. As argued above, a productive combination of large-scale and small-scale (qualitative) studies can help us delve deeper into exploring these associations. This complementarity can contribute toward understanding not only what works and under what conditions, but also how and why things work. We maintain that addressing these different types of questions can help uplift the status of teacher education research since complex educational phenomena require a more comprehensive and holistic approach in studying them. Otherwise, according to the well-known Indian fable of the seven blind men studying an elephant, teacher education researchers run the risk of producing fragmentary knowledge pieces which can hardly move the field really forward.

Finally, another way to elevate the status of teacher education research by producing more consistent and applicable findings, that can inform teacher educators as well as policy makers, lies in combining explorations of teacher effects with teaching quality effects. It is encouraging that during the past years such investigations are observed more frequently than in the past (see, for example, Blömeke et al., 2016; OECD, 2020). We argue, however, that they need to be intensified and that researchers have to experiment with different ways of measuring teacher and teaching quality effects (e.g., teacher reports, principal reports, student reports, classroom observations, teacher logs) to better capture and study these effects. Such explorations are envisioned to produce more nuanced results that better lend themselves to informing the design of different teacher education programs as well as decision-making at different levels.

In conclusion, large-scale studies can uplift the status of teacher education research through their contributions, but only if they are critically examined on what they can help us achieve and how. Despite their shortcomings, when they are used in combination with other types of studies their limitations can be turned into affordances. Thus, upon reflecting on Begle's (1979) and Scheerens' (2015) admonitions, it can be argued that there are still very productive research paths on teacher and teaching quality when considering the whole of the moon, looking both at its bright and dark sides.

Note

- 1 More recently, positive associations were also yielded between student learning and teachers' general pedagogical knowledge (GPK) (e.g., König et al., 2021). We do not report on these

studies above, although they resonate with the findings of CK and PCK, because they do not meet the sample-size criterion of 2500 student participants.

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A National Programme for Improving the Quality of Teacher Education

The German “Qualitätsoffensive Lehrerbildung” and the Quest for Institutionalisation of Teacher Education

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Abstract

The institutional status of teacher education within universities is in many countries limited by a number of structural ‘constraints’ (Clark, 1999). After discussing these constraints for teacher education in Germany, a national programme for quality improvement in teacher education known as the *Qualitätsoffensive Lehrerbildung* (QLB; teacher education quality initiative) launched in 2015 by the German federal and state governments is briefly introduced. In a competitive procedure up to €500 million were channelled into 91 projects submitted by 72 German universities. The projects were to address eight ‘action fields’ of quality improvement for teacher education, among them ‘action fields’ which directly or indirectly addressed the issue of weak institutionalisation of teacher education in universities.

The QLB programme was monitored by evaluation research, the main goal of which was to analyse the impact of this policy and to learn about future policy options. The quantitative and qualitative longitudinal data collected by the QLB programme evaluation is used in this paper for discussing the impact of the programme on the institutional status of teacher education in German universities. Data shows that institutional attention for teacher education has increased, that organisational structures for teacher education have been built up or strengthened, and that collaboration between various actors, disciplines and phases of teacher education has been intensified. However, institutionalisation of teacher education in German universities is still hugely diverse. The sustainability of the gains achieved through QLB may necessitate focused attention on maintenance and additional regulative efforts on *Länder* and university level.

Keywords

teacher education – institutionalisation – school of education – organisation of teacher education – programme evaluation

1 Introduction

This paper aims to contribute to the debate of teacher education ‘finding its footing in the landscape of higher education’ (TEPE-conference brochure 2022). We will focus on a major German initiative for promoting the quality and the status of teacher education: we will explain the goals and structure of the *Qualitätsoffensive Lehrerbildung* programme [QLB; Teacher Education Quality Initiative] and some characteristics of the context it works in, the German system of teacher education. Then we will discuss some effects of the programme as found by the ongoing programme evaluation. Before doing so, we will discuss some trajectories, obstacles, and challenges of ‘institutionalisation of teacher education’ in the higher education sector.

Institutionalisation refers to processes by which social life gains relative stability and expectability through symbolic systems (such as explicit rules, normative beliefs, and shared cultural-cognitive worldviews) and associated resources (Scott, 2014). When we talk about ‘institutionalisation of teacher education’ we are interested in the structures and recurring processes which have been built up for the societal practice of preparing educational professionals for schools. Since a process of ‘tertiarisation’ of teacher education has taken place in most European countries, this is also a question of the organisational place, status and significance of the actors and organisational units of teacher education within higher education institutions (HEIs),¹ and more than that: for the *voice of teacher education* within universities and in the education debate in society. The goal of such ‘institutionalisation’ or ‘structure building’ is (1) to establish resilient structures in the universities and within the relevant environment, such as external partners in teacher education and ministries, and (2) to support and secure these structures through corresponding normative regulations and resources, which, in consequence, make it more likely that university and environment actors work reliably on the maintenance and further development of the quality of teacher education.

In most European countries, teacher education is a relatively new field in universities:

Teacher education as a study area within higher education is *relatively new*; it joined the traditional academic and professional areas in the period of the emergence of mass higher education, i.e. during the last thirty years of the previous millennium. In the past, it was predominantly located in specific institutions outside universities and under direct state control. If there were special departments or chairs at universities, their main purpose was not teacher education as such or, as in many cases, it was limited to teacher training for upper secondary schools. The

gradual penetration of teacher education colleges ('normal schools'; their names in national languages vary greatly) into universities has led to the restructuring – and entanglement – of the entire area. (Zgaga, 2013, p. 2)

As a result, teacher education is often awarded a 'marginal status' (Sandfuchs, 2004, p. 33) in contemporary universities compared to the place that traditional disciplines and old professions such as medicine and law enjoy in the structural outlay and actual processes of academia. This is neither a new issue nor a European phenomenon but seems to be a perennial characteristic of the development of teacher education in most Western countries. For US universities, Burton R. Clarke (1999) identified three types of 'constraints' which limit the status of teacher education:

1. *Research and teaching*: As professional schools, organisational units of teacher education have to respond to both the 'research' norms of academia (which have been "set largely by letters and science departments [based] on disciplinary specialisation and basic research"; Clark, 1999, p. 353) and the demands of their profession which expect teaching for practical proficiency.

In the process of 'tertiarisation' and integration in universities, teacher education is – according to Goodlad (1999) – in constant danger of adapting too much and too unilaterally to the criteria of research prestige and losing sight of its professional education function: "With each step in the transition, the status of teacher education in institutional priorities dropped and, with it, the status and identity of the SCDE [schools, colleges, and departments of education]" (Goodlad, 1999, p. 325). On the other hand, orientation towards research and towards profession are not necessarily contradictory (Gräsel, 2020).

2. *Status and image of knowledge base and work*: 'Major professions', such as medicine and law, can build on high status and associated power in society, they "have guarded routes of access and training", and are seen to "have substantial bodies of respected, codified knowledge" which give them status and protect them from interference by other disciplines (Clark, 1999, p. 353). Contrary to that, so-called 'minor professions' (Glazer, 1974), such as education, nursing, or social work, are often seen as connected to soft and "soggy" knowledge and "women's work, adding gender bias to the mix of constraining conditions" (Clark, 1999, p. 353).
3. *Shared responsibility with established disciplines*: Unlike most other professional schools, teacher education prepares for a "profession organised around multiple subjects – school subjects – which are, at the university, in the hands of letters and science departments" (Clark, 1999, p. 353). Major professions have managed to either shift knowledge (which is necessary

for their profession, but institutionally managed by other disciplines) to pre-curricular work or to include it in their curriculum under the control of their faculty (e.g. medical statistics). Teacher education, however, is for its subject studies in “unique dependence on the arts and science departments” (Clark, 1999, p. 353) and has shied away from “seeking the greater autonomy enjoyed by most professional schools” (Goodlad, 1999, p. 331f).

Since the 1990s, teacher education in Europe has seen a process of “Europeanisation” (Zgaga, 2013, 2021; Symeonidis, 2021): policy cooperation through the *open method of coordination*, the Bologna process, and various European funding schemes have certainly increased transnational academic collaboration, and, although to a lesser degree, student mobility (Zgaga, 2013, p. 5) and had some “potential to accelerate innovation” (Kotthoff & Symeonidis, 2021, p. 24).

In interpreting a survey in 2012 which repeated a similar questionnaire of 2003, Zgaga (2013, p. 5) found a trend towards “more comparability and compatibility” which might have – through processes of comparison and imitation of quality images - some potential for strengthening the institutional status of teacher education (Zgaga, 2013, p. 12). However, huge national differences in the modes and solidity of institutionalisation of teacher education in HEIs were still visible.

For Germany, Kotthoff & Symeonidis (2021; see also Schubarth et al., 2017) argue that European harmonisation and Bologna reforms have “failed to increase transparency of study requirements and to support the flexibility and mobility of the students”; on the contrary, they have contributed to diversification. While they certainly provided some impulses for development, “processes of ‘glocalisation’ and local ‘translations’ of the Bologna process increase the probability of diversity *within* national systems of teacher education rather than decrease it”. In particular, they note that regional governments and local institutions were less receptive to European recommendations than the national level (Kotthoff & Symeonidis, 2021, p. 23).

In the following section we take a closer look at the teacher education system in Germany, its institutional characteristics and the programme which, among other goals, aims to improve the quality and strengthen the institutional status of teacher education in universities.

2 The QLB Programme in Context

2.1 *Characteristics of the German System of Teacher Education*

The German system of teacher education is certainly challenged by a weak institutionalisation of teacher education in universities which seems to be

connected with the structural ‘constraints’ of tertiary teacher education explained above. However, this endemic diversity is reinforced and amplified by the number and heterogeneity of the actors involved, e.g. ministries and varying legislation in the federal states (*Bundesländer or Länder*), regional authorities, and schools as practicum places. These in sum, produce a confusing tangle of voices which gives little guidance on minimum institutional standards for the organisation and design of teacher education.

Constitutional responsibility for the whole education sector (including schools, but also HEIs and research) lies with the federal states, with the 16 *Länder* (Figure 7.1). For coordination between the *Länder*, specific inter-ministerial bodies have been institutionalised: the *Gemeinsame Wissenschaftskonferenz (GWK)*, a joint committee for coordination of the *Länder* ministries responsible for HEIs and research, and the *Kultusministerkonferenz (KMK)*, the standing conference of the *Länder* ministers of education and cultural affairs for coordination of all policies with respect to the school systems. Legislative and administrative responsibilities of national politics, of the national parliament, the federal government and the Federal Ministry of Education and Research (BMBWF; which is also supporting research in all academic fields) are limited to the out-of-school vocational sector. Federal initiatives for all other sectors of education are only possible in agreement with the *Länder*.

Another important characteristic of teacher education in Germany is that the qualification for the full task of teacher education, the biographical continuum of teaching, is usually organised in *three distinct phases*: initial teacher education as the 1st phase, teacher induction as the 2nd phase, and professional

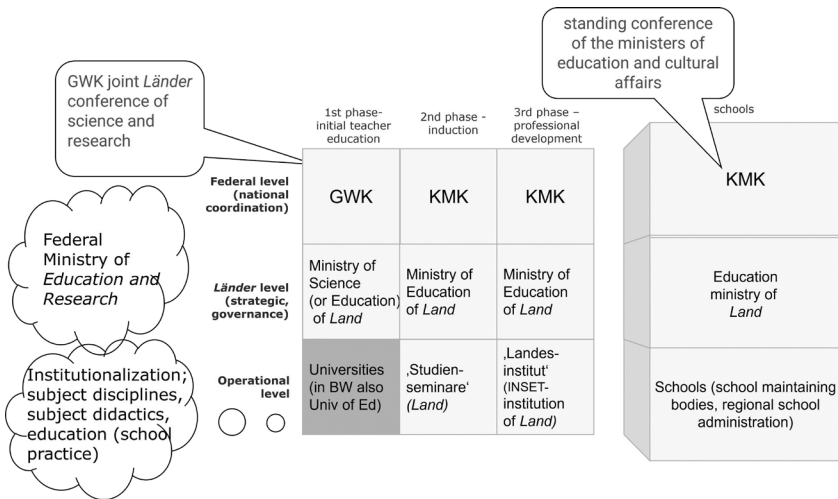


FIGURE 7.1 Multi-level system of teacher education in Germany

development of teachers or in-service training of teachers (INSET) as the 3rd phase. This distinction is not just conceptual but entails differences in institutionalisation and responsibility: as a consequence, responsibility for legislation, financing and administration of the 1st phase lies with the *Länder* science ministries (not with the education ministries in many *Länder*). The operative actors of the 1st phase of initial teacher education are HEIs which are autonomous with respect to teaching and research. The operative actors of the 2nd induction phase are in most of the *Länder*, small regional institutions called 'Studienseminare', financed and administrated by the education ministries. The operative actors of the 3rd phase are in most of the *Länder*, so-called '*Landesinstitute*', state institutes for professional development of teachers, which are fully financed and administrated by the education ministries of the respective *Länder*. In some *Länder* they are complemented in their task of in-service training by HEIs, church institutes or private actors.

As in many other countries (see above; Goodlad, 1999; Zgaga, 2013), initial teacher education courses within individual HEIs are usually not the responsibility of a single faculty or institute but are rather *compiled from different sources*, such as the subject disciplines, subject didactics, and education. Again, the varying power balances of these actors seem to result in considerable curricular diversity.

These characteristics have contributed to a large *structural variety* in German teacher education: there are different institutions for induction and in-service training of teachers in the various *Länder*; there are different university laws in the *Länder* which differ in their specifications for teacher education (Alleff et al., n.d.; Holle et al., 2020; Arnold et al., 2021), and there are different institutional structures for teacher education within the HEIs which vary widely in their responsibilities with respect to e.g. curriculum development, study organisation, or research (Böttcher & Blasberg, 2015; Altrichter et al., 2022).

This structural variety feeds into a *broad curricular diversity* within German teacher education. In an analysis of study programmes of 12 German universities, Bauer et al. (2012) found large heterogeneity with respect to the relative shares of study elements:

Programs differ regarding their focus on academic subjects versus profession-oriented studies and their ranges of required studies in subject education (6-25 CP²) and internships (6-38 CP). ... students who study at the university with the highest share of studies in subject didactics have to acquire 4.2 times more CP than their fellow students who study at a university with the lowest share of studies in subject didactics. (Bauer et al., 2012, p. 102, 115³)

In 2004, the KMK had formulated basic standards and competences in four areas of teachers work (teaching, educating, assessment and evaluation, innovation). These were meant to guide curriculum development in teacher education. Hohenstein et al. (2014) analysed the teacher education curricula of 16 universities for these standards and concluded:

The curricula of the different university sites differ considerably with regard to the implementation of curricular content in education, which indicates that teaching in initial teacher training varies severely and that the mobility of students, for example when changing universities, is exacerbated. On no account it can be assumed that there is a uniform knowledge base or comparable competences at the end of initial teacher training. (Hohenstein et al., 2014, p. 505²)

With respect to the *institutional status of teacher education at universities*, the diagnosis of German scholars of teacher education (e.g. Bohl & Beck, 2020) resonates much with what has been said about ‘supranational’ constraints above. From the perspective of university history, teacher education is a comparatively recent addition, a young intruder:

While the organisational shape of universities is at its core rich in tradition and stably defined, especially through the levels of university management, faculties and subjects, as well as established bodies such as the senate or faculty council, the comparatively young organisational shape of teacher education pushes itself into an established system. (Bohl & Beck, 2020, p. 283)

In finding its place in the university structures, teacher education has to overcome a range of challenges which have also been noted for German HEIs: the teacher education programme finds itself in a *tension between discipline and profession* with traditional universities structures rewarding disciplinary excellence, as well as politics, school administration, and often students asking for more practical experience and a focus on application (Beck & Bohl, 2021).

As a result of the contribution of various disciplines to teacher education, *curricular and organisational responsibility* for teacher education is usually “*distributed*” or “*fragmented*” (Terhart, 2005, p. 17; see also Beck & Bohl, 2021; Merkens, 2005). And it is often confronted with *low recognition*: although teacher education is the “cash cow” (Darling Hammond, 2010, p. 39) for many HEIs, the quantitative status of teacher education is not reflected in qualitative terms, neither by public opinion nor by “the power and influence structure of university decision-making bodies” (Terhart, 2005, p. 21).

In sum, “the institutional situation of teacher education [in German universities] is complex, in need of clarification and follows location-specific solutions; it is fundamentally characterised by ‘disintegration processes’” (Beck & Bohl, 2021, p. 540). Nevertheless, there has been hardly any empirical research on the institutional and organisational structure of teacher education until recently (Beck & Bohl, 2021).

Special attention in the German debate on the institutionalisation of teacher education is paid to so-called ‘cross-sectional structures’ (*Querstrukturen*), to ‘centres of teacher education’ or ‘schools of education’. Although a few of such centres for teacher education had existed before, the KMK Commission suggested in its 2000 report the “establishment/testing of centres for teacher education and school research at the universities, which represent the interests of teacher education transversely to the conventional faculty structures” (Terhart, 2000, p. 120). For Merkens (2005, p. 9), these centres are “symbolic of innovation and new beginnings in teacher education”. The expectation was that these institutionalisations, instead of a “common juxtaposition” of interests, could achieve a bundling of “responsibility for teacher education in one institution within the university” (Merkens, 2005, p. 10), build bridges and connecting paths between the ‘pillared’ traditional subject structure, and create a place within the university where “the concerns of teacher education are prominently and sustainably represented” (Terhart, 2005, p. 16). In sum, much attention and high expectations were focused on centres and schools, making them the “strategic core” of improving the institutional status of teacher education at HEIs.

2.2 *The Qualitätsoffensive Lehrerbildung Programme*

In 2015 the German federal and state governments signed an agreement to launch a joint national programme for quality improvement in teacher education, the so-called “Qualitätsoffensive Lehrerbildung”, endowed with up to €500 million in two funding lines until 2023. HEIs and regional alliances of HEIs were invited to submit proposals for improvement projects (BMBF, 2014, 2018). In a competitive procedure 49 out of 133 applications were selected for funding after the 1st call. After the 2nd call, the programme supports a total of 91 projects submitted by 72 German HEIs (BMBF, 2019; Altrichter et al., 2020). In our view, this programme is remarkable because it takes place on a national level which is certainly a novelty in the landscape of the multi-layered and heterogeneous structures and responsibilities. Its scope and content signal that both the federal government and the *Länder* see the need for action in the field of teacher education and indicate in what areas they consider focused action necessary.

Applicants were invited to focus on one or more of eight action fields (six in the 1st call, two more fields in the 2nd call) in their project application. It may be worthwhile to look more closely at these ‘action fields’ as they indicate areas of concern of the programme sponsors (BMBF, 2014):

Action field (1) “Profiling and structure building for teacher education at the universities” directly addresses the issue of weak institutionalisation and fragmented responsibility of teacher education in HEIS.

Action field (2) “Quality improvement of relationships to practice” addresses the criticism (mostly voiced by politicians and school practitioners) that teacher education at HEIS is too “theory-heavy” and does not give enough chances for practical experience in schools. Therefore, applications were invited to contribute to better coordination between the three phases of teacher education.

Action field (3) “Improvement of the professional guidance of students” asks for improving counselling and guidance services for students in order to ease their way through their studies and into the workplace.

Action field (4) “Further development of teacher training with regard to the requirements of heterogeneity and inclusion” draws the HEIS’ attention to include the concepts of heterogeneity and inclusion into teacher education curricula as inclusive teaching has become visible as an issue of German schools in the wake of the United Nations Convention on the rights of persons with disabilities (UN-CRPD).

Action field (5) “Linking disciplines, education and subject matter methodology” addresses the curricular side of the disintegration of teacher education at many HEIS. It asks university leaders and curriculum developers to work towards better collaboration and integration of the constituent parts of teacher education, the studies in subject disciplines, subject specific didactics, and education (and teaching practice, see action field 2).

Action field (6) “Comparability and mutual recognition of study achievements and degrees as well as equal access to the preparatory service and teaching in order to improve the mobility of students and teachers” stands out from the other action fields as it does not address HEIS, but rather the sponsors themselves: the federal government made it a precondition for investing money into teacher education (which primarily is the responsibility of the Länder) that the barriers which different work and university regulations pose to student and teacher mobility were to be removed.⁴

In the 2nd call two further action fields were added (BMBF, 2018): *Teacher education for vocational schools* which is supposed to give additional attention to a branch of teacher education which often is out of focus, and *Digitalisation in teacher education* which was considered an open and neglected field by many voices in the public and media debate on teacher education.

Finally, there were two so-called *cross-sectional goals* – (a) *sustainability* and (b) *transfer* – which were meant to be relevant for the whole programme: the developments stimulated through QLB projects were meant to be organised in a sustainable way ensuring the continuation of project results after the end of the programme. And it was expected that project developments would be transferable to other HEIs and 2nd and 3rd phase actors.

It is obvious that QLB aims to provide impetus for improving the current weak institutionalisation of teacher education at HEIs: action field (1) directly addresses this issue, other action fields indirectly. The large amount of funds was obviously meant to draw the attention of university top management to teacher education. The quest for sustainability, which was highlighted as one of five evaluation criteria in the approval process (BMBF, 2014, § 4), was an instrument of keeping the university managements attentive throughout the process of preparing proposals, as their voice would be necessary for long term decisions with respect to establishing new positions (in particular long-term professorships) and changing the organisational structure. As we know from evaluative interviews, the selection commission took special care to evaluate these aspects in the proposals.

However, also the other action fields point to long-existing (action fields 2, 3, 5) and new challenges (action field 4; publicly highlighted by UN (2015) at that time) of teacher education which would have structural implications for HEIs if they were seriously addressed by the QLB projects.

In the subsequent sections, the paper makes use of data of the official programme evaluation to discuss how the QLB programme was used and accepted by university actors and to examine its impact on the institutional structures for teacher education.

3 Methods

Our argument is based on the findings of the evaluation of the programme commissioned by the German Federal Ministry of Education and Research in 2016 and again in 2020 after competitive tenders. The evaluation focusses on the impact of the programme and on activities in the ‘eight action fields’ mentioned above. More generally, it examines potential changes and structural development of the governance of teacher education at 59 HEIs (49 projects) in the first funding phase and 73 HEIs (92 projects) in the second funding phase. Furthermore, the evaluation aims to examine the interaction of the programme with other concurrent programmes and the impact on non-funded HEIs. Finally, it is to identify conditions for successful transfer and sustainable

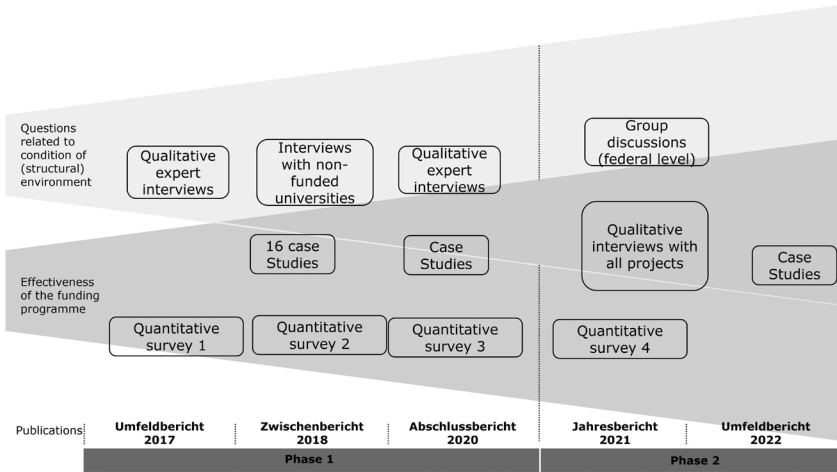


FIGURE 7.2 Elements and time line of the programme evaluation

anchoring of innovations both at universities and in the German system of teacher education.

Since 2016, the programme evaluation has been collecting quantitative and qualitative data over the two funding phases. An extensive *document analysis* prepared grounds for a *four-wave online-based quantitative survey* (2016, 2018, 2019, 2021⁵) to monitor developments at the universities in each action field. For a more detailed analysis, 16 interview-based *case studies* (in the first funding phase) and *qualitative interviews* with representatives of all participating projects (at the beginning of second funding phase in 2020; ‘project interviews’) were conducted as well as interviews with non-funded higher education institutions in three waves (2016, 2019, 2021). *Qualitative expert interviews* in 2016 and 2019 and *group discussions* (2021) with representatives of the *Länder* science and education ministries and other institutions relevant for teacher education were to record the structural conditions, collaboration requirements and diversity characteristics in the field of teacher education across the federal states. All reports (in German language) are available on the website of BMBF.⁶

4 Findings: Institutionalisation and Structure-Building for Teacher Education

In general, there was an overwhelmingly positive initial reaction to the QLB programme from various stakeholders within and outside the universities. Many voices described QLB as a timely and important initiative and expected some potential for improving the status of teacher education both at individual universities and in the entire education system.

QLB is one of the very, very few federal-state programmes that has achieved its goals without any ifs or buts. It's a programme that has been worth the investment of funds and has achieved great effects, with comparatively little money. (Expert interview 2019, p. 24)

QLB has “set many things in motion” and teacher education has “noticeably developed” (Bohl & Beck, 2020, p. 287). Gehrmann (2019, p. 18) observes that QLB processes have strengthened and improved connections and linkages at different levels of action and actors, that new actors have become interested in teacher education and, above all, university administrations have been stimulated to engage in strategic thinking about teacher education.

In the following sections, we combine data from the ongoing programme evaluation to discuss the impact of QLB on the institutionalisation of teacher education at universities: the impact (1) on institutional actors for teacher education, in particular on the University top management and on ‘cross-sectional structures for teacher education’ (*Querstrukturen*), and (2) on the collaboration of diverse actors and disciplines contributing to teacher education.

4.1 *Impact on Institutional Actors for Teacher Education in Universities: University Top Management and Cross-Sectional Institutions*

Enhancing the status of teacher education in universities was clearly a central goal of QLB, highlighted by the first action field “Profiling and structure building for teacher education at the universities”. *Rectors, presidents and the University top management* are institutionally empowered to speak for their university and for the role of teacher education within it. Consequently, they play a central role for the visibility and institutional status of teacher education (expert interviews 2019: 2, 6, 17, 28, 31, 32, 42). *Continuous involvement of the university top management* in strategic thinking about teacher education development (instead of engaging discontinuously for resource decisions) is a relevant indicator for increased attention invested in teacher education.

A number of interviews point to indicators of increased visibility and significance attached to teacher education by the university management. The financial support of QLB has improved the *status of teacher education at HEIs* and has raised the *awareness* that *well-trained teachers play an important role* for societal development (Expert interviews 2019: 2, 6, 16, 21, 34, 35, 37, 42, 43).

Teacher education has reached the university leadership, that is the biggest gain from QLB. (Expert interview 2019: 42, also 6)

Application for QLB required the integration of representatives of the university top management into the planning and implementation processes of

QLB projects. This mechanism seems to have contributed to raising the awareness for teacher education of all university members and to have helped to upgrade teacher education in the university's decision-making agenda (cf. Ramboll, 2018, p. 58):

Now an awareness has emerged [...] that teacher education is already a profile-forming feature of the university. I can see that in things like the way the second application was accompanied, or how the rectorate is involved [...] via the vice-rector for teaching and studies. He also often says how much teacher education takes up from his position as vice rector. It's beginning to be seen. (Project Interview)

We made an organisational chart to show which organisational unit in the university is responsible for which issues in teacher education [...]. We are trying to improve these governance issues slightly so that the subject disciplines are not in danger of falling behind. (Project interview)

The quantitative monitoring indicates that the mechanism of involving the university management into teacher education was in place in many cases: the extended university management is reported as being involved in all projects; in only 21% of the projects, the university top management (president or rector) was not directly involved; the (extended) university management was involved in the project planning or as advisors for the planning phase in 83% of the projects, and in almost two-thirds of the cases it was even involved in implementation.

In the future, involving the university top management in the committees responsible for teacher education can be a significant lever for increased effectiveness and visibility of teacher education as well as for the effectiveness and sustainability of teacher education development. The direct involvement of university top managers, such as a vice-president responsible for teacher education, may be particularly important, as an interviewee emphasises:

But to be honest, you can only get this off the ground because you have such a vice-presidency. So, if you don't have someone at the highest level who can ensure that certain processes are initiated, that they get into the committees, that they are continued even against resistance, then it would be difficult to achieve it. (Case study interview, project 21, similarly project 07)

Teacher education tasks have traditionally been the shared responsibility of various actors (e.g. faculties, disciplines) at universities (see above and Clark,

1999) – with the danger of awarding lower priority to cross-sectional decisions. ‘Cross-sectional structures or organisational units’ (“*Querstrukturen*”) are supposed to be an important instrument for bundling the interests of teacher education and structuring the way they are represented within university structures. They are supposed to allow improvement of coordination and organisational quality of teacher education. Further, they create ‘new actors’ which give high priority to teacher education topics (compared to the ‘second-rate attention’ paid by existing actors with other primary constituencies). These *cross-sectional structures* for teacher education are usually dubbed in German universities as ‘centre for teacher education’ (*Zentrum für Lehrkräftebildung*) or ‘schools of education.’⁷ They cut across the existing subjects and departments as they are intended to represent the overarching interests of teacher education and to be the central professional steering structure for *all* important tasks of academic teacher education, research and teaching, counselling and guidance as well as coordination and service tasks (cf. e.g. Böttcher & Blasberg, 2015; Lüdecke, 2018; Terhart, 2005). In order to be able to perform these tasks effectively, they must be equipped with appropriate resources and decision-making power and, certainly, not be limited to advisory, coordination and service functions (cf. Böttcher & Blasberg, 2015; Helsper, 2011; Terhart, 2005). The establishment of such institutions is not only recommended by teacher educators (cf. Merckens, 2005; Brinkmann et al., 2015), but also by important actors of educational policy, such as WR (2001) and KMK (2004).

In accordance with these recommendations, nearly all HEIs participating in QLB have their own central interdepartmental organisational unit for teacher education; only about 5% of the HEIs do not have such a cross-sectional structure (Programme monitoring, wave 3). While some universities already had established such a cross-sectional structure before QLB and further strengthened it with the funding (e.g. project 11, 18, 28, 30, 47), other universities created new units with the help of QLB (e.g. project 08, 12, 13, 14, 44). In expert interviews, the profile and visibility of teacher education is perceived as being strengthened by these cross-sectional structures as they are integrating places at the HEIs and as communication partners for ministries (Expert interview 2019: 4, 11, 21, 26, 28, 32).

I think that the effect of QLB for the centres for teacher education is clear. They [...] have to overcome an acceptance hurdle within the university. I believe that they have proven themselves. [...] And that QLB has now also shown that the centres are really significant actors when it comes to keeping teacher education up to date and dealing with current challenges. (Project interview)

These cross-sectional units for teacher education are often organisationally linked to the university top management: in 12% of all cases they are directly led by members of the University top management, in another 39% of all cases representatives of the University top management are members of these institutions. In 46% of all cases, the Centre for teacher education reports regularly to the University top management (Programme monitoring, wave 3). Firm ties to the university top management may be an important factor for the anchoring of teacher education in the university decision-making processes: The programme monitoring (2021) indicates that those cross-sectional institutions which are headed by a member of the university management more often report improvements in their decision-making authority.

Appropriate ways of organising these cross-sectional structures and weaving them into the existing decision-making structures of the universities have been frequently discussed in meetings of QLB projects.

We have an interdependent task, which actually requires cross-sectional structures. At the same time, if you think of everything in terms of cross-structures, you don't have a specialist for a question. Then again, no one is responsible. Then we have collective irresponsibility [...]. I think that is probably something that is perhaps an interesting question for all schools of education: what is our relationship between the structurally necessary cross-structuring on one hand, and the question of specialisation or responsibility on the other hand. (Case study interview, project 18)

The programme monitoring allows a deeper view in the impetus given by QLB for *developing the tasks and work conditions* of these cross-sectional structures. Project work seems to contribute to the reputation and status of teacher education at the university as well as to improving resource issues. However, the further development of decision-making paths for teacher education – intentionally or unintentionally? – is less in the focus of activities (see Figure 7.3).

Regarding the further development these centres (see Figure 7.4), a great deal of attention is currently paid to public relations and profiling for teacher education, to research tasks, to involvement in in-service training, as well as to quality assurance and evaluation. Less attention is channelled into the formerly 'traditional tasks' of these centres, such as the coordination of study programmes, resource planning, and study information. In any case, this data seems to reflect an observation by Bohl and Beck (2020, p. 285), who perceive an "expansion of the range of tasks [in many HEIs] that goes far beyond the area of study and teaching and includes, among other things, profession-related projects, research, promotion of young academics, digitalisation or inclusion".

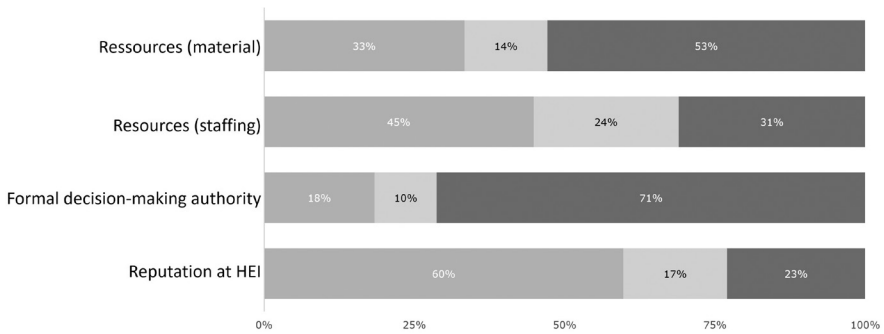


FIGURE 7.3 Foci of structural improvement of cross-sectional units (n = 91)

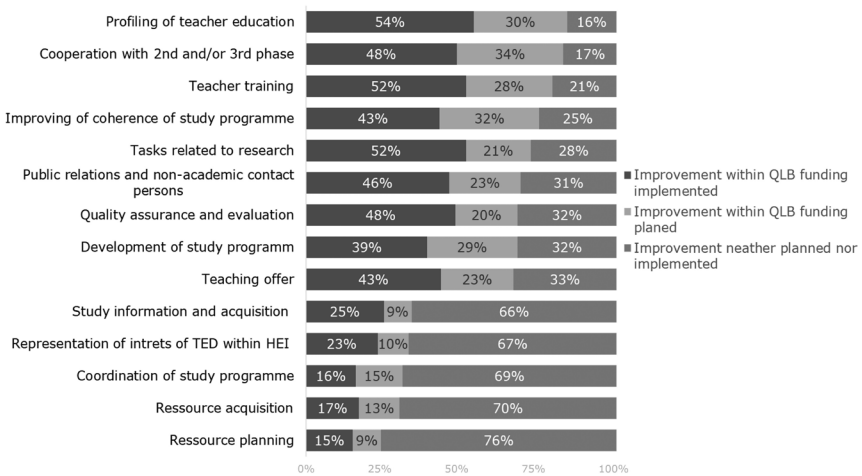


FIGURE 7.4 Foci of task improvement of cross-sectional units (n = 91)

In sum, our data indicates that QLB was a supportive impulse for strengthening teacher education and developing cross-sectional structures within universities. However, at the beginning of the second funding phase, there were also critical voices: While not denying some improvement, some respondents still describe teacher education as a *marginal field for university profile building*, especially at large universities. Structural changes may have been too shallow, random or not purposeful enough (expert interviews 2019: 15, 27, 28, 33, 37, 40, 43) to secure sustainable development. The quality of *cross-sectional structures* depends in many cases on individual persons and their individual interests and power, which may become an issue when new administrations are elected (Expert interviews 7, 18, 23, 26, 27):

Universities are free to decide where they link centres, e.g. to the rectorate or to the educational studies department. Often their influence and

strength stand and fall with individual persons. Centres are not usually represented in powerful committees as a faculty is, [...] therefore they don't really have any means of shaping things. (Expert interview 2019)

4.2 Collaboration between Disciplines and Teacher Education Phases

Action field (5) asks for “Linking disciplines, education and subject matter methodology”. This is not only a long-standing challenge for teacher education and a precondition for its impact on students; it is also structurally relevant for the institutionalisation of teacher education in the universities. It addresses one of Clarke’s major ‘constraints’, the shared responsibility for the teacher education curriculum which may result in non-coordination, or domination by the subject disciplines if no feasible ways of collaboration are found.

In general, the QLB programme seems to have stimulated additional collaborative efforts. Our monitoring data indicates that collaboration *within* the constituent disciplines – subject disciplines, education studies, subject didactics (*Fachdidaktik*) – has significantly grown within the first funding phase. Collaboration has also increased *between* the fields; the only and notable exception are the subject disciplines whose participation in the programmes seems to decrease (both with respect to collaboration within and between the disciplines; see Figure 7.5).

The quantitative monitoring data (monitoring wave 1 (2016) vs. 3 (2019)) highlights the increasing *collaborative development*: About 50% of all respondents report initiatives of *joint development of courses, teaching materials and diagnostic instruments* which had not been in place *before* QLB and seem to have been enabled by the programme funding; 46% report additional initiatives of *institutionalising cooperative relationships* and the setup of new *interdisciplinary research activities*, approx. 40% point to initiatives for *joint development of modules for student teachers and in-service training for teachers*,

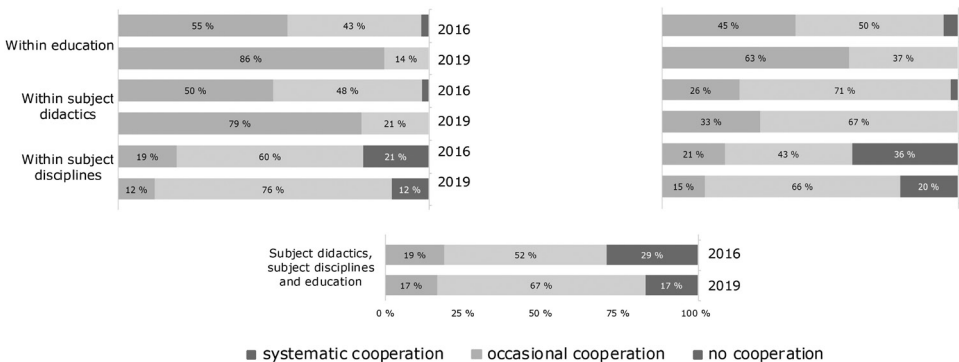


FIGURE 7.5 Collaboration within and between disciplines by time (n = 42)

and approx. 30% to initiatives of *joint development of teacher training courses and specific additional qualifications*.

A plausible explanation for the unforeseen and unwanted effect of decreasing participation of subject disciplines is that the funding requirements of the programme were effective in stimulating the participation of subject discipline representatives in the process of developing project proposals in the 1st funding phase. As a measure for developing teacher education quality, many applications included a *focus on strengthening the subject didactics* in their proposals. New *professorial positions for subject didactics* were created as a part of many QLB projects. Additionally, two of the *Länder* have initiated *accompanying programmes* for the expansion of subject didactics.

In the 2nd funding phase, representatives of subject didactics seem to have been *leading the application process* in a number of cases. The strengthening of subject didactics – in general, a plausible strategy for programme improvement given the initial situation in many universities – may have come with the side effect that the participation of the subject disciplines in the projects and in the preparation of the proposals for the 2nd call diminished or discontinued at all, since the subject didactics took over a more prominent role as liaison persons for teacher education and driving forces for collaboration (Project interview non-funded university 1; expert interviews 2019: 13, 42, 44; also Geiss et al., 2016).

Another indicator for a systemic strengthening of teacher education may be seen in the intensity and quality of *relationships of teacher education actors across the phases of teacher education*. Closer collaboration between the university-based ‘first phase’ of teacher education and the ‘second and third phases’ (which are usually located in state institutions) can be an important step towards overcoming the compartmentalisation of teacher education actors and strengthening the voice for the joint development of teacher education.

In the time span observed (between 1st and 2nd monitoring waves), monitoring data point to increasing *exchange of information and joint conceptual work* between the various actors involved in teacher education. ‘Second phase’ actors were more often targeted by project measures (from 52% to 69%) and their representatives were more often included in concept development about teacher education by the universities (from 17% to 33%).

There are various exchange formats [...]. For example, meetings at the respective locations, conferences that are also aimed at other actors in teacher education outside the universities [...]. There are round tables with the two relevant seminars of the ‘second phase of teacher education’

to coordinate at the interface of the first and second phase. (Project interview, project 12)

Similarly, ‘third phase’ actors and professional development institutions were more often named as important target groups of initiatives (from 31% to 43%), called in as advisory persons for projects (from 33% to 43%) and directly participating in project implementation (from 31% to 40%).

A number of expert interviews (2019: 11, 24, 38, 40) give vivid examples of new teacher education models based on the collaboration of HEIs and other – in particular second and third phase – actors. They point to the energy invested in development work of this kind and the negotiation processes necessary for “establishing a shared culture/language” on the one hand, and the potential for sustainability on the other hand.

The biggest challenge is to create a culture of collaboration in universities, that people believe that they together can achieve something. This holds the opportunity for sustainable change. (Project interview, project 14)

5 Discussion

After explaining aspects of and indicators for the traditionally weak institutional status of teacher education in HEIs, we have introduced the German programme QLB as an example of a national initiative for enhancing the quality and the institutional status of teacher education by competitively providing (comparatively substantial) funds for research and development projects in teacher education. Although teacher education in Germany is subject to particular legal and academic conditions (see Section 2.1), we hope to highlight some issues of institutionalisation processes that are worth reflecting on in other European countries as well.

Since the implementation of the programme was monitored by evaluative research, our argument can draw on a rich pool of data from various qualitative and longitudinal quantitative sources from the programme evaluation. It is used here to discuss interim results regarding the impact of the (ongoing) programme on the institutional status of teacher education. Limitations of our argument may result from the fact that our data partly stems from self-reports of project holders and other persons involved in QLB. Additionally, the complexity of the programme (with 91 projects, a rich programme support structure, and various emergent networks and collaborations) may produce a

variety of local shapes, some of which may resist being integrated into a more general image.

The strategy of QLB is to provide comparatively large funds for teacher education research and development in a competitive bidding process with clear development priorities and selection criteria. This seems to have been initially successful: University top administrators have increased their attention to teacher education as they were keen on supporting proposals and winning funds. Existing institutional structures (schools of education, centres for teacher education) have been strengthened and new ones were founded. Collaboration with respect to teacher education within universities and cooperation with external actors have increased. By organising annual conferences and thematic workshops, the QLB programme stimulated interinstitutional exchange. Finally, the mere fact of launching such a programme indicates increased attention for teacher education on the level of educational policy and, in particular, a preparedness for collaboration between the German states and the Federal Ministry that was unknown before (Ramboll, 2018, 2020).

In general, most observers agree that QLB was an important impulse for quality development and for upgrading the institutional recognition of German teacher education. In our interpretation, this was mainly achieved by addressing the characteristic of 'dispersed responsibility' for teacher education widespread in German universities. Thereby, it also addressed Clark's second constraint of 'shared responsibility' by (1) urging the university top management to be more attentive and more active with respect to teacher education at their university, and by (2) enhancing the voice and actor status of teacher education by strengthening cross-sectional organisational units. The results with regard to (3) the cooperation between different actors (disciplines, phases, etc.) of teacher education are more contradictory. Cooperation within the universities is intensified; but there are apparently difficulties in sustainably integrating the subject disciplines. Communication with 2nd and 3rd phase actors is increasing, as are attempts to give them a role in university development projects. However, such collaboration tends to be fragile and dependent on goodwill constellations, since 2nd and 3rd phase actors are not allowed to participate directly in the funding of QLB. Changes of tender conditions could stimulate more dynamic developments in this respect (Ramboll, 2020, p. 131). Moreover, the QLB programme also seems to have some potential to address Clark's additional two constraints concerning the relationship between teaching and research and the knowledge base of teaching – by providing a strong impetus and resources not only for the development of teaching quality and institutional structures but also for research on teacher education. Increasing engagement in teacher education research will certainly have an impact on the institutional recognition

and status of the field; an aspect that we cannot go into here, but which will be the focus of a forthcoming analysis (see Ramboll, 2023).

However, critical issues remain which have also been voiced in the evaluative interviews; two of which will be discussed in the final paragraphs.

Diversity and alignment: Teacher education in Germany is characterised by a large diversity of organisational structures and curricula which seems to limit the chance of playing a coherent and influential role in the institutional negotiation processes. This has not been profoundly changed by QLB. The same is true for the cross-sectional structures (centres for teacher education) which are seen as the strategic core for the improvement of teacher education. There has been and still is a “great plurality” (Wilke, 2005, p. 95) with respect to task descriptions, mission statements, resources, and institutional rooting of these institutions in the University structures (Böttcher & Blasberg, 2015).

Originally, two general types of these cross-sectional institutions could be distinguished: centres focusing on an academic mission with a high level of research activity on the one hand, and centres focusing on service tasks for the organisation and coordination of teacher training on the other hand (Wilke, 2005, p. 90). For some, the variation in tasks and layout of these ‘central institutional units’ of teacher education is a non-problematic adaptation to local circumstances (Terhart, 2005, p. 27). Other researchers attribute this diversity to unclear regulation and indecisive education policy (Böttcher & Blasberg, 2015, p. 22). Vagueness of this kind opens up a wide field for micropolitical play at the level of universities. Consequently, diversity is a site-specific result of institutional negotiation and power struggles, very much dependent on constellations of individual actors instead of overarching principles. In effect, this poses a problem for the quality and sustainability of these institutions. To address this, a group of QLB project leaders recently demanded new legislation of minimum standards for cross-sectional institutes in all *Länder* (Arnold et al., 2021; see below).

Sustainability of QLB developments: While most respondents in the programme evaluation agree that teacher education’s institutional status in universities has improved through (or in the course of) QLB, the question, how sustainable the structural changes are, resonates in a number of interviews.

The term ‘structure’ is usually associated with something fixed and permanent. However, structure building also requires structure maintenance, meaning an ongoing investment in the maintenance and further development of the structures achieved at a given time. The main gains through QLB were achieved at the level of individual universities and are often closely linked to specific individuals and actor constellations, to personal commitment, influence, and status. In particular, structural provisions and decision-making processes for teacher education in universities are often “driven less by institutional and

organisational specifications than by the (accidental) presence of specific actors [...]” (Bohl & Beck, 2020, p. 286). They are resulting from micro-political negotiation processes in the face of specific power constellations (in which sponsors from the university management often play a major role) rather than from rationally solving the question regarding which “organisational format ensures the highest possible quality of teacher education” (Bohl & Beck, 2020, p. 287; Böttcher & Blasberg, 2015, p. 11).

If institutional improvement is – at least in part – associated with specific actor constellations, sustainability remains insecure, and further endangered, once the supporting framework of the funding programme is discontinued. The well-funded competitive call for proposals and the review criteria were intended to attract the attention and commitment of university administrations. As university top administrations are elective offices, new rectors and presidents may – like their predecessors – look around on the funding market and possibly set new accents and priorities.

In order to reduce the dependence of the institutional status of teacher education on university-specific power constellations, a self-organised group of teacher educators working in QLB projects called for establishing “institutional standards for teacher education” in a widely circulated discussion paper (‘Eckpunkte Papier’; Arnold et al., 2021). The main goal of this initiative is to secure “the structures established [in the course of QLB] in the long term” through “elementary institutional standards of teacher education for the central (academic) institutions” (Arnold et al., 2021, p. 2) and, thus, to make them more independent of site-specific micropolitical processes and actor constellations. The paper defines a set of minimal standards for the institutionalisation of teacher education in HEIs which are to be “anchored in the *Länder* higher education laws” (Arnold et al., 2021, p. 3), in order to provide a reliable structure *ahead* of the negotiation processes in individual universities. The proposed standards include, for example:

- Anchoring the “central academic institutions for teacher education” (i.e. centres for teacher education or schools of education), and their “tasks, rights and duties” in the *Länder* higher education legislation (Arnold et al., 2021, p. 4).
- Defining a broad spectrum of tasks in these laws, which include research and the promotion of young researchers.
- Standards for resourcing to secure “sufficient staffing, space and equipment” by linking minimal resources to the “number of student teachers at the HEI and their share of the total number of students” (Arnold et al., 2021, p. 5).
- Standards which safeguard the voice of teacher education representatives in decision-making and governance processes, e.g. participation in central university committees and university management; voting and veto rights

for hiring permanent staff in subject didactics and educational sciences (Arnold et al., 2021, p. 5).

As the authors of this paper have accompanied and observed the QLB programme as evaluators for an extended time span, there is an image which became increasingly clear during this work: There is a large number of actors that are sufficiently powerful to influence decisions in teacher education and whose main foci of interest are not teacher education, but other fields (e.g. ministries of education are mainly interested in the school system, university disciplines in research excellence, unions in teachers' work conditions etc.). However, there has not been a single actor or a group of powerful actors speaking primarily for teacher education in the German higher education landscape. Through QLB and through the various exchange activities and conferences staged by the QLB programme, the discourse about teacher education was strengthened to such a degree that the possibility of (and also the need for) such a *societal voice for teacher education* became visible to many teacher educators. At the same time, the networking and knowledge sharing activities within QLB made it tangible that such an audible voice for teacher education is lacking at the national level, at the *Länder* level and at the level of some universities.

QLB is not an actor! [...] The QLB exists, there are 70 sites that are financed, but they will not act together, have no organisational form so that they can act as QLB. [...] It was not foreseen that someone would form an organisation to act politically, to articulate positions to Länder, to implement certain concepts. (Expert Interview 2021)

A national funding initiative cannot stand in for this missing actor, as an expert points out in the interview excerpt above. Initiatives like the 'Eckpunkte Papier', however, may indicate that some protagonists of QLB projects are attempting to self-organise such a voice for teacher education.

Notes

- 1 In this paper the terms 'university' and 'higher education institution (HEI)' are used interchangeably for all tertiary institutions playing an active part in teacher education. In the case of Germany, this – besides traditional universities – also refers to technical universities, 'Musik- und Kunsthochschulen' (universities of music and the arts), and to 'Paedagogische Hochschulen' (universities of teacher education in the federal state of Baden-Wuerttemberg).
- 2 Curricular Points.
- 3 Quotations from German sources and from data in German have been translated by the authors.

- 4 This problem is considered to be solved and did not play any further role throughout the programme.
- 5 If data from this source is used in the following paragraphs, it is referenced by 'programme monitoring'. The other data sources mentioned in this paragraph are indicated by 'case study interview'; 'project interview' and 'expert interview'.
- 6 https://www.qualitaetsoffensive-lehrerbildung.de/lehrerbildung/de/programm/evaluation/evaluation_node.html
- 7 The English term is used in German.

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The European Union Erasmus+ Teacher Academies Action

Complementing and Supplementing European Teacher Education and Teacher Education Research?

Conor Galvin, Joanna Madalinska-Michalak and Elena Revyakina

Abstract

The European Commission recently funded a series of Erasmus+ Teacher Academies as part of capacity building for the European Education Area by 2025. Erasmus+ Teacher Academies focus on creating vibrant communities of practice in teacher education and on offering innovative courses and learning opportunities based on EU priorities such as digital learning, sustainability, equality, and inclusion. However, despite their commendable objectives, the academies have not attracted yet much critical research interest. This chapter aims to initiate a broader discussion within the European teacher education community about the Erasmus+ Teacher Academies action and how we can learn from it. It addresses the need for research that can tackle the challenges, opportunities, and potential issues raised by the academies – including significant policy implications for future European teacher education. It argues that this research gap needs to be addressed and proposes initial steps for doing so. The chapter outlines the work and activities of the sixteen most recently launched Teacher Academy projects, discussing the opportunities and challenges they present for research in teacher education, and proposes an expansive and integrative research strategy to critically examine all learning from their activities and evaluation.

Keywords

capacity building – European Teacher Education – Teacher Academy Action – teacher education research – innovation

1 Introduction

With the aim of building capacity for the European Education Area (EEA) at the systemic level by 2025, the European Commission recently funded a series of Teacher Academies that address areas and aspects of education which are of particular interest and concern to the Commission. This is a novel and ambitious action under the Erasmus+ framework. Twenty-seven academies in total have been selected and funded since the spring of 2022 – at a cost of €37.5m.

The Erasmus+ Teacher Academies action aims to create European partnerships and promote cooperation between teacher education institutions and training providers and to improve the support for teachers and strengthen continuous professional development throughout their careers.

The action has a number of interesting features. Many Teacher Academy projects focus principally on creating networks of communities of practice in teacher education; many of them offer teachers' courses, modules, and other opportunities to learn about European Union priorities (such as learning in the digital world, sustainability, equality and inclusion); several Teacher Academy projects concentrate primarily on developing and testing different models of mobility in initial teacher education and continuous professional development to make mobility an integral part of teacher education policies in Europe. A small number are discipline-centred but most are inter-disciplinary, and transversal in their interests. All have commendable objectives, educationally.

It is surprising therefore that the work and activities of these academies has, so far, attracted very little research interest among the teacher education community across Europe.¹

This chapter argues that there is a need to address this situation and suggests some initial step for doing so. We first outline the proposed work and activities of the sixteen most recently launched Teacher Academy projects and consider the opportunities and challenges that researching these could represent to the teacher education research community in Europe. We then discuss two complementary research approaches that members of the community could usefully consider as ways of opening out the academies action for critical scrutiny and learning. These approaches are very different in their modalities and intentions but offer potential insights at a number of levels into the emerging practices and reach of the academies. Our proposition is that they are not exclusively the types of research that could prove helpful here but have the benefit of offering particularly useful starting points for this necessary research.

The chapter's theoretical foundation is based on Menter and Flores' (2021a, 2021b) work on teachers and teacher education. It aligns with their view that

teacher education, professionalism, and research interact dynamically over time and space. This dynamism creates tensions, challenges, paradoxes, and significant geographical variations in how teachers are educated across Europe – initially and in-career. This insight opens up new research possibilities that were previously overlooked.

In this chapter, our intention is to start a wider discussion among the European teacher education community on the Action. We aim to address the need for, and offer a possible line on, research that can address the challenges, opportunities, and potential issues it raises, including the policy implications of this research for future teacher education at European level.

2 The Erasmus+ Teacher Academies Action

2.1 *Background and Intention*

The Erasmus+ Teacher Academies action is designed to fund the development of European partnerships that promote cooperation between teacher education institutions and other training providers in areas that improve the mobility and educational experiences of teachers across the European Union. Through relatively generous funding, the European Commission (EC) set out to support wide-ranging training and education for teachers and to strengthen continuous professional development opportunities across their entire careers, particularly in areas of special interest to the Commission under the European Education Area programme to 2025.

An early briefing paper on the Academies described the intentions and purposes of the action as follows:

Erasmus+ Teacher Academies aim to create European partnerships and promote cooperation between teacher education institutions and training providers. Academies embrace multilingualism, language awareness and cultural diversity. They aim to improve the support for teachers in the early years of the profession and strengthen continuous professional development throughout their careers. (see European Commission, 2022)

The principal objectives of the action can be summarised as: improving teacher education policies and practices, enhancing the European dimension of teacher education, developing models of mobility in teacher education, and establishing sustainable relationships with stakeholders to inform education policies. Specifically, expectations and objectives for the Teacher Academies

action are listed in several early documents²; they call for participation around five areas of activity:

- Improve teacher education policies and practices in Europe through the creation of networks and communities of practice.
- Enhance the European dimension and internationalisation of teacher education through collaboration with educators from other European countries.
- Offer courses and learning opportunities for teachers on key education priorities of the EU.
- Develop and test various models of mobility in teacher education.
- Foster sustainable relationships between education providers and stakeholders to inform teacher education policies at European and national levels.

The range and variety of areas of activity the successful applicant Academies support can be seen in Table 8.1 and the discussion that follows it.

Less evident but necessary to note also are the deep connections of the action to the wider European Commission EEA to 2025 agenda. The Academies are set firmly within this wider policy work and reflect particularly the five designated EEA focus topics: improving quality and equity in education and training; teachers, trainers, and school leaders; digital education; green education; and, the EEA in the world. Noting this is important for a better understanding of the increasing level of EC actions and not-insignificant funding represented by the Academies. As an action, the Teacher Academies can be seen as an unprecedented level of strategic, policy-led intervention into teacher education and training activities and practices across Europe, designed to foster greater collaboration among European Union Member States in building more resilient and inclusive national education and training systems.

This emphasis seems deeply rooted in the system shocks that have recently – and profoundly – impacted teacher education and training arrangements throughout the EU. This includes particularly the disruption caused by the COVID-19 pandemic and, more recently, the return of war to Europe on a scale unseen for eighty years. The first of these has been captured well by Grek and Landri (2021, p. 394) when they note ‘the enormity of the new shock [COVID pandemic] has been incomparable to any of the crises European societies have endured post-war’. The second of these has been well described by Anghel and Jones (2023, p. 766) who observe the further complexity and deeper implications for education policy raised by the war in terms of ‘changes and continuity in the structure and the functioning of the European project’. They note also that in the context of the war as opposed to that of the pandemic, ‘solidarity among Europeans is sometimes more challenging to engineer, and the

TABLE 8.1 Erasmus+ Teacher Academies launched in Spring 2023

Project	Topic	Key features and focus
GEO-Academy	Innovative digital GEO – Tools for enhancing teachers' digital, green, and spatial skills towards an effective STEAM Education for Sustainable Development.	Create a European network offering a comprehensive teacher training and development programme which will provide pre- and in-service teachers opportunities for professional learning and development. Groundwork for a unified framework to foster teachers' pedagogical, digital, green, and spatial skills needed for successful Education for Sustainable Development (ESD).
NBS Academy	A European Academy for integrating Nature-based Solutions (NBS) in teacher education	Create a European community of practice focused on developing and testing new professional learning programmes for improving teachers' competences on education for environmental sustainability. Celebrate cultural diversity and multilingualism by implementing the training programmes via a blended mobility approach.
ContinueUP	Co-constructing the continuum between initial teacher education and continuous professional development	Develop teachers' capacity to benefit from online training opportunities and reduce barriers to take-up such opportunities. A network of ITE and CPD providers that will co-construct and deliver an education and training programme addressing teachers' use of digital tools for professional engagement.
ACADIMIA	European Teachers' Academy for Creative & Inclusive Learning	The use of creative methods of teaching in diverse classrooms, working on the results of previous European initiatives. Develop a Joint Curriculum on the use of Creative methods in diverse classrooms. It will also organise a series of joint teacher training activities.

(cont.)

TABLE 8.1 Erasmus+ Teacher Academies launched in Spring 2023 (cont.)

Project	Topic	Key features and focus
TEAM	Teacher Education Academy for Music. Future-Making, Mobility and Networking in Europe	Reshape initial and ongoing music teacher education (MTE) and school music education (ME) in Europe to meet current needs of music teacher professionalisation, digitisation, intercultural learning, future viability, sustainability, and social coherence.
ACIIS	Academy for creative, innovative and inclusive schools	Establish a network of teacher trainers at pre-service and in-service level, and schools. Promote innovative teaching methods that use drama techniques and drama digital tools to improve and support inclusive education and development.
SciLMi	Meta-Scientific Literacies in the (Mis)Information Age	Create a pan-European Hub consisting of initial and continuous education providers, schools, teacher associations, education authorities, foundations, NGOs, libraries, science centres, etc. Facilitate the integration of meta-scientific literacy skills into the education systems across Europe.
acaSTEMy	Trans-national STEM teacher education focusing on transversal competence and sustainability education	Develop a systemic support structure for high-quality, research-based STEM teacher education from pre-service education to continuing professional development (CPD) that includes mobility as an essential element.
STEAME-ACADEMY	STEAME Teacher Facilitators Academy	Support professional development and build a community of in-service and student teachers. Co-creator sustainable development between teacher education providers that impact the evolution and quality of education in Europe and the continuous professional development of teachers.

(cont.)

TABLE 8.1 Erasmus+ Teacher Academies launched in Spring 2023 (*cont.*)

Project	Topic	Key features and focus
IDEAL Futures	Integrated Digital Educational Leadership for the Future Teaching Academy	Professional development activities and a collaborative digital hub to provide opportunities for educators to develop as future digital educational leaders.
TASC	Social Change through Sustainable Communication in LifeLong Learning in Schools and Society	Provide future and current teachers with sustainable communication skills to become reflective and agile European teachers capable of preventing or eliminating violence, discrimination, polarisation, exclusion and bullying.
XXI-EU-TEACH	21st Century European Teachers	Gain insight into how European teachers can approach and develop teaching in emerging subject areas (technological empowerment, sustainable learning, entrepreneurship, playful learning) that arise as a result of large complex upheavals affecting society.
TEFF Academy	Teacher Education for a Future in Flux	Create a framework that combines digital, green, diversity & inclusion and well-being skills with a European dimension to equip teachers and enrich teacher education for a future in flux.
SENSEI	School EducatioN for Sustainable and Equal Inclusion	Develop a module for initial teacher training and a hybrid international continued professional development course that help in- and pre-service teachers make the (history) classroom experience more meaningful, motivating, and inclusive for all students.
SYNAPSES	Establishing Teacher Education Networks and Communities of Practice on Teaching for Sustainability Citizenship	Critically investigate how a vision of how pre-service and in-service programmes on teaching for Sustainability Citizenship (sc) can be interrelated and enriched to develop a joint offering with a significant European dimension.

(cont.)

TABLE 8.1 Erasmus+ Teacher Academies launched in Spring 2023 (*cont.*)

Project	Topic	Key features and focus
EQui-T	European quality development system for inclusive education and teacher training	Enhance high quality teaching in an inclusive European context by enabling teacher trainers and pre- and in-service teachers to identify, create and share high-quality inclusive teaching materials in the form of open inclusive educational resources (OIER), and promote transnational collaboration and exchange of good practices.

requirements to make the overall project more resilient can point in different directions' (Anghel & Jones, 2023, p. 766).

We will return to these points later. For now, it is enough to note that EU-level crisis response led to increasingly urgent – and unprecedented – policy action to foster collaboration among European Union Member States around building more resilient and inclusive national education and training systems. The Lisbon Agenda has long been recognised as a turning point in relation to EU education policy and activity (Ertl, 2006). However, these recent disruptions have challenged one of the foundational principles of the entire European project: the importance to teacher education of people and ideas flowing freely within Europe, which has long been a core aspect of that project (Grek & Landri, 2021, p. 394). This urgency has led to increased policy efforts to mitigate and 'build back better' under the *NextGenerationEU* programme in parallel with the *EEA Agenda* and thus to the Commission's focus on expanding cooperation and coordination of teacher education through the Academies projects.

2.2 *Teacher Academy Projects*

Table 8.1 provides a summary of the complex range of topics and approaches represented by the sixteen Erasmus+ Teacher Academy projects launched in March 2023. It offers a short but useful reading of the information at hand on each project and provides a reference point for the further discussion.

In Table 8.1 we have focussed on the broad topic areas represented by the projects and tried to bring out the key features of each individual project – drawing mainly on their own words and on descriptions by the EC of their planned activities and intentions.³ It is difficult to do justice to the full range of

each project in a short treatment such as this, but the summary notes provided attempt to frame – at a minimum – the project’s objectives and its underlying intentions, which both reflect and can be expected to critically and significantly influence the project’s work and activities as it proceeds.

It is not proposed to do a detailed comparative study of these projects here as that is not the purpose of the presented considerations in this chapter. Instead, a short well-directed comparative analysis that focuses on a number of determining features of the projects – such as goals, approaches, and intended outcomes across the Academies’ diverse activities – is sufficient for our purposes. This helped us develop a reasonable understanding of the complexities and considerations involved in researching these and similar projects and particularly of the challenges they pose for researching those key aspects of teacher education and its changing modalities that the projects represent.

Three useful threads emerged from an *interrogative reading* (see Braun & Clarke, 2022a, 2022b) of the project specifications. They allowed us to develop the following lines of consideration when reflecting on the research opportunities and challenges presented by the Academies; the underpinning and determining purposes of the projects; approaches and designs adopted; and frameworks and conceptual models used in and by the projects. Each is now considered in turn.

2.2.1 Underpinning Intentions and Purposes

All of the Teacher Academies project studied arguably address important aspects in teacher education and have a variety of implications for the field and for researching it. In terms of the intentions and purpose underpinning the projects a number of trends emerge.

Policy advocacy is a key focus for several Academies including ACIIS, acaSTEMy, TEAM, and EQuI-T. These projects propose actively to produce policy briefs, curricular policy papers, and user-ready guidelines. Their objectives include advocating for high-quality education, inclusive teaching strategies, and sustainable communication, ultimately with the intention of influencing educational policies at both national and European levels.

Many of the projects recognise and prioritise the celebration of cultural diversity and multilingualism – most notably, perhaps, the GEO-Academy and NBS Academy. By incorporating specific aspects that work with languages such as English, German, Portuguese, Greek, Bulgarian, and French, these projects emphasise the importance of embracing and valuing diverse cultures and languages within educational settings.

Almost all the projects aim to provide accessible toolkits and materials for use in various ways and at various levels within European educational

institutions and broader societal settings. Some are more disciplinary and niche than others – for instance GEO-Academy frames much of its proposed work around GIS, Remote Sensing and Earth Observation; and TEAM focuses on open educational resources relating to evidence-based future-making music. Others are more expansive in their approach. TEFF Academy is concerned with resources and spaces – many beyond typical school settings – such as makerspaces and urban laboratories in addition to more traditional lecture series and module materials. By doing so, all seek to contribute to the enhancement of teacher education practices by offering practical resources and pedagogical approaches that can be readily utilised and are often ECTS-aligned – an important factor in possible future adoption of the resource in higher education settings.

Where teacher education research is concerned, projects like these raise various and interesting research challenges. Firstly, Academies that present as strongly invested in their policy advocacy aspect presents challenges in establishing if and to what extent they effectively end up influencing educational policies at either or both national and European levels. It requires comprehensive research to produce policy briefs, curricular policy papers, and guidelines that promote high-quality education, inclusive teaching strategies, and sustainable communication: it requires equally complex and multi-layered research to capture policy effect. As Andrews (2022, p. 1) notes it is difficult to define what success looks like, and thus how to manage towards success. Both need thought and attention in researching an action like the Teacher Academies.

Secondly, the consideration of project attainments and impacts in relation to multilingualism and cultural diversity presents challenges for research in terms of understanding the complexities of embracing diverse languages and cultures within educational contexts. Research efforts are needed to explore effective strategies for celebrating and incorporating multiple languages and cultural backgrounds. This is challenging on a number of levels. At the most basic it raises the type of dilemma Cherng and Davis (2019) refer to in their work on multicultural awareness among preservice candidates and links between multicultural awareness and prospective teachers' understanding in the area – when, essentially, many do not even realise their own shortcoming in this area, let alone respond readily to intervention. In a context where many parts of Europe are facing increased political populism and rising tensions around culture and cultural practices, this could be particularly problematic to gauge.

Lastly, the development of accessible toolkits and materials for European educational institutions requires deep understanding of the needs of educators

and learners, as well as the technical and pedagogical expertise to design practical resources that can enhance teaching education practices. Undoubtedly, the projects have the breadth and depth of expertise at their disposal to engage this complex action. However, researching the nature, impact and potential legacy of such activities and the longer-term potential of even the best of resources materials could be difficult to do well; and gauging social impact (a feature of the intended work of several of the projects) can be particularly difficult given the underdeveloped nature of both theoretical and empirical grounds for such work (Rawhouser, Cummings, & Newbert, 2019, p. 82).

In short, while the Teacher Academy projects collectively will undoubtedly contribute to advancing teacher education by advocating for policy change, valuing cultural diversity and multilingualism, and providing valuable resources that support teacher educators in their work and teachers at various stages of their professional growth, they also raise a number of substantive questions and issues for researching their nature and the details of their impacts.

2.2.2 Approaches and Designs Adopted by the Projects

The projects employ various approaches and designs to advance their individual agendas and drive positive developments in their fields of activity. There are a number of common features to this as well as some interesting variations in emphasis. Almost all prioritise collaborative learning within the Academy experience, this includes fostering peer learning, mutual exchange of expertise, and the co-creation of knowledge among educators. For instance, IDEAL Futures centres much of its work around a collaborative digital hub, and EQuiT plans to promote transnational collaboration and exchange of good practices within its work open inclusive educational resources (OIER). Almost inevitably, the academies propose communities of practice or inquiry as central vehicles in improving the effectiveness and sharing of teacher education experiences. Some, such as XXI-EU-TEACH, see this as a way to build insight into how serving European teachers can approach and develop teaching in newer and emerging subject areas. Others, such as the STEAME-ACADEMY see their proposed communities as spaces in-service and student teachers meet and learn one from the other about their common challenges and opportunities at their stage of development as teachers. The NBS Academy uniquely bases their proposed community on plans to develop and test new professional learning programmes to improve teachers' competences in the niche area of Nature-based Solutions (NBS), essentially, a community of course designers and developers.

Collaborative networks and multi-level partnerships are frequently mentioned in academy proposals as a means of bringing together multiple and

various stakeholders such as universities, teacher professional development providers, policy makers, and technology providers. All of this resonates with the detail of the call, of course. But as articulated and proposed by the academies, there is a particular emphasis on establishing robust networks that could facilitate the exchange of good practices and provide opportunities to leverage what Bernay, Stringer, Milne, and Jhagroo (2020) have described as successful strategies for partnership that can provide professional development for all partners, offer a potential avenue for joint research activity, and act as a platform to enhance participating teachers' technical and professional preparedness. SYNAPSES offers a good example of this – with the centrality it places on the idea that such a network can be instrumental in developing, interrelating, and enriching jointly offered programmes in Sustainability Citizenship (SC) with a significant European dimension. ACADIMIA, in a more pragmatic sense, perhaps, focuses on the uses of networks to engage beyond the teacher education institution and facilitate the kinds of strategic cooperation helpful to ensure sustainability of the academy in the longer term. Others such as ContinueUP and IDEAL Futures also emphasise the value of collaborative networks to allow teacher educators to engage more (and more effectively) with the wider education and technology sectors so that their aims can be achieved through innovative and creative collaborations.

This range of approaches and design among the Academies raises a number of interesting possibilities as well as challenges in terms of teacher education research. Firstly, the emphasis many of the listed projects place on collaborative learning and co-constructive experiences within academy events raises the challenge of researching the true nature, precise scale, and the efficacy of academy activity in fostering peer learning, facilitating mutual exchange of expertise, and co-creating knowledge among educators. The complexity of such activities is clear from work such as that by Häkkinen et al. (2017) in their work within PREP 21 on the knowledge and skills required to support collaborative learning. Similarly, more recent work by Vuopala, Näykki, Isohätälä, and Järvelä (2019) points to the challenges of identifying and assessing the deeper aspects of strong collaborative and co-created learning. Getting it right promises considerable benefits but could prove exceptionally challenging.

Research will also be needed to explore the effectiveness of the academies' strategies and methods to cultivate their communities of practice. Again, this could prove to be far from straightforward. Models exist for this – such as Gauthier's (2016) work on communities with higher education, and McLaughlin's (2019) case study which may be more applicable to wholly/partly on-line communities – nevertheless the challenge of identifying and capturing what Wenger and Wenger-Trayner (2020) describe as value creation

in social learning spaces and communities remains formidable. Additionally, the focus on collaboration and networking characterising the approach of most academies on the list requires research to understand how they successfully bring together various stakeholders, including universities, teacher professional development providers, policy makers, and technology providers. This will involve investigating issues and practices such as the mechanisms for establishing robust networks, facilitating transnational collaboration, and facilitating the meaningful exchange of good practices with the academy. It may also involve researching how the academies articulate and iterate strategic cooperation with authorities and stakeholders to ensure the efficiency of their projects. The work of MacDonald et al. (2022) could prove useful here – particularly given the focus of several academies on sustainability, future viability, and social coherence. The work of Lea Fobbe (2020) on analysing and understanding collaborative practices in relation to sustainability and social change can be useful as well. Again, however, the methodology required for such research is not generally well developed or widely practised in teacher education research within Europe.

2.2.3 Frameworks and Conceptual Modelling

Frameworks and conceptual modelling feature centrally in the descriptions of the Teacher Academy projects. This is also the area where the projects show the most diversity and divergence. Conceptual models of various types are used to depict the proposed workflows, sequences of activities, and the organisation of project resources into the processes and tasklines that make up the projects. Thus, the modelling used to unpin planned academy work is complex, dynamic, and contains a high degree of variation. In part, this reflects the guidelines, templates and requirements of the application process but it may also reflect the nature and the range of topics and themes embraced by the various academies.

Unsurprisingly, all of the academies address foundational processes and aspects of teacher education and professional development – primarily through foregrounding the enhancement of teachers' skills, knowledge, and competencies – and the power of European collaboration and networks that prioritise transnational approaches; and building communities and systems for sharing novel and engaging learning and teaching practices. However, there are multiple modes and models embedded in the approaches that academies propose. Several emphasise the need for innovation and creativity in teacher education – particularly in the integration of digital tools, promoting creative and inclusive learning spaces and opportunities, and fostering creativity among teachers and student teachers. For instance, ACIIS Academy emphasises the

use of digital drama tools and creative teaching fairs to share good practice and raise awareness, TEF Academy places makerspaces and urban laboratories at the core of its work, and ContinueUP is proposing to co-construct and provide a novel and multimodal education and training programme addressing student teachers and teachers' use of digital tools for professional engagement and development.

The importance of lifelong learning and the equipment of teachers with 21st-century skills is another widely shared area of interest. Many of the Academies are built around models of change and professional learning that prioritise the need for teachers to adapt and readapt to an uncertain future and develop the necessary skills to meet the challenges and demands of the modern world. TEF Academy and XXI-EU-TEACH Academy are prime examples of this. Digital integration and educational leadership are seen to play a crucial role in preparing teachers for this digital age. IDEAL Futures Academy emphasises learning for leadership in this. The proposed work of NBS Academy and ContinueUP Academy is characterised by building capacity to adopt to changing environments and opportunities through thoughtful integration of digital tools, and integrating use of online technology into future teaching practices.

Concerns for inclusivity and equity also feature prominently across the projects. ACADIMIA, ACIIS, and EQuI-T all feature the term 'inclusion' in their full project titles and virtually all of the Academies address this area in some way – perhaps by emphasising inclusive teaching strategies within their programmes and/or including plans for creating and sharing high-quality inclusive teaching and learning materials.

Several academies also foreground the importance of teacher education and development with regard to critical thinking and scientific literacy, seeing these as essential competencies in the (mis)information age. SciLMi Academy proposes to constitute a pan-European Hub that will facilitate the integration of meta-scientific literacy skills into education systems across Europe in order to encouraged participants to develop the skills to navigate and critically evaluate information, and the pedagogies to teacher this so ensuring that they and their students can discern reliable sources and make informed decisions. Similarly, by integrating multiple aspects of critical thinking and scientific literacy into its offerings, TASC Academy proposes to equip participating teachers with the sustainable communication skills to become reflective and agile European teachers.

The development /enhancement of various frameworks also plays a significant role in the plans of several of the Erasmus+ Teacher Academies. GEO-Academy proposes to lay the groundwork for a unified framework to foster teachers' pedagogical, digital, green, and spatial skills needed for Education

for Sustainable Development. This appears to be essentially technical and strongly directed on building effective STEAM Education offerings. The acaSTEMy Academy focuses also on building a framework through its activities; in this case concentrated on articulating a policy framework for purposeful and systematic teacher mobility along lines that can inform broader science education policies at national and European levels. The STEAME-ACADEMY proposes to develop a STEAME Teacher Facilitators Competence Framework for student and serving teachers, which will be promoted through its learning modules, workshop, and webinars and consolidated via an International Sharing Observatory. Through its makerspaces and urban laboratories, the TEF Academy proposes to create a framework that combines digital, green, diversity & inclusion, and well-being skills with a strong European dimension. Although not immediately evident in most cases, these are essentially proposals for competence and/or capability centred frameworks in the tradition of many such frameworks that have emerged under the European Commission's New skills agenda for Europe: working together to strengthen human capital, employability and competitiveness (EU COM (2016) 381). They prioritise the development of future-oriented skills and competencies among teachers and teacher educators and principally propose to equip academy participants with transversal competencies, digital skills, and inclusive teaching strategies that are seen as essential for navigating the challenges of the future. In summary, the various frameworks proposed by the academies place emphasis on critical engagement with technical capability, socio-scientific issues, reflection, agility, and sustainability.

Modalities of learning and the exploration of spaces – both virtual and physical – within which to facilitate professional development are also key features of several of the projects listed. A wide range of training modalities is evident in the proposals. These include online, physical, and blended approaches – essentially providing flexibility and seeking to accommodate diverse learning preferences and patterns of availability. For instance, NBS Academy and ContinueUP both propose to build better opportunities for participants by reducing barriers to online training and putting considerable emphasis on facilitating mobility experiences for educators and teacher educators alike. By incorporating these modalities into their proposed work, the projects – and several others – aim to advance teacher education by fostering more opportunities for continuous professional development, and increasing uptake through accessible and innovative training approaches.

In terms of frameworks and conceptual modelling, the Erasmus+ Teacher Academies offer a number of research opportunities and significant potential.

There is considerable scope to investigate how the various academies pursue the development of future-oriented skills and competencies among teacher educators. Ludwikowska's (2019) work on competence inventories and how to investigate such learning in a higher education context could provide a novel way into this which is also transferable to academies and their work – particularly as it can assist investigating the impact of developing transversal competencies, digital skills, and inclusive teaching strategies on emerging competence as detailed in project outcomes. Additionally, research can delve into the projects' practices on promoting critical engagement with socio-scientific issues, fostering reflection, agility, and sustainability in teacher education programmes. These are all areas of considerable interest to members of the teacher education profession across Europe.

Recent work by researchers such as Ceyhan, Lombardi, and Saribas (2021) points to the importance of this not only for science education but also for areas such as teaching for sustainability where evidential thinking is particularly beneficial. Gorski and Dalton (2020) provide useful ways into this aspect of Academy work – given the social justice and cultural dimensions of their activities – with research lines such as that of Körkkö (2016) also suggesting the professional and technical benefits of reflection to teacher education and the value of researching this methodologically.

Moreover, the listed projects offer an opportunity to study the training methods used by the different Academies. They could allow us to explore the relevance, effectiveness, and challenges of online, physical, and blended approaches and the emerging impacts of these on building teacher capacity. Creely, Henriksen, and Henderson (2022) see this type of research as an opportunity to consider hybrid forms of education that reflect newer realities which emphasise more the effective use of technologies to mediate learning. Additionally, there is scope to explore how these modalities address barriers to online training and facilitate mobility experiences for educators – a key challenge to teacher education throughout Europe (see: Teach with Erasmus+ Research Report, 2020). Furthermore, researching the integration of frameworks and conceptual models employed by the Academies could enhance our critical understanding of how the implementation and impact of these frameworks and models influence the possibilities and benefits of teacher education programmes, both initial and in-service. This could for example involve examination of how these frameworks are incorporated into teacher education curriculum design, instructional practices, and assessment strategies in line with calls in this area by researchers such as Caena and Redecker (2019) and Cabero-Almenara (2020) among many others.

3 The Value Proposition of Researching the Erasmus+ Teacher Academies Action: Affordances and Potential Approaches

The Erasmus+ Teacher Academies Action offers a unique, once-off window of opportunity for research into a widely-cast exercise in how teachers are educated and trained in Europe. Arguments for the value of researching what we do as teacher educators are well rehearsed elsewhere and do not need to be repeated in any depth here – see for example Menter (2023), Madalinska-Michalak (2023), inter alia. Essentially, systematic and ethical research into our practices and the principles on which they rest is indispensable for improving the quality of teacher preparation, enhancing teacher development practices, and ultimately ensuring that the teachers we educate are well-prepared to meet the needs of learners in the contemporary and ever-changing educational landscape.

The professional value of this can be summarised as systemic and individual teacher educator benefits that include:

- *Quality in programme and course activity*: research evaluates and improves the quality of teacher education programmes, helping to ensure that what we provide is fit for purpose in the many and challenging contexts that contemporary teacher education needs to embrace. This can usefully assist in the adoption of evidence-informed instructional strategies and practices.
- *Teacher educator professional development*: research with a well-articulated focus on reflective professionalism informs effective models of continuous professional development for us as teacher educators. Arguably, an area that busy lives can too readily squeezed out.
- *Responsiveness to changing needs among professional teachers*: it has become particularly evident in recent times that teacher education needs to address rapidly changing educational needs and expectations across Europe's school systems and to prepare teachers accordingly. This would seem especially important in light of the policy discourse emerging around the notion of permacrisis (Fabbrini et al., 2023) in European social policy including education and by extension teacher education.
- *The opportunities and potential offered by international collaborations*: research that involves international partnerships greatly facilitates collaboration and learning from different European countries' experiences and systems, and it is interesting to note that the percentage of European academics in general collaborating internationally in research (63.8%) is very high (Kwiek, 2017, p. 137). This type of work has historically been very much at the heart of Council of Europe and European Union teacher education actions and projects and has been formative for teacher education across

the continent. As Darling-Hammond (2017) notes this allows researchers to comparatively evaluate challenges countries face in transforming their teacher development systems. This facilitates work that bring together diverse perspectives, allows for leveraging of shared resources, and can extend the relevance and impact of the research. Essentially, international collaborations can enable researchers to address complex issues more effectively, fostering innovation, knowledge exchange, and engage European cooperation in finding solutions to pressing practice and programme challenges in teacher education. These can involve the sorts of learning Davis (2020) calls for when she suggests that we increasingly face teacher education issues in the context of education generally becoming global, with learning and teaching technologies – when well used – increasing access to education including teacher education on a global scale, and that this more global view can enhance teacher education through the provision of rich and stimulating contexts for critical reflection.

It is clear from the previous section that the proposed work of the Erasmus+ Teacher Academies aligns closely with opportunities for teacher education research that can lead to improvement in the quality of teacher preparation across Europe, as outlined above. However, the range of topics and variety of teacher education issues the Academies address would suggest that using a mix of qualitative and quantitative research approaches offers the best option for research directed on a comprehensive, nuanced, and robust assessment of the Academies and their activities. By combining the strengths of both approaches, teacher education researchers can investigate a project from multiple viewpoints, and so gain a deeper understanding of the activities and arrangements of the projects – capturing participant and partner perspectives, opinions, and voices, as well as gauging real-world relevance and emerging impacts. This design would make use of qualitative research's strengths in exploring individual experiences and perceptions, and the social dynamics of academy events – so providing detailed narratives and a rich contextual understanding of the project. In addition, quantitative methods could be used to collect ordinal data to enable statistical analyses and the exploration of measurable indicators of value. This integrative approach would enhance the overall usefulness as well as the technical quality and validity of the research; and indeed, strong integration is precisely what helps researchers maximise the value of this powerful methodology to achieve what Bazeley (2017) describes as a more comprehensive and rigorous level of analysis and so lead to a more informed and rounded understanding of the value generated by the Academy.

3.1 *Two Modalities of Research*

Two approaches to researching work on the scale and complexity of the Erasmus+ Teacher Academy projects are outlined below. They are very different in their underpinning theoretical and conceptual nature, their modalities of working and their intentions. However, they offer potentially powerful and otherwise difficult to attain insights at a number of levels into the emerging practices and reach of the academies. Our proposition is that while these are not exclusively the types of research that could prove helpful to the teacher educator community when considering the challenges, opportunities, and potential issues the Academies raise – including for future Teacher Education policy at European level, they can offer researchers from differing research methods and approaches invaluable starting points for purposive and informative research.

3.1.1 The Data Sprint Approach to Research: An Interdisciplinary Methodology for the Study of Experiments, Protocols, and Knowledge-Building

From any analysis of developments and trends in leading-edge research, it is increasingly clear that research is more and more characterised by interdisciplinarity and that disciplinary boundaries are shifting substantively (Lury, 2018). In response to this there have been increasingly diverse approaches based in or on the notion of interdisciplinarity. Of these, one of the potentially most valuable to us as regards teacher education within the Erasmus+ Teacher Academy action may data sprinting (Venturini et al., 2018).

Data sprinting has its origins in the barcamp or hackathon approach. Venturini, Munk, and Meunier are generally credited with coining the term to describe their work on open approaches to digital research; although it has a history reaching further back in terms of interdisciplinary work and research. What is important here, is the notion that unlike hackatons and barcams with their essentially technical focuses, data sprints focus on social, cultural and media projects (Omena et al., 2022, p. 8). Drawing on Venturini et al. (2018), and on the more recent extension of the approach to education by Omena (2022) and colleagues, we propose the data sprint approach offers in particular the following value and strengths for research into the Teacher Academies action:

- *The heterogeneity of those that can be directly involved:* data sprinting allows for a wide range of expertise to be applied to accomplish research analysis. This can accommodate the various skills needed to make sense of data relating to all phases of a project. And indeed, a particular valuable feature of sprints is that they encourage co-participation amongst participants of

different expertise and career levels. Additionally, the presence of potential end users during the process can encourage valuable exchanges.

- *The encouragements associated with unity of location and set limits on time*: data sprints can offer a solution to the scattered efforts often seen in attempting to analyse international and interdisciplinary research projects by providing a purposively demarcated time and place for collaboration. They are by design time-limited and project-oriented. As Venturini et al. (2018) note, working across disciplines can lead to misunderstandings, but direct presence and face-to-face interactions can mitigate these issues better than remote technologies. Additionally, sprint events can prioritise practicality over exhaustive research analysis, allowing for adopting a ‘design to cost’ approach that could greatly benefit the analysis of large and complex data sets relating to an Academy and its activities.

The cost-to-benefit elements of this type of research evaluation include the long and often intense work of preparation for a data sprint. Core within this is the need to ensure in advance that the research group has within itself all the research competences needed to achieve significant results from the investment of time and effort required. Data preparation (and, if necessary, cleaning) as well as systematic framing of the conceptual and analytical design to underscore the event, can be substantive work and needs to be completed in advance.

We would see research in a data-sprint approach proving suitable across all three lines of consideration identified through our initial *interrogative reading* for this chapter. These are: the underpinning and determining purposes of the Erasmus+ Teacher Academy projects; the approaches and designs adopted; and the frameworks and conceptual models used in and by the projects.

3.1.2 The (Reflexive) Thematic Approach to Research: Developing Insights through Deliberative Reflective Exploration

Virginia Braun and Victoria Clarke’s Reflexive Thematic Approach to research is primarily a qualitative research method and, as proposed by them, part of a wider family of methods rather than a singular method (2022a, p. 2) in itself. Published initially in 2006, their approach has become one of the most thoroughly delineated methods of conducting thematic analysis (Byrne, 2022, p. 1391), and is now widely used across the social and education sciences. Although a very considerable amount of helpful clarification and correction on the approach has followed the original publication, Braun and Clarke’s (2022b) essentially six-phase analysis remains at the core of their proposition and can be readily applied to even the most challenging of research topics and

contexts. Drawing from commentaries and publications of Braun and Clarke (2022a, 2022b) on their approach, and additionally on a description of the reflective thematic approach in practical applications by Byrne (2023), and a detailed analysis of its use and relevance by Terry and Hayfield (2020), we would note the following value and strengths of reflexive thematic analysis for researching the Teacher Academies action:

- *Flexibility and accessibility coupled with theoretical rigour.* Reflexive thematic analysis offers teacher education researchers theoretically flexibility in qualitative data analysis within stand-alone work or as an integrated aspect or a more expansive mixed design. It facilitates a powerful but easily understood and adaptable means to identify and analyse patterns and themes within a dataset – drawing out valuable cross-references between the data and any evolving themes. Reflexive thematic analysis' rigour is based in its underlying research values and strong philosophical underpinning – articulated in and through a highly detailed coding reliability approaches, a unique code-book approach, and the deliberative reflexive on which the whole design rests. Notwithstanding the sophistication of this, its user-friendly nature makes reflexive thematic analysis accessible to researchers from diverse backgrounds, while its theoretical flexibility allows for truly nuanced exploration of complex phenomena.
- *The active and agentic role of the researcher.* Reflexive thematic analysis distinguishes itself from other approaches to 'theming' and indeed other modes of qualitative research by emphasising the active character of the researcher and their agentic role in deriving and promoting rich interpretations of the data. As Terry and Hayfield (2020, p. 432) note, 'reflexive thematic analysis places emphasis on the reflexivity of the researcher, theoretical independence/flexibility (without being atheoretical), and the guiding presence of the research question' – all attributes with powerful relevance for teacher education research given the social learning, ethically-informed, and culturally directed nature of the activity. Unlike many more rigid methods, reflexive thematic analysis recognises the subjective nature of interpretation and encourages researchers to embrace their unique perspectives on the ongoing research and its purposes; rooting this in what Braun and Clarke (2022a) describe as the idea of the 'knowing' reflexive thematic researcher. That is a researcher who among other qualities will recognise and embrace the plurality of thematic analysis, act on (and for) their research values, prioritise the research question and the methodological coherence of their responses accordingly, and – above all – pursue the quality standards and practices they use in ways that cohere with the spirit of the reflexive thematic approach and its underlying theoretical assumptions

(Braun & Clarke, 2022a, pp. 4–5). By prioritising the researcher’s involvement in knowledge production in this way, the reflexive thematic approach fosters a deliberative and reflexive process that values creativity and subjective insights so leading to deeper understandings of the data. Additionally, RTA’s organic coding process allows for the emergence of themes as well as accommodating if necessary what Saldaña (2021) describes as *provisional* or *pre-set* coding, enabling researchers to capture more comprehensively the intricate nuances of the dataset with an emphasis primarily on achieving richer interpretations of meaning.

Some of the more challenging aspects of using reflexive thematic analysis to research Erasmus+ teacher Academies would include the possibility – identified by many practitioners including Braun & Clarke themselves – of methodological incoherence emerging when less practiced researchers seek to draw on concepts and procedures from the more technically complex aspects of the approach. For instance, reflexive thematic analysis aims to provide rich, context-specific insights rather than immediately generalizable findings. However, striking a balance between, say, capturing the unique context of a specific teacher academy and its work and making broader claims regarding this could be challenging. Teacher education researchers would need to carefully navigate this tension, considering the transferability of findings and providing sufficient contextual information for readers to understand the study’s applicability. In a sense, this is a classic qualitative research concern in any case and can be successfully navigated with the proper attention. Terry & Hayfield (2020, p. 27) suggest one way to do this is ‘ever-increasing engagement with the data through the lens of a researcher’s theoretical perspective ensures rigour and quality in analysis’. Other challenges to high quality reflexive thematic analysis could include data volume and complexity, the inevitable time and resource that can emerge, and uncontrolled bias or over investment in certain perspectives and readings of teacher education activity with the academies range of action. However, ensuring that we adopt rigorous and ethical thematic analytical practices, engage in reflexive thinking and deliberation at all stages of the work, and seek always to demonstrate transparency in our research decision-making processes can help mitigate these and similar challenges.

We would propose reflexive thematic analysis as a valuable complement and supplement to the data-sprint type work suggested earlier. The value it adds is to bring a more holistic and expanded scope to the research agenda, one leveraging complementary strengths and traditions to offer richer and more powerful research analysis that would prove relevant for the project partners and participants, the funders of the Erasmus+ Teacher Academies action,

and to the future activities of those who work and research within the teacher education community across Europe.

4 Some Closing Observations on the Value of Researching the Erasmus+ Teacher Academies Action

The intention of the chapter was to open a wider discussion within the European teacher education community on the Erasmus+ Teacher Academy Action. We set out to consider the need for research that can address the multiple challenges, opportunities, and potential issues the Action raises – including its policy implications for future teacher education at European level.

As part of this deliberation we put forward an argument for the types of research that might best meet the challenges and opportunities arising from this exciting and significant initiative. Ideally, this would centre on a principled and integrative design that draws on a judicious mix of qualitative and quantitative research approaches to offer the best option for research directed on a comprehensive, nuanced, and robust assessment of the Academies and their activities.

We are firmly of the view that by combining the strengths of both approaches, teacher education researchers can investigate the various projects within the Erasmus+ Teacher Academies action from multiple viewpoints, and so gain that deeper understanding of the activities and arrangements of the projects that is essential to getting maximum value from this unique and potentially definitive initiative in teacher education across Europe.

There will be no shortage of potential data sources for such research. In line with the requirements of their funding, every Erasmus+ Teacher Academies project will produce a veritable trove of event reports, published resources and materials, concept and discussion papers, and detailed project reports – both interim and final. In addition, there will be an inevitable and exciting surge in technical and academic papers coming out of the projects as they develop.

The task for us as teacher education researchers is to find ways to access and learn from all of this so as to guide a deep remake of our field and very probably transform substantive aspects of current arrangements and practices with European teacher education, training, and development. The true challenge will be to ensure that the research culture which emerges around the Erasmus+ Teacher Academies action moves substantively beyond the Monitoring, Evaluation & Learning (MLE) type of project closeout activity beloved of policy makers and funding agencies.

There are already multiple fascinating examples emerging anecdotally of Erasmus+ Teacher Academies projects engaging in what may be seen as grass-roots policy action, with teachers, other stakeholders, and teacher educators getting together to respond to the opportunity from a ‘bottom up’ (Trippstad et al., 2022) perspective on rethinking and remaking teacher education. As Sabatier (1986, p. 22) has argued, ‘Rather than start with a policy decision, these ‘bottom-uppers’ start(ed) with an analysis of the multitude of actors who interact at the operational (local) level on a particular problem or issue.’ The Erasmus+ Teacher Academies projects offer that opportunity in ways not previously possible. It would be a pity if this once-in-a-lifetime opportunity to conduct research on teacher education so as to enable the teacher education community to learn from a coordinated and comprehensive action and catalysing such innovative and reimagined approaches was allowed to pass unavailed-of and wasted.

To close the considerations presented in this chapter, we would make two final observations: First, the spirit and potential of the Erasmus+ Teacher Academies is well captured in a line taken from the description of the XXI-EU-TEACH Academy project, which notes the power of the opportunity being presented to gain insight into how European teachers can approach and develop their teaching in emerging subjects such as technological empowerment, sustainable learning, entrepreneurship, playful learning. This opportunity arises as a result of complex and large-scale upheavals affecting society – and, by extension, gives us as teacher educators the opportunity to learn and reposition ourselves. To borrow from Mauri et al. (2019), such complex and often ill-defined problems call unquestionably for research where it is challenging to define an initial design brief and that requires multi-disciplinary effort and expert knowledge to address the issues involved. The opportunity here is to meet this as a teacher education research and practice community – including those who work on policy.

Second, we have argued that there is an urgent need to develop integrative, multi-participant research evaluation that draws in the full range of policy and practice community stakeholders at all levels – and we have proposed one possible approach to the design of such research. However, we fully acknowledge and appreciate that there are both the pragmatic requirements of the European Commission as the principal sponsors and funders of the Erasmus+ Teacher Academies action and the interests and possible benefits to the teacher education and development community across Europe to be accommodated in meeting this opportunity well. As a way of deliberating on striking this balance, we propose the value of adopting a stance based in The EU

TUNING principles, restated by CALOHEE Project/International Tuning Academy (2018). As the authors of that report note, ongoing work on TUNING Educational Structures in Europe reflects the idea that universities do not look for uniformity in their degree programmes or any sort of unified, prescriptive, or definitive European curricula, but rather for points of reference, convergence, and common understanding. This, they argue, accommodates the protection of the rich diversity of European education and accommodates the independence of academic and subject specific specialists as well as local and national academic authority. Adopting this expansive view of revision as a design principal would, we believe, greatly enhance the value and authority of teacher education research emerging from the Erasmus+ Teacher Academies action.

Notes

- 1 In the context of research and preparation for this chapter, only one substantive piece of ongoing research on the Action could be identified. The Hertie School, Berlin, convened an event in December 2022 bringing together partners from a number of the inaugural Teacher Academies, EC policy officers from the EEA programme, and science researchers working in the Hertie School's governance and public administration tradition. Preliminary findings from the research behind this are expected to be published in the late-summer of 2023.
- 2 See for example under the *Partnerships for Excellence* section of the ERASMUS+ Handbook 2022; <https://erasmus-plus.ec.europa.eu/programme-guide/part-a>
- 3 See Commission Press release and Erasmus+ Teacher Academy Information pages, which can be accessed here: <https://education.ec.europa.eu/news/16-new-erasmus-teacher-academies-to-promote-excellence-in-teacher-education-in-europe>.

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Weaving Practice, Research and Policymaking into Teachers' Preparation and Induction in Israel

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Abstract

Policies based on research is a desired, but difficult to achieve goal. The current study explores cases in which collaboration between teacher educators who engage in research, and teacher education policymakers led to policy changes.

This is a multiple-case study. It presents four research projects that were conducted within three areas: (1) Mentor teachers' preparation; (2) Training and inducting former high-tech employees as high school teachers; and (3) Integrating teachers of Ethiopian descent into the Israeli education system. The study was conducted at the MOFET Institute, a nonprofit organisation established by the Israeli Ministry of Education to perform research and develop programs in teacher education.

Results: The research projects we examined were conducted within broader frameworks of ongoing collaboration between policymakers and teacher educators. The frameworks were established long before the projects were launched, and gradually built mutual trust. Policymakers were informed about, and welcomed the research projects and saw their potential contribution to future policies. Moreover, they were open to diverse research methods. The changes induced by the research projects were incremental yet significant, gradually transforming teacher education in Israel. MOFET's status as an inter-institutional body was crucial in developing the frameworks of collaboration and supporting studies that transform teacher education policies.

Keywords

teacher education research – policymakers – initial teacher education – teacher induction – professional development – communities of practice

1 Introduction

Policymaking in teacher education is a highly-contested area in which different stakeholders attempt to convince policymakers to introduce policy changes that are in line with their beliefs and interests. For example, in some countries such as the US, England and India, private entrepreneurs have successfully campaigned against traditional, higher education based teacher education, and in favour of alternative, privately funded certification routes. In such campaigns, research is often cited to support the claim that graduates of alternative routes are equally successful as teachers as those who studied in academic institutions. The measure of success is students' achievements in standardised tests (Aydarova & Berliner, 2018; Ball, 2017; Vanassche et al., 2019). Opponents of this neoliberal trend believe that teacher educators need to educate teachers to be reflective professionals who strive to provide high quality education to all students and empower marginalised groups. In order to assume professional responsibility over teacher education and influence relevant policies, these opponents believe that teacher educators need to form strong professional organisations, raise public awareness about the issues at stake, collaborate with social organisations, and ally with policymakers (Aydarova & Berliner, 2018; Cochran-Smith, 2021; Vanassche et al., 2019). The 'battle' around neoliberalism in teacher education is only one of a multitude of tensions in this field. As Ball (2015) points out, it is not always possible to determine which side of the debate is the 'truthful' or 'right' one. Therefore, teacher educators need to go through a process of self-formation as they engage in those debates and choose what they stand for, and what research they conduct. Then, they need to find effective ways to collaborate with policymakers and inform them about their research findings.

The aim of this study is to explore how research in teacher education can influence educational policies. The study adopts the multiple case study methodology. It was conducted at the MOFET Institute, a nonprofit organisation established by the Israeli Ministry of Education (MoE) to conduct research and develop programs in teacher education.

In this chapter, we first provide a short literature review of factors that impede research uptake in policymaking, and then focus on factors that can support collaboration between researchers and policymakers. Next, we describe the context of the study, and then address the research questions: how were collaborations between policymakers and teacher educator researchers formed and maintained? How did these relationships influence the research projects and what policy changes did the results induce?

2 Literature Review

2.1 *The Relationships between Policymaking and Research in Teacher Education*

The idea the policymakers need to utilise the best available evidence to inform their decisions is widespread. In this context, research uptake means taking research findings into account while making policy decisions (Tseng, 2012). This process is far from being straightforward, as researchers conduct different types of research that emanate from their values and belief systems, and their findings may sometimes be seen as contradictory. Therefore, the question of which factors increase, or conversely, decrease the chances that certain findings may gain policymakers' attention and influence their decisions is all the more important.

2.2 *Factors that Impede Research Uptake in Policymaking*

The nature of teacher educators' research has been (in our opinion – wrongfully) implicated as a factor that deters policymakers from using this genre of research. For example, Sleeter (2014) found that too few studies deal with the impact of teacher education programs on teachers' practice and students' achievements, even though these are the main topics that interest policymakers. Typically, teacher educators' research is of limited scope and local in nature, which precludes broad generalisations that are essential for policymaking. In order to address this challenge, it was suggested to conduct studies on a larger scale (Livingston & Flores, 2017; Mayer & Oancea, 2021), or to perform meta-analyses of small-scale studies (Mayer & Oancea, 2021; Zeichner, 2007).

Not all researchers however, share this criticism of teacher educators' research. Over the years, a robust policy-relevant knowledge base in teacher education has developed through research (Darling-Hammond, 2016). Small studies can produce meaningful and generalizable conclusions when researchers use rigorous methods and connect their findings with relevant theoretical frameworks (Vanassche & Kelchtermans, 2015). As for policymakers, small case studies are potentially very influential, since they can provide a clear picture of the consequences of specific policies in local contexts, either in the case of desired policies they are asked to adopt, or undesirable ones they are requested to change (Brownson et al., 2006; Sleeter, 2014). Therefore, although more diverse policy-relevant studies are required, the nature of teacher educators' research at present cannot fully explain the lack of research uptake by policymakers.

Bearing in mind the contested area of teacher education policies (Ball, 2015, 2017), policymakers are constantly exposed to pressures exerted by different, sometimes competing, stakeholders, each presenting evidence to support their own claims. Multiple, often too many, sources attempt to grab policymakers' attention, whereas the latter have only a limited capacity to retrieve and critically evaluate research (Cherney et al., 2012; Zeichner & Conklin, 2016; Oliver & Cairney, 2019). Therefore, policymakers are particularly attentive to international experts, to personal acquaintances whom they trust, and to the mass media (Ball, 2017; Helgetun & Menter, 2020). They tend to favour skilfully advertised simple messages that seem to be derived from large-scale quantitative international studies over complex, nuanced research implications that depend on multiple contextual circumstances (Cochran-Smith & Villegas, 2015; Mayer, 2021). When researchers attempt to critique or resist dominant worldviews and policies, they are often ignored, and even ridiculed and penalised (Ball, 2015). As a result, researchers sometimes feel that policymakers are only interested in evidence that supports their predetermined policies, instead of learning from data.

Meanwhile, educational research in the academia has characteristic features that further widen the gaps between educational research and policymakers. Generally, research in the academia is a prolonged activity that aims to answer theoretical questions, whereas policymakers often need immediate, concrete and applicable answers that satisfy public opinion (Ball, 2017; Oliver et al., 2019). Researchers readily point at past weaknesses, but may not be able to predict which policies might succeed (Edwards et al., 2007). Researchers have a weak ability to make their knowledge accessible to policymakers (Cherney et al., 2012; Chung, 2016; Oliver & Cairney, 2019; Zeichner & Conklin, 2016). This may be because teacher educator researchers' preparatory studies focus mainly on methodological issues, at the expense of mobilising research findings to the general public, as well as gaining policymakers' attention. Another explanation could be the minimal weight that academic promotion committees attach to the practical impact of teacher educators' research in comparison to its academic impact. Finally, researchers may not be particularly interested in policymaking processes (Oliver & Cairney, 2019), and would therefore recommend budgetary and bureaucratic reorganisation that is beyond the capacity of research-commissioning policymakers (Brownson et al., 2006; Friese & Bogenschneider, 2009).

2.3 *Factors that Can Support Collaboration between Teacher Educator Researchers and Policymakers*

In view of the multitude of factors that prevent policymakers from utilising research conducted by teacher educators, successful collaborative studies

suggest several conditions as being conducive to setting research-informed policies. First, research questions should address high priority issues on policymakers' agendas (Brown, 2012; Friese & Bogenschneider, 2009). Policymakers and researchers need to meet frequently in order to exchange knowledge, ideas and concerns (Nutley et al., 2007; Oliver & Cairney, 2019), in a mutually respectful and trusting atmosphere (Friese & Bogenschneider, 2009; Oliver & Cairney, 2019). Policymakers particularly value researchers who have strong academic credentials, good human relationships and communication skills, a high level of commitment to the matter at hand, yet who are independent and have unbiased positions (Haynes et al., 2012; Oliver et al., 2019). Research findings should be presented in easily understandable formats (Brown, 2012; Cherney et al., 2012). It is particularly helpful when policymakers have some experience in research or when mid-rank policymakers play an active role in the research (Oliver et al., 2019). Researchers' recommendations should be within policymakers' capacities to implement and relatively uncontroversial from a political point of view (Nutley et al., 2007). Collaboration in piloting and refining programs seems particularly fruitful (Oliver et al., 2019).

Collaboration between policymakers and researchers has some disadvantages (Oliver et al., 2019). Collaboration requires time to be nurtured. Focusing on applied instead of theoretical questions may impede researchers' academic careers and theoretical contribution to their specific field of expertise. Close personal relationships may result in researchers' committing to policymakers' agendas, thus harming the researchers' independence and academic reputation. Researchers' independence is particularly important to ensure policy is critiqued. Finally, since policymakers prefer to collaborate with people they know and trust, researchers from diverse and marginalised groups may be excluded and consequently their voices will not be heard in the policy arena.

In view of the multiple challenges that thwart collaborations between teacher educator researchers and policymakers, this paper explores successful frameworks of collaboration that were formed at the MOFET Institute in Israel.

2.4 *The Context of the Study: The MOFET Institute*

The MOFET Institute (MOFET) is a nonprofit organisation established by the Israeli MoE to encourage professional learning of teacher educators (Golan & Reichenberg, 2015). Over the years, MOFET has constructed different frameworks of collaboration between teacher educators and policymakers in order to enable the former to fulfil their responsibility for improving the educational system (Cochran-Smith, 2021; Oliver et al., 2019; Swennen, 2022). For example,

MOFET hosts Communities of Practice (Wenger Trayner et al., 2015) in which policymakers and teacher educators who hold similar senior positions within their respective institutions meet to discuss shared concerns and promote new initiatives. The novice teachers' induction community is one such framework (Guberman et al., 2021). In addition, MOFET has units that develop projects for the MoE. MOFET supports the frameworks of collaboration through its other units, such as the Information Center that conducts literature reviews, the Meetups unit that organises conferences and study days, and the Research Authority that conducts evaluation studies.

Being partly budgeted by the MoE, MOFET is not an independent academic institution. Nonetheless, it provides services to and recruits teacher educator researchers from all of Israel's teacher educating academic institutions, who enjoy academic freedom. So, their salaries and academic positions are secured whether they choose to participate in one of MOFET's research projects or not, and regardless of the opinions those teacher educator researchers express.

The aim of this study was to explore research projects that were conducted within three of MOFET's frameworks of collaboration: a study about mentor preparation courses, initiated by the novice teachers' induction community, and two development units: retraining former high-tech employees as high school teachers (HTHS), and preparing and integrating teachers of Ethiopian descent. In each of these frameworks, we examine how research collaborations were formed and maintained; how they influenced the research projects, and what policy changes those research projects induced.

3 Methodology

In order to answer the research questions, we adopted the multi-case methodology (Creswell, 2013). Each of the three frameworks is a case in which research results influenced national policies. We address each case separately. First, we provide a short context and describe the shared challenges policymakers and researchers attempted to resolve. Then, we describe how the collaboration between policymakers and researchers was formed. We present the research projects that ensued, the different research methods of each project and their findings. Finally, we delineate the policy change processes induced by the research projects' findings. The shared characteristics of the three cases and their implications for researchers – policymakers' collaboration are addressed in the discussion.

4 Findings

4.1 *Case 1: Mentor Teachers' Preparation*

4.1.1 Context and Background

The first years of teaching are often described as stressful and challenging for novice teachers (Ingersoll, 2003). Israeli novice teachers are no exception. Many of them report having difficulties in coping with the job demands and the emotional stress that characterise its beginning phase (Arviv Elyashiv, 2019; Nasser Abu-Alhija & Fresko, 2016). In Israel, approximately one third of newly-qualified teachers leave the profession every year (Arviv Elyashiv & Navon, 2021), exacerbating the teacher shortage at all educational levels (Donitsa-Schmidt & Zuzovsky, 2014). In response to these difficulties, the Israeli MoE introduced a mandatory induction program that consists of an academic workshop in a teacher education institution, and mentoring in the field.

Mentoring by an experienced professional teacher is a significant component of the induction process (Ingersoll & Strong, 2011; Kearney, 2014), as it supports novice teachers' integration into schools' or kindergartens' ecological and cultural systems (Orland-Barak & Wang, 2020; Zavelevsky & Shapira Lishchinsky, 2020). Empirical evidence emphasises the critical role of mentoring in increasing newly-qualified teachers' self-efficacy, establishing their solid professional identity and encouraging retention (Clark & Byrnes, 2012; Tonna et al., 2017; Schatz-Opppenheimer, 2021). Moreover, studies show that mentoring also has positive contributions to the professional development and personal growth of the mentors themselves (Heikkinen et al, 2012; Izadinia, 2015). Understanding the positive contributions of mentoring, policymakers in the Israeli MoE looked for ways to improve the mentors' professional practice.

According to the MoE guidelines, a mentor should be a qualified teacher with at least five years of experience in teaching who has participated in a mentor-training course. Studies revealed that participation in professional training provided mentors with relevant tools and proficiencies that promoted successful guidance and better responses to the mentees' needs (Crutcher & Naseem, 2016; Sandvik et al., 2019). Nevertheless, statistics showed that around half of the Israeli mentors chose not to participate in professional training. It was therefore important to understand why this was the case, in order to address the challenge of encouraging more mentors to participate in an academic preparatory course.

4.1.2 Cultivating Relationships between Policymakers and Researchers: The Development of the Research Project

The idea of developing a research project to examine teachers' perceptions of the mentoring process and mentors' training was initiated during the annual

meeting of the novice teachers' induction Community of Practice, held at the MOFET Institute. The researchers suggested conducting the study, and the policymakers agreed to distribute the research questionnaire to the mentors' population via their formal databases.

4.1.3 Methodology

Quantitative data was collected via an anonymous on-line self-reporting questionnaire completed by a representative sample of mentors in the Israeli education system. The first version of the questionnaire underwent content validation by eight experts (four researchers and four policymakers) in the field of teacher induction. This was followed by a pilot among 10 mentors, after which the questionnaire was revised in line with their comments. The questionnaire examined mentors' perspectives under four main themes: the training course, professional development, self-efficacy and professional commitment. The items were measured on a Likert scale which ranged from 1 (do not agree at all with the statement) to 5 (agree to a great extent with the statement).

The research was approved by the Ministry of Education Institutional Review Board for the Protection of Human Participants in Research, which is an independent body in the MoE. The questionnaire was administered in May–June 2021 to the mentors by the MoE directly through e-mail, and 1,061 mentors (out of 7,000, 15% of the study population) responded.

4.1.4 Results

Interesting differences were found between the two groups: mentors who did not participate in an academic training course ($N = 447$, 42% of the sample) and those who did ($N = 614$, 58% of the sample). In both groups, mentors reported they had a high level of professional efficacy as well as a commitment to investing efforts to succeed in their role. However, the rankings among graduates of the mentors' courses were significantly higher in professional efficacy (Participants: $M = 4.56$, non-participants: $M = 4.37$, $t = 3.54$, $p < .001$), and professional commitment (Participants: $M = 4.12$, non-participants: $M = 4.01$, $t = 5.06$, $p < .001$). Furthermore, the participants were more strongly convinced that professional training was beneficial and necessary for satisfactory performance as mentors (Participants: $M = 4.01$, non-participants: $M = 2.0891$, $t = 17.23$, $p < .001$). Participants reported that their training was intertwined with a reflective process that allowed them to re-think their teaching practices and acquire meaningful knowledge and practices. They were more in favour of the idea that mentoring should be considered a professional stage in experienced teachers' professional promotion trajectory, (Participants: $M = 3.89$, non-participants: $M = 3.62$, $t = 5.62$, $p < .001$). In contrast, mentors who did not participate in a preparation course believed it was unnecessary and served no

purpose. Based on these results, the research report recommended that participation in a mentor course should be a mandatory precondition for mentors' appointment and teachers' promotion to educational leadership roles.

4.1.5 Policy Changes

The research project's results highlighted the positive contributions of professional training for mentors. These findings confirmed earlier evidence (Schatz-Oppenheimer, 2021), that was collected from small non-representative samples. Based on these empirical findings, policymakers began to actively disseminate information concerning the benefits of mentor training courses among teachers and principals. Policymakers are now at a pilot stage of devising a promotion trajectory for experienced teachers, part of which includes a mentoring course. They also encourage principals to consider mentoring as a prerequisite for promoting teachers to managerial positions at school, as was suggested by the researchers. Furthermore, in accordance with policymakers' recommendations, teacher education institutions are now looking into possibilities of awarding academic credit points to mentor teachers who participate in the mentors' training courses. A future study by policymakers and educational researchers will further examine mentoring by exploring principals' perceptions of mentoring.

4.2 *Case 2: Retraining Former High-Tech Employees as High School Teachers*

4.2.1 Context and Background

Israel's public Hebrew speaking schools suffer from an acute shortage of teachers in all age-groups.¹ It is caused by teachers' low social status and salary that are particularly low for novice teachers. There are also issues with the student:teacher ratio (Dolton, 2020), unruly students' behaviour (National Authority for Measurement and Evaluation in Education, 2018) and teachers' limited professional autonomy (Ben-Peretz & Flores, 2018). The shortage is particularly severe in STEM disciplines, since those who have acquired academic education in STEM areas have access to more lucrative, higher status occupational alternatives (Wiggan et al., 2021).

In order to tackle the growing need for STEM teachers, an array of programs was established. Amongst these was the re-training program targeting high-tech professionals "HTHS" (HTHS) founded in 2013 by the MoE and the Trump Foundation. The program takes place in several academic institutions, each offering studies in some of the program's disciplinary areas: math, biology, chemistry, physics and computer science. The program has two stages: Academic teaching studies towards a teaching license, followed by an internship year in which the novice High Tech Career Changing Teachers (HTCCTs)

participate in an academic practicum course, and a mentor teacher at school is assigned to them. The HTHS program has a steering committee which includes representatives from the MoE. In addition, the program's administrators conduct regular meetings with the academic heads of the HTHS programs in the different teacher education institutions, and with the alumni's network. The main challenge is to provide HTCCTs with adequate preparation and induction that will help them persevere and thrive in Israeli classrooms.

4.2.2 Forming Relationships between Policymakers and Researchers

The HTHS administration unit is located in the MOFET Institute. In 2019, the Head of the HTHS unit asked MOFET's Research Authority to conduct a comprehensive evaluation that would examine all of the program's components and recommend changes that could improve HTCCTs' preparation and retention.

4.2.3 The HTHS Evaluation Research Project

4.2.3.1 *Methodology*

Participants: The study included 46 participants: 1. Eighteen program leaders, (10 females and 8 males) from all of the institutions that had HTHS programs in 2019. 2. Twenty-two HTCCTs (8 females and 14 males) from nine institutions. The disciplines they learned to teach were math (15), physics (3), biology (2) chemistry (1) and interdisciplinary science and technology studies for junior high schools (1). 3. Six school principals (2 females and 4 males) who recruited HTCCTs.

Data sources: Semi-structured interview protocols were used. Program leaders were asked how they structured the re-training program, and the main challenges they and HTCCTs had to address. HTCCTs were asked how satisfied they were with their studies, induction and their work as teachers. Finally, school principals were interviewed about HTCCTs' strengths and weaknesses.

4.2.3.2 *Results*

The academic teaching studies. Similar to other re-trained teachers in Israel (National Authority for Measurement and Evaluation in Education, 2019), HTCCTs felt they were particularly ill prepared to deal with classroom management issues, pedagogical challenges and inclusion:

We should have been prepared to teach low achieving classes ... How to cope? What to do? [...] How to enter a class of twenty plus tenth graders and teach them while many stare in the air. One says he can't, another says he's not concentrating and another one lacks the equipment. (Jane, HTCCT)

I feel I did not really receive tools for special education, because nowadays special education is included within typical schools and I am sorry to say that novice teachers are assigned to special education. (Simon, HTCCT)

Although teachers (as well as teacher educators) often feel unprepared to address diversity and inclusion (Florian & Camedda, 2020), HTCCTs' difficulties seem to emerge from additional sources: Israeli school students' unruly behaviour (National Authority for Measurement and Evaluation in Education, 2018), and the fragmented nature of their teacher education programs, in which theoretical courses are disconnected from each other and from field experience (Kitchen & Petrarca, 2016):

There was no practical experience. We were sitting in the last row, listening to a math's lesson ... I told [the person in charge] ... We were in a school, we watched a lesson, let's talk about what went right and what went wrong, what we need to attend to. (Roy, HTCCT)

The academic practicum course takes place in an academic institution. It aims to support novice teachers by analysing their experiences and sharing challenges and solutions. However, the HTCCTs complained that the group composition of the course was too heterogeneous, and therefore failed to address their needs.

We are engineers who came from industry and are retraining to teach students for the matriculation exams and [the college] put us with kindergarten and first grade teachers. (Tom, HTCCT)

Since the disciplinary contents and the educational challenges of upper high school teachers need to address are so different from those facing kindergarten and first grade teachers, the practicum course offered very limited support to HTCCTs. Other findings indicated that HTCCTs received lower wages than they should have received due to bureaucratic failures and that the support they received at schools was unsatisfactory.

4.2.3.3 *Policy Changes*

The need to narrow the gap that currently exists between student teachers' theoretical and practical studies is being currently addressed through the new guidelines for teacher education, which will be gradually implemented starting in 2023. The new guidelines require that teacher education programs

form a cohesive program in which the practical experience is broadened and the academic studies are connected to practical experience. Teacher education programs should include practitioners' research of their own practice and should award a master's degree.

Seeking a solution for the practicum course, and in view of the lack of adequate support in schools, the HTHS initiative collaborated with the Professional Learning Community (PLC) unit, both part of the MOFET Institute. This collaboration resulted in a new and unique model for the practicum course, based on PLC principles. The relevant officials from the MoE accepted the model called "SEMEL Professional Learning Communities (SPLCs)".² According to the model, each SPLC targets a specific discipline. Each academic institution can choose which communities to open, whereas HTCCTs can choose a community in any of the institutions that offer SPLCs in their respective disciplines.

Two facilitators lead each HTCCT community: one with experience in leading a traditional practicum course, and the other – a veteran HTCCT who teaches the targeted discipline of the specific SPLC. This model promotes reflective discourse in a bottom-up approach, which draws upon the experience and knowledge the HTCCTs bring. In addition, the communities emphasise mutually supportive relationships and developing shared norms and values that enable the HTCCTs to voice their concerns, dilemmas and challenges.

The facilitators of all the SPLCs also take part in a heterogeneous facilitator community at the MOFET Institute, in which they acquire facilitating skills and practices and consult with fellow facilitators from other teacher education institutions (Figure 9.1).

The HTHS oversees the SPLCs program with the help of a steering committee consisting of officials from the Teaching Staff Administration at the MoE, the head of the PLC unit at the MOFET Institute and the community of facilitators' leaders.

4.2.4 The Evaluation Study of the Community of Facilitators of SEMEL Professional Learning Communities

4.2.4.1 *Methodology*

A second research project examined the facilitators' community (FPLC) leading the SPLC program. It was a case study that focused on the community's first 18 months of activity: (March-April 2020 – October 2021): the establishment of this community, its *modus operandi* and communal aspects, and the impact it had on the SPLCs. The methodology was qualitative: 23 semi-structured interviews were conducted with the program's policymakers (5), the facilitators' community leaders (4) and the SPLC facilitators (14).

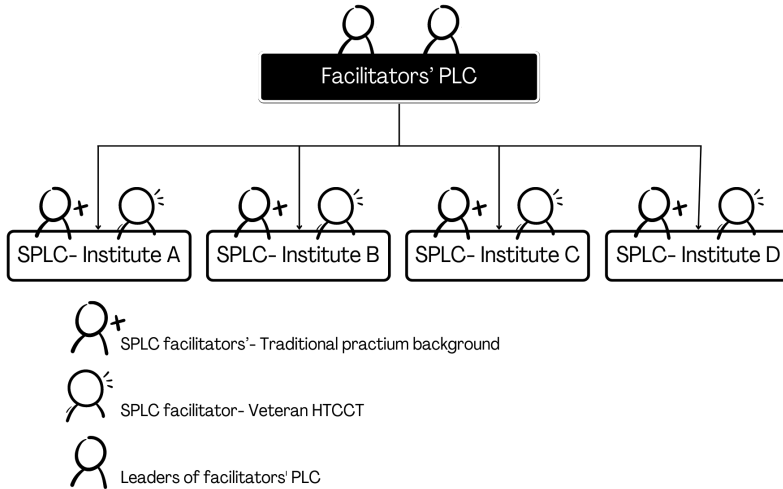


FIGURE 9.1 The facilitators' community in relation to S PLC communities

4.2.4.2 Results

The project had somewhat of a rough start: Some of the issues were the result of policy, and others stemmed from the heterogeneous nature of the facilitators' community. As for policy, the decision to change the practicum model from a traditional model to a novel PLC-based induction process was taken relatively late in the year and therefore the facilitators' community was hastily formed (in order to be ready for the beginning of the academic school year).

This "chaos", as one leader described it, placed enormous pressure on the F PLC leaders who were expected to meet the goals placed by the policymakers, while remaining true to the community formation process. To do so, they were required to speed up processes that usually take much longer. One leader explained her discontent: "It's not enough to simply ask people to reflect and share [the challenges they face] ... I felt like we added growth hormones to the process. This is not how this should have proceeded." The criticism she expresses is aimed at the policymakers, who, she believes, should have acted differently. This speeded-up process also resulted in growing discontent and push-back from the facilitators, who found it difficult to understand their role in the new model and the value the community has to offer them.

Another decision that contributed to the push-back was the decision to compel the facilitators to participate in the community, contrary to the customary PLC creation process, which relies on the members' intrinsic motivation and desire to participate. This decision created tension between some of the facilitators and the policymakers: "Is this a court-appointed AA [Alcoholics Anonymous] meeting? Do I just 'do my time' and go home?" wondered Jake, one of the

facilitators. "Or is this a collaborative endeavour where people come voluntarily? What is a 'community' really?" Alongside the discontent with the decision to compel the facilitators to join, these words show a lack of understanding among the facilitators regarding the nature of a PLC and the benefits it can offer. These two examples of questionable decision-making resulted in knowledge gaps among the facilitators that affected the FPLC formation process.

Although each SPLC targets a specific discipline, policymakers decided that the FPLC will include facilitators of all SPLCs, resulting in a heterogeneous community. Michal, one of the leaders described the complexity:

The facilitators come from different STEM disciplines ... Some are experienced facilitators, others are HTCCTs who only finished their induction process a few years ago. Some have vast PLC experience while others know nothing of it. This was our beginning.

The need to overcome these gaps within the community contributed to the pressure the leaders faced.

Due to the above-mentioned complexities, two out of three FPLC leaders and two community members left the community. Liat, the remaining leader, described the feeling of uncertainty she felt after her colleagues had left:

I had two very experienced colleagues who were part of the process for a long time, and just like that they were gone. I was suddenly the experienced one. We [the new team] didn't know what and how to learn.

These changes resulted in a crisis experienced by all the policymakers, especially those from the MOFET Institute, who decided to take action and form a steering committee.

The role of the committee was to provide guidance and support to the FPLC leaders, drawing on the expertise and experience of the different players. The committee did not have direct decision-making authority, but the members' input and recommendations were crucial in supporting the leaders and shaping the direction and outcomes of the program.

One of the policymakers described the effect the committee had over the process: "The [steering] committee discusses the [grand] structure, not the actual content. We're building [the process] together ... understanding the unique needs of the HTCCTs and offering them a tailor-made solution." These words provide insight into the way policymakers see their involvement in the program: they do their best to assist it, but maintain the community's safe space and its leaders' independence.

The head of the HTHS program reevaluated his role following the crisis. He decided to take part in all the community meetings in order to oversee the FPLC and its leaders. Although this decision was made in an attempt to help the FPLC, it also added tension to the somewhat complex relationships between the FPLC and the policymakers. He was aware of the power relations between himself and the community members and therefore remained an observer. “[I’m here] to support the program,” he said, “mediate between the funding body and other policy factors, and ‘lay the infrastructure’ for success.” His participation in the meetings was seen as a ‘necessary evil’ by the leaders. One of them, Keren, said in this respect that “you have to get along with the regulator ... and he is very involved and well informed.” Other policymakers were not as involved in the project.

MoE officials from the teaching staff administration, mentioned several key points with respect to the project and its possible contribution to the teacher induction policy; the new model’s contribution to teacher induction as a whole; the change the project brings to the HTCCTs induction process; and the effect the shift to the PLC model has on the practicum process.

Naomi, a MoE official said: “[I see] this project as a pilot program for an innovative induction model for the entire teacher education system in the country.” Her words indicate that she understands the uniqueness of the induction model that the program operates and the contribution this model can offer the HTCCTs. Hanna, another MoE official, addressed the facilitators’ PLC and its role: “[The PLC model creates] the conditions in which the HTCCT and pedagogic facilitators can work together and develop the tools required to facilitate the SPLC communities.” These quotes show that MoE policymakers realise the potential the program offers and express its potential to influence policy. Policymakers from the MoE also emphasised the importance they attribute to the program as it offers a unique solution for a specific population.

The program was perceived in a positive manner by most of the facilitators and some even expressed gratitude for its formation. Hank, an HTCCT facilitator, said “Even though I have some minor criticism regarding the way we were handled, it’s nothing compared to the contribution. This [program] really helps former high-tech employees overcome a huge culture shock and join the educational system.”

4.2.5 Policy Changes

To summarise, the findings of the HTHS research project led to the SPLCs initiative, and the findings of the facilitators’ community research highlight the SPLC model’s advantages and the impact the policymakers had over the

process. Without disregarding the difficulties and setbacks the program faced in its early days, policymakers fought to allow the change to take place and supported it all along. They expressed their desire to see this model expand and to implement the SPLC model in other induction processes. However, the HTHS research project failed to induce changes in the bureaucratic treatment of HTCCTS, as well as in their absorption into schools.

4.3 *Case 3: Preparing and Integrating Teachers of Ethiopian Descent*

4.3.1 Context and Background

Israel's diverse population has a strong representation of first, second and third-generation Jewish immigrants from across the globe. While many immigrant communities faced cultural differences and discrimination, Ethiopian-descended Jews experienced unique challenges due to their skin colour and doubts regarding whether they belonged to the Jewish nation that exacerbated the emotional and psychological challenges of migration. Today, although official policies prohibit discrimination, citizens of Ethiopian-descent are over-represented in the lowest socioeconomic strata and report that they often confront implicit or explicit expressions of racism (Abu-Rabia-Queder et al., 2017; Semyonov, 2015).

The rate of Ethiopian-descended educators in Israeli schools is staggeringly low and stands at 0.4%, corresponding to merely a quarter of their share of the population (MoE, 2020). Ethiopian-descended teachers' annual rate of transition between schools is 31.4%, compared with only 5.6% among Israeli teachers at large (Central Bureau of Statistics, 2019; MoE, 2020), suggesting they experience significant difficulties in finding permanent jobs and integrating into schools.

The challenge was to design culturally and racially sensitive solutions that would improve the integration of Ethiopian-descended teachers into the Israeli education system.

4.3.2 Forming Relations between Policymakers and Researchers

To address this issue, the Israeli MoE initiated the "TESFA" ('hope' in Amharic) program, in partnership with the MOFET and Merchavim Institutes. The TESFA administration unit is located at the MOFET Institute. A steering committee consisting of all the partners in the program, policymakers and researchers, convenes every three months to discuss TESFA's future activities.

TESFA provides both student and novice teachers with support and skills in three main areas: academic learning, educational leadership, and multiculturalism. As a result, the number of Ethiopian-descended teachers entering and persevering in the education system has more than doubled in the last decade.

Nonetheless, as the number of Ethiopian-descended teachers is still low in relation to their share in the population, the steering committee decided to conduct a study to explore the barriers that hinder the integration of teachers of Ethiopian-descent into schools.

4.3.3 Methodology

Thirteen teachers of Ethiopian descent were recruited for this study, this small number being due to the low rate of Ethiopian-descent teachers with permanent jobs. Semi-structured interviews were conducted to explore the interviewees' subjective interpretations and perspectives regarding their absorption in school (Creswell, 2013; Creswell & Creswell, 2018). In line with the insights derived from Critical Race Theory (Bell, 2018; Crenshaw, 2011; Delgado & Stefancic, 2013), they were not asked directly about racism. Instead, we asked about their motivation for choosing the teaching profession; the process of searching for a job; their perspectives about the school environment; the challenges they face, and the degree to which they feel appreciated by their mentors and principals.

The interviews were conducted by five members of the TESFA program, three of whom are of Ethiopian-descent. The interviews were recorded and transcribed. Each of the researchers performed thematic analysis (Creswell, 2018), and then agreement was reached about the final coding scheme.

4.3.4 Results

Teachers of Ethiopian descent felt they were unfairly treated due to implicit, as well as explicit racist attitudes of principals, teachers, and parents, as Orit – one of the interviewees summed up:

Principals prefer hiring new teachers who are not of Ethiopian descent. I think it's 80% due to objections from students' parents, and 20% because the principals themselves aren't completely convinced that a teacher of Ethiopian descent is capable of teaching. In a school without pupils of Ethiopian descent, the students' parents wouldn't accept such a teacher.

Some of the interviewees said that skin colour hindered their being offered a teaching position even at the interview stage. For example: "some principals are deterred as soon as they see me", "He [school principal] said – aha ... it is you, I did not expect ... I thought that ..., I saw he was stuttering". Some interviewees said that the principals questioned their abilities as people of Ethiopian descent: "What! You studied English? They did not believe I was able to study anything, and certainly not English at a high level". Other interviewees

related that they were treated differently because of their background in that they were directed towards certain positions: "She [the supervisor] said that she could employ me as a kindergarten assistant" [instead of a teacher]; or as a teacher for Ethiopian immigrant children. They were told that there were no vacant places for teachers, but were offered a teaching position when children of Ethiopian descent enrolled. "So why when they needed someone to help absorbing immigrants in kindergarten or school, then they remembered that we exist?"

The participants emphasised the importance of management and staff's support as a key factor contributing to their perseverance. One example is the following quote of a teacher referring to the mentor teacher who helped her as a novice teacher facing racism: "The mentor teacher helped me a lot, explained, gave me advice, encouraged, complained when deserved strengthened me, guided and encouraged me".

These results, although they present a small sample of teachers of Ethiopian descent and their difficulties, may indicate that others did not overcome these challenges and may not persevere or integrate in the educational system.

4.3.5 Policy Changes

Based on this research project's findings, the MoE and the TESFA program staff assembled a focus group of principals who employ novice teachers of Ethiopian descent to find out whether the principals' perspectives differ from those of teachers of Ethiopian descent, and to better understand successful and unsuccessful practices that could provide a basis for integration programs. Those insights will be incorporated into principals and mentor teachers' preparation courses to increase their awareness of the needs of minority teachers. It is anticipated that the MoE will devise a program for Ethiopian-descended teachers that aims to help them attain senior positions within the education system. Finally, from 2023 onwards, the MoE will budget programs that encourage diversity and inclusion in all of the teacher education institutions, regardless of the number of students of Ethiopian descent they have, to prepare them to become culturally and racially sensitive teachers. Moreover, the MoE will double the budget of the TESFA program and the courses for principals and mentors to improve the integration of teachers of Ethiopian descent in educational institutions.

5 Discussion

This study explored three cases of collaboration between policymakers and teacher educators who are both practitioners and researchers. The first

research question was how the collaborations were formed and maintained. We found that in all the three cases (and four studies), the collaborative relationships were established well before the studies were conducted, and persisted long after they were concluded, so that the policy-influencing studies were interwoven into broader, long-lasting relationships. These relationships were not based on personal acquaintance, but evolved within a formalised framework that was shared by policymakers and teacher educator researchers from different academic institutions. Thus, the collaborations were less prone to bias, and choice of a particular researcher was less influenced by previous acquaintances, by the tendency to choose those similar to us or by self-marketing (Brownson et al., 2006; Cherney et al., 2012; Chung, 2016; Levin, 2011; Oliver et al., 2019).

The second question was how these relationships influenced the research projects. We found that policymakers commissioned only one of the four research projects we examined, while the other three projects were initiated by the researchers. This is an indication that the researchers were not “employed” by policymakers to collect data, but rather they were truly concerned about the same educational issues as the policymakers and worked collaboratively: Policymakers were more focused upon the practical aspects, whereas the researchers were also interested in the theoretical implications of their findings, yet both parties tried to improve certain aspects of the educational system. In all four projects, policymakers took part in defining the research questions and learning from the results. Three of the research projects were small-scale qualitative studies and one was a large-scale quantitative survey. The policymakers did not question the research methods in any of the cases, nor did they interfere with the research processes. The studies were conducted according to the ethical and professional standards of educational research.

The third and final question was about the influence the research projects had on policy changes. We found that in all of the cases, changes were incremental, gradually transforming teacher education in Israel. In the first case, after introducing mentorship for novice teachers and preparation courses for mentors, it was time to evaluate the mentor courses’ effectiveness. The results supported further dissemination of mentor training courses, upgrading their academic status and integrating them in teachers’ professional promotion trajectories. These policy changes may improve novice teachers’ induction and transform veteran teachers’ professional development. Similarly, in the second case, the HTHS study found that the cohort of novice teachers who participated in the academic practicum course was too heterogeneous to be helpful for them. This led to the establishment of SPLCs. In the SPLC facilitators’ research, we found that the communal model was efficient and highly relevant

for SPLC participants at all levels. We hope that all academic practicum courses will adopt the PLC model. In the case of TESFA, the researchers found that the integration of teachers of Ethiopian descent into schools is dependent on school principals and parents' attitudes more than on the teachers' knowledge and skills. The result was that policymakers diverted existing funds from supporting teachers' preparation and absorption to encouraging multiculturalism and diversity in schools and in the teacher education institutions.

Which of the factors mentioned in the introduction of this chapter that can support collaboration between researchers and policymakers are found in the three cases in this study? In view of the severe teacher shortage, the importance of teacher preparation and retention is gaining importance in policymakers' agendas (Brown, 2012; Friese & Bogenschneider, 2009). Policymakers and researchers met regularly in the Community of Practice or at the Research and Development units' steering committees, sharing concerns, information and planning together for the future (Nutley et al., 2007; Oliver & Cairney, 2019).

The three cases we followed are only a small sample of studies that are conducted each year in collaboration with the MoE. The continuous and ongoing communication between teacher educator researchers and teacher education policymakers helps them develop a shared language and mutual understanding, and eliminates the need to "mobilize" knowledge (Brownson et al., 2006; Cherney et al., 2012; Chung, 2016; Levin, 2011; Zeichner & Conklin, 2016).

As a consequence of these relationships, trust and respect evolve (Friese & Bogenschneider, 2009; Oliver & Cairney, 2019). In contrast with the widespread belief that research studies in teacher education need to be large-scale to influence policymaking (Cochran-Smith et al., 2020; Livingston & Flores, 2017; Mayer & Oancea, 2021; Sleeter, 2014; Zeichner, 2007), we found that even small-scale studies could be influential when conducted in the collaborative manner described above. As a consequence of these long-standing and trustful relationships, policymakers implemented many of the recommendations the researchers suggested, even though they were not obliged to do so. The recommendations that were implemented were well within policymakers' capacities, and uncontroversial from a political point of view (Nutley et al., 2007; Oliver et al., 2019). They could be described as piloting and refining existent programs (Oliver et al., 2019), but their gradual and incremental effects were far reaching.

However, not all of the recommendations were implemented. The bureaucratic handling of re-trained teachers (and not just HTCCTs) is still flawed, and schools need to improve the absorption of novice teachers, particularly in relation to former high-tech employees. It seems that these recommendations exceeded the remit of the MoE departments that collaborate with MOFET.

Since the other departments that are in charge of teachers' salaries and school principals were not involved in the research, they were not interested in its results (Brown, 2012; Friese & Bogenschneider, 2009; Nutley et al., 2007).

Furthermore, the collaboration between policymakers and researchers was not tested in times of disagreement, when research-based evidence suggests courses of action that differ significantly from those policymakers intend to take (Chung, 2016; Mayer & Oancea, 2021; Zeichner & Conklin, 2016). It remains to be seen how frameworks of collaboration function under such circumstances.

The model of collaboration *MOFET* developed involves formalised and enduring frameworks in which teacher educators from all of the country's teacher education institutions meet with policymakers to discuss a shared area of interest, attempt to solve problems and plan courses of action for the future. Research is integrated into these frameworks of collaboration and provides valuable data to all parties.

These frameworks synergise the expertise of different researchers and enable coordinated and simultaneous actions that introduce significant changes into the teacher education system. None of the teacher education institutions nor policymakers could have achieved such changes on their own (Guberman et al., 2021). However, these trustful and collaborative relationships come at a price. Researchers cannot gain policymakers' trust while they strive to expose the discriminatory and oppressive practices for which those policymakers are responsible. Researchers need to decide whether they wish to collaborate with policymakers in a certain area, or to confront them (Ball, 2015).

The limitations of this study are the small number of the cases we studied, and the unique character of the site in which they were conducted – the *MOFET* Institute in Israel. Future studies will examine whether continuous and long-lasting collaborations between researchers and policymakers in teacher education can be formed in other contexts as well. They will establish whether the variables and circumstances that support such relationships are the same as those we found in this study. In addition, they will purposefully explore how they navigate tensions, particularly when research findings are in contrast with policymakers' expectations or intended actions.

6 Conclusions

The collaborative work between teacher educators, researchers and policymakers resulted in mutually beneficial gains for all. Policymakers gained helpful feedback that enabled them to correct previous errors and plan for a better

future. Researchers were offered opportunities to conduct applied research within their areas of expertise. The MOFET Institutes offers a feasible model of long-term collaboration between teacher educators from all of the country's teacher education institutions and policymakers, in which research is an integral part. The studies that teacher educators conduct have theoretical implications and gradual and incremental impact on policies that will hopefully improve the education system.

Acknowledgement

Our dear colleague Hagit Mishkin was brutally murdered by Hamas terrorists who invaded Israel on 7.10.23.

Note

- 1 This is untrue of the Arabic speaking- and the ultra-orthodox Jewish systems, where teachers have very limited occupational alternatives.
- 2 The acronym SEMEL stands for "interns from high-tech to teaching" in Hebrew.

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PART 3

*The Value of Research for Teacher Education:
Improving Practice*



Professionalisation through Research?

Phenomenological Vignettes as an Innovative Professionalisation Tool in (Teacher) Education

Evi Agostini, Stephanie Mian, Nazime Öztürk and Cinzia Zadra

Abstract

How can phenomenological vignette research refocus our understanding of learning and teaching and be used for professionalisation processes? At the outset, this chapter presents phenomenological vignettes as a tool for subjective reflection and systemic evaluation against a backdrop of international professionalisation initiatives. It then goes on to present the vignette research methodology in greater depth and outlines the development and use of vignettes as a professionalisation tool within the framework of the Erasmus+ project *ProLernen*: Through a training programme, practising and trainee teachers from different pedagogical institutions were enabled to act as multipliers in professionalisation processes. Further, the chapter describes the content of the training modules and discusses some initial insights that shed light on the challenges of training participants as multipliers. It aims to emphasise the value of research in (teacher) education and provides an example of an innovative approach to training practitioners.

Keywords

professionalisation – phenomenological vignettes – training modules for educators – higher education

1 Introduction

Quality assurance has been a central challenge in education for decades. While the focus has hitherto been on student performance and the associated question of how their learning can be optimised (Sreeramana & Kumar, 2016), in recent years the attention has increasingly shifted to the professionalisation of teachers and educators, their skills development and its impact on teaching

practices and student progress (OECD, 2019; EC, 2021). The phenomenological vignette was developed as a research tool by the University of Innsbruck in 2012 and is a qualitative method that involves describing learning experiences in short, dense narratives of scenes (Schratz et al., 2012). The international EU project *ProLernen*¹ incorporates the method into differentiated learning processes and makes it usable for the professionalisation of (future) educators. The project addresses the question: How can the phenomenological vignette be used – individually and systematically – for professionalisation processes? It starts from the premise that learning is to be understood as experience (Meyer-Drawe, 2012), as a process that cannot be initiated, and whose beginning and completion are withdrawn. Accordingly, learning is not the result of teaching, but takes place “beyond the reach of teaching” (Schratz et al., 2014, p. 123). The project aims to establish a methodology for designing and managing quality processes in different educational areas, using the vignette to promote professional attitudes among (future) educators. In the long term, this should improve the quality of educational institutions and increase the willingness of educators to continue their professional development throughout their careers. This goal is supported by a handbook for educators which is based on the vignette research methodology and was developed within the project. The methodology and content set out in the handbook served as the basis of the training modules for (future) educators who were to act as multipliers. As pointed out by UNESCO (2019), the lasting impact of education transformation requires ongoing training and facilitation within institutions. Multipliers are or will be members of (educational) institutions who are trained in various topics and can deliver workshops on course redesign. Through workshops, mentoring and a range of other activities, they help to ensure that as many people as possible adopt a particular approach to teaching and learning. The training of multipliers conducted as part of the project enabled the introduction of the vignette methodology and to investigate its effectiveness as a tool for subjective reflection and systematic evaluation. The multiplier training was delivered between November 2021 and June 2022, and between March and April 2022 at two partner organisations – the University of Education in Vienna in cooperation with the University of Vienna and the Free University of Bolzano.

After this brief introduction (1), the project and its aim to enhance teacher education research, and therefore its contribution to professional development through vignette research, are outlined (2). Subsequently, the content of the training modules and their handling are presented (3) and initial insights into the multiplier training are offered by analysing the feedback of participants (4). Finally, the objectives of the study stated at the outset are critically

examined by referring to insights gained (5): What contribution can vignette research make to improving the quality and design of educational work and therefore to the professionalisation of educators?

2 The International *ProLernen* Project and the Value of (Teacher) Education Research

Within the framework of the *ProLernen* project, seven European vignette research locations developed training modules for (future) educators on the basis of a pre-prepared handbook (Agostini et al., 2023).

Three of the locations were the Free University of Bolzano, the University of Vienna and the University of Education in Vienna. At the Faculty of Education of the Free University of Bolzano, the training modules were delivered in the context of two courses in Social Pedagogy, namely *Introduction to General Pedagogy and Social Pedagogy* and *Qualitative Methods in Educational and Social Research*, and comprised a total of 20 hours. The twenty-two participants were students enrolled in the first or second semester. In Vienna, the modules were implemented collaboratively by the University of Vienna and the University of Education at the Department of Vocational Education under the title *School Professionalisation with Vignettes: Training Modules for Multipliers* and comprised a total of 30 hours. The thirteen participants in this course came from a range of educational fields including nursery education, primary education, secondary education, vocational education, special needs education and teacher education. They included future and current educators as well as pedagogical leaders and teacher trainers.

The cross-location aims of the project in general and of the training modules in particular, which are explained in more detail below, are:

- to refocus the understanding of learning and teaching in order to take it “beyond the reach of teaching” (Schratz et al., 2014, p. 123; Agostini & Symeonidis, 2022, p. 111);
- to introduce the vignette as an innovative professionalisation tool to strengthen the professional awareness of educators;
- to build professional knowledge through the vignette that is relevant to educational activity.

2.1 *Learners' and Teachers' Perspectives*

By casting a different light on individual events in the teaching process and allowing the practitioner to pause and take a step back, phenomenological vignettes allow for the observation of pedagogical episodes that are often

overlooked when there is pressure to react in the moment – offering a broader perspective to practising and student teachers, and even to teacher trainers. Vignettes are based on a particular approach towards learning and teaching. Schratz (2009) has coined the terms *lehrseits* (*teaching-side*) and *lernseits* (*learning-side*) in this context. The learning-side perspective, which should be adopted while writing the vignette and through which one is directed when reading it, means that the focus is consciously directed towards the learner's experience, which is often left unnoticed. When learning is understood as experience, as an event where new meaning emerges as the learner responds to unfamiliar stimuli, it means that learners are thrown off familiar tracks (Meyer-Drawe, 2012). Vignettes attempt to enable their readers to (re-)perceive such momentary experiences, thereby allowing new meanings to emerge.

In contrast to this learning-side perspective, a teaching-side perspective focuses attention on teachers and their actions, explanations, materials, etc. However, adopting a learning-side perspective on a teaching and learning situation does not mean that the teaching-side perspective is invalidated: we always see more than we consciously perceive. Like a fabric, learning and teaching are intertwined and interwoven to form a coherent whole; the front and back are perceived together but cannot be observed at the same time. Learning and teaching form a unity that can be viewed from the teaching or the learning-side without negating the other: each is an integral part of the fabric (Mian, 2019). The process of teaching and learning can thus be seen as a responsive process in which teachers and learners enter into a creative relationship and create something new together. It is difficult or impossible to determine where learning begins, how it takes place and how teaching facilitates and can/should contribute to it; this is why we speak of learning as being “beyond the reach of teaching” (Schratz et al., 2014, p. 123; Agostini & Symeonidis, 2022, p. 111).

2.2 *The Vignette as an Innovative Professionalisation Tool to Enhance Educators' Professional Awareness*

A phenomenological approach to the professionalisation of educators and the development of schools entails the productive questioning of accumulated experiences and routine actions to uncover new ways of perceiving, thinking and acting (Agostini, 2020; Agostini & Andereg, 2021). As a tool for professionalisation, vignettes address everyday educational experiences to gain new perspectives on them. The aim is that practising as well as future teachers learn through vignettes and gain insights that are relevant to their current and future professional practice (Agostini, 2017). It is often important to create some distance between (trainee) educators and the immediate demands and situations

they face in order to identify options that may have been overlooked in terms of perception or action. As Herbart (1802, p. 125) points out, this stepping back can interrupt established routines and promote a critical awareness of learning and teaching scenarios. This in turn emphasises the links between theory and practice in the context of phenomenological vignette research: Theory and practice are understood as a “circle of antecedence and postcedence”² (Brinkmann, 2015, p. 531). Meyer-Drawe (1984) assumes, on the one hand, that theory has specific potential for practice and, on the other, that practice is productive. She not only rules out the mutual substitutability of theory and practice, but also highlights the need for mediation between them. As the vignettes focus on scenes from everyday educational practice, they serve as examples and enable the discussion of generalised implications with regard to (future) practice and theory. The following sample vignette of a participant in the Austrian training course illustrates this.

Vignette: Michael and Mrs. Nir

The teacher, Mrs. Nir, stands at the blackboard, writing up the homework task. The scratching of the chalk can be heard. Michael rummages in his school bag. He seems to be looking for something. When he cannot find anything, he whispers to Zora, who is sitting next to him, and asks if she has his homework book. The girl bends down, picking up notebooks and books, pulling some of them out and after a few moments shakes her head. Michael continues his search. Mrs. Nir turns from the blackboard to the students and says: “I must say, I was a bad child, a very bad child. But not as bad as Michael.” She points to the boy and sighs loudly. She then lowers her arm, puts her hand on her hip and stamps her right foot loudly. Michael flinches, lowers his head and looks at the floor. He remains silent. “You’ve been interrupting other people all this time, now you’re going out of the door!,” adds Mrs. Nir in a loud tone. Still staring at the floor, Michael stands up. He raises his eyes only slightly and heads slowly towards the exit. Arriving at the doorway, he pauses and turns to look at his classmates, the corners of his mouth turned down. After a few seconds, he turns his gaze away and silently leaves the classroom. (Vignette writer: Sandra Matschnigg-Peer, 2022, unpublished)

This vignette describes a scene as it might be perceived in the classroom and can therefore be recognised. Standard questions can be asked about the vignettes and read/discussed either alone or with others: What irritates me? What do I notice? What situation is being described here? Have I been

in similar situations before? Which phenomena stand out for me from the vignette? How do they strike me?

But how can an examination of such scenarios contribute to professionalisation processes? Reading vignettes (*Vignetten-Lektüre*) as a form of analysis offers practitioners the opportunity to make connections between their own and others' experiences and to reflect on and expand their own perceptions. The attempt to understand and respond to the different experiences portrayed in vignettes is undertaken in shared vignette readings, starting with specific actions or moments that are intersubjectively perceived and co-experienced in the scenario: What is written there, how can it be understood? The process of reflection can also bring the actions of educators into focus (the emphasis always being the implications for learning and teaching): Is Michael being deliberately shamed by the teacher here? What does this scene have to do with learning?

2.3 *Vignette Reading: Building Professional Knowledge*

The reading of vignettes creates the conditions and opportunities to make connections, broaden perspectives and refine perceptions of phenomena in order to build professional knowledge relevant to educational activity. It takes place in groups that highlight personal reactions and impressions, confront each other and in this way become aware of new possibilities of interpretation and surprising new connections. Writing, discussing and finally writing vignette readings "encourage" dialogue and participation among participants. Each member of a community is both a learner and a teacher/educator, sharing his/her knowledge and perspectives with each other.

It is in the process of revising the draft of a vignette that participants in the research or training group become a kind of learning group. In this way, a space is created in which group participants question the immediacy of the experiences and non-reflective interpretations by working on the vignettes. It is on the basis of their pre-reflective experiences that they initially confront themselves and learn to look at situations in a new way.

Through the discussions in the group, I was able to understand other points of view that were not apparent to me at that moment. It was like being in a research group where people try to interpret situations and act accordingly. (Laura)

The discursive and in-depth reading of vignettes, which involves a close analysis of them after a process of revising the draft vignettes, presents a second opportunity to take a different perspective and view on teaching and

learning, on students and teachers and on the educational environment, and allows one to move away from what is familiar and known. Rather than attempting to gather definitive insights, students here focus on drawing out a multiplicity of possible meanings from experience and their chosen theoretical frames of reference. Rather than “pointing out” findings, there is a tendency to “point to” experience (Finlay, 2009, p. 11). Therefore, knowledge is not sought but captured as it emerges, as well as appreciated in a plurality and multiplicity of dimensions. During the dialogical phase of the discursive reading of a vignette, each member of the group becomes a source of information and experience, providing answers to questions and stimuli for reflection and bringing new perspectives to the situation experienced in the vignette. The teamwork between participants is an essential epistemological condition for the process of reflection, which brings implicit theoretical knowledge and the meanings attributed to practical action into dialogue. Through discussion of the personal attribution of meanings that arise from vignettes, perspectives emerge that enable each participant to learn by questioning, exploring, listening to their own and others’ questions, entering into an ever new relationship with the experience, and opening up new questions. New learning arises with and from others that goes beyond the common and obvious.

Schön (1992) emphasises that knowledge is generated through reflection in the context of action, and that it is necessary to deal with unforeseen and controversial issues by engaging in reflective processes. Groups of (future) educators working with vignettes do not just acquire information or truths that they then apply in educational practice. No one knows more than the other, and there are questions to which the answers are not yet given. Questions in dialogue, the willingness to be a questioner without presupposing one’s own answers and therefore assuming responsibility – being response-able in the sense of Levinas (1981) – that is, having the ability to respond, implies a responsibility. Reading vignettes together leads (future) teachers to generate new perspectives and facets of meaning as a result of reflexive – dialogical, not dialectical – processes.

In this way, participants in vignette multiplier “trainings” seem to have co-experiential experiences that can lead to self-transformation, emancipation and professional development. The activation of multiple perspectives stimulates participants not to produce universal knowledge, but a new interweaving of training, learning, research and action. The educators are involved in a learning dialogue: they view what is happening in practice and their professional development from different perspectives and are ideally placed to question assumptions, theoretical frameworks and perspectives they had previously taken for granted (Mezirow & Taylor, 2009). The group discussion that

emerges sets in motion processes of reflection and can transform its members' patterns of thought, attitudes (*Haltungen*) and teaching practices. As one training participant writes, the learning community is a group of

open-minded people who want to continue to train and transform their views and take pleasure in being together and engaging with each other professionally. (Sandra)

3 The Training Modules: Content and Its Preparation, Approach and Procedure

At all the locations the training modules were divided into the topics set out in the handbook, as follows: *Perception*, *Body*, *Vignette* and *Learning* (Agostini et al., 2023). The training content was adapted to the respective target groups, e.g., first-year university students, educational practitioners and teacher trainers.

3.1 *Perception*

The phenomenological approach assumes that reflecting on perception offers great potential to improve personal understanding of educational situations. This means trying to put aside everything one already knows about the world in order to find new ways of seeing, hearing and feeling. In phenomenology, this would be the step of *epoché* (Husserl, 1913/2010): setting aside one's own prejudices about humans and the world in order to be able to learn more about them. A distinction is made between how phenomena appear to humans and how they really are. Reserving one's own judgement is an important step for the vignette methodology. Social conventions have a considerable influence on human perception, which is why it is important to become aware of them. In this context, Bourdieu (1977, p. 168) argues that perceptions and experiences are based on the *doxa*, the "universe of the undiscussed". He understands the *doxa* as social beliefs that have a lasting influence on how people and the world are perceived. Social beliefs are established as norms and rarely challenged, including teaching from the front (or "chalk and talk"). Reflecting on the way things are perceived can help in learning to approach situations differently. In phenomenology, it is therefore important to distinguish initial perception from retrospective perception, which means reflection on experience (Merleau-Ponty, 1945/2005). Perception therefore has a temporal dimension, i.e. objects/experiences can appear differently over time (with increasing experience). Vignettes aim to facilitate this retrospective perception of educational scenarios in order to raise awareness of one's own habitual ways of

seeing and acting, freeing educators up to perceive situations and their inherent potential for action.

With this in mind, the training started with perceptual exercises to discuss some basic phenomenological assumptions – e.g. by asking the participants to focus on what they could smell, hear and see in the room. Participants perceived the same things differently depending on where they were sitting, because the world is experienced physically through the senses. In the phenomenological understanding, the body responds to situations by selecting some aspects and disregarding others (Waldenfels, 1992). Reading and discussing vignettes has shown that perceptions can disintegrate due to the participants' experience of being physically situated. Consequently, there is not an absolutely objective observer position and it is precisely the diversity of perspectives that presents opportunities to sensitise one's own perception. In this sense, vignettes are not about what is better or more correct, but rather, what is revealed in different experiences, and how this can be dealt with from a pedagogical, experiential and, not least, practical perspective (Agostini & Anderegg, 2021).

3.2 *Body*

As already outlined, the body locates people in the world on the one hand and enables them to engage with it on the other (Mian, 2019). It is therefore the body that makes it possible in the first place to perceive the world – from a particular perspective – and to enter into a creative relationship with it. Because

my body is not only an object among all other objects, a nexus of sensible qualities among others, but an object which is sensitive to all the rest, which reverberates to all sounds, vibrates to all colours, and provides words with their primordial significance through the way in which it receives them. (Merleau-Ponty, 1945/2005, p. 275)

This understanding of the body as the “nexus of living meanings” (Merleau-Ponty, 1945/2005, p. 175) and overcoming the notion of the human being as divided into body and mind, which has prevailed since Descartes, were other focus points of the training modules.

The fact that the body – as a unity of body and mind – enables and shapes thinking about the world and action in it is usually completely lost sight of. It is the body that allows people not only to perceive the world in a certain way but also makes them perceptible to others. As bodily beings, they are material human beings with formative experiences, hopes and fears, limits and demands. They not only express these through language, but also live and show them through their body, which can reveal them to others without our

wanting to (Mian & Zadra, 2023). In this sense, bodily expressions such as tone of voice, tempo and rhythm can say more about a learning scenario than could be grasped through language. Learning understood as experience is not purely linguistic (see also Tengelyi, 2007).

This phenomenological understanding of the human being as an embodied subject of perception was attempted in order to show how different possibilities of interpretation were identified by paying attention to the bodily expressions of the participants in the vignettes, both when writing the vignettes, whose intersubjective condensation of experience examines bodily expressions, and when discussing the vignettes as well as writing down the vignette readings. Among other things, it became clear to the participants how far one's own reading of the vignettes was shaped by their own embodied experiences – the person's field of vision, their body.

3.3 *Vignette*

The training modules centre on work with phenomenological vignettes. As has already become apparent, these are “short, concise narratives that capture (school) experiences. [...] Like a photograph, vignettes have a captivating effect, capturing a moment of experience and fixing it linguistically” (Schratz et al., 2012, p. 34). Vignettes emerge from the co-experiential experience of the vignette writers. This kind of research stance assumes that we cannot observe experience, but that we can co-experience others as experiencers (Laing, 1967).

Vignettes thus aim not only to facilitate closer observation of the fleeting moments of experience shared in the process of learning and teaching by fixing them in writing, but also to make them tangible for the reader. This is what makes work with vignettes captivating and gives them potential: their evocative mode of expression pushes the boundaries of what can be said, which is why they always resonate more with readers than what is set down in words and why they mean more than what they describe (Mian, 2019). Vignettes translate physical expressions, atmosphere and moods into language in an aesthetically concise way. A vignette therefore evokes something different in each reader, touches and captivates everyone in a different way, and gives readers a different perspective on their prior experiences and modes of experience. Vignettes' evocative language is able to express what is not explicitly described in the vignettes themselves; they open up a range of potential experiences for the reader (ibid.). These possibilities of experience, their own perception of the moments of experience that vignettes make tangible for them, the different readings of vignettes, were elaborated and made visible in the discussions with training participants. Such discursive readings are not about determining the correct way of looking at the events described and establishing one

specific meaning; rather, it is a question of identifying and differentiating the diverse possibilities of experience and consequently, of sensitising one's own perception, allowing other perceptions and readings and opening oneself up to something new and different.

Vignettes, in fact, facilitate retrospective perception of educational scenarios, enabling educators to distance themselves from the demands they face and the situations in which they find themselves. This provides them with experience of the learning-side, allowing them to look at scenarios in a different way and opening them up to new ways of perceiving, thinking and acting.

In writing vignettes, participants were introduced to a differentiated perception of the situations they had experienced and encouraged to look closely, to listen, to feel and to let others feel what they were affected by.

3.4 *Learning*

Vignettes capture inter-subjective moments of perception and experience by which vignette writers in the educational field are struck and affected. One can be affected when habitual courses of action and categories of understanding are thwarted and a new meaning emerges. Memorable moments are thus transformed into a narrative text, and in the course of writing and reading vignettes, participants will have had experiences of their own and also learned (Agostini, 2017).

The phenomenological and pedagogical understanding of learning as experience (Meyer-Drawe, 2012) draws very close links between experience and learning. Vignette writers and readers see new experiences as something surprising that can break through familiar habits of perception. They reach the limits of their previous knowledge. In the process, they relive their own experience (Meyer-Drawe, 2003). This is always the case when their expectations and actual events no longer match and the old experiences can no longer be adopted. In this case, inappropriate anticipations formed on the basis of prior knowledge are not fulfilled and thus brought into consciousness. Consequently, learning itself becomes a retrospective and reflexive engagement with prior knowledge, a confrontation with previously effective knowledge (Agostini, 2016).

In summary, experience is only gained and learning only takes place when the experiencer is compelled to restructure his/her own prior knowledge on the basis of new experiences, so that a "change of 'attitude', i.e. of the whole horizon of experience" (Buck, 1989, p. 47) occurs. This learning process is by no means cumulative; rather, the horizon of experience is differentiated in three ways: in relation to the self or one's own person, in relation to the other, and in relation to the world and its (learning) objects (Meyer-Drawe, 2003).

In training multipliers, vignettes were used to learn something about themselves, but also about educational scenarios and the actions of learners and teachers/educators. Vignettes can be used both to professionalise educators and other staff members, and to facilitate learning about educational settings and institutions. One option is to use vignettes during a professional development day or in the context of professional learning communities, reading them and interpreting them together (Agostini & Mian, 2019). With this in mind, participants also reflected on how and whether they could use vignettes in their own (future) practice.

4 Initial Insights into Multiplier Training

Although it is not possible to be conclusive about what participants learned on the training course and how they will use vignettes in their professional learning communities, feedback indicates that participants thought they had gained many new insights. The students' responses from both locations showed that in general, participants intended to apply what they had learned to their teaching practice, to their research, to practical training in schools, and to reflect on learning processes. Participants indicated that they felt they had contributed to their professional development, for instance by improving their reflective skills. They also referred to a more solid theoretical foundation and improved perceptual awareness. Further, participants indicated they had learned a new technique, become familiar with the theoretical framework and its application, and had found new ways of understanding learning. The participants demonstrated very positive motivation to write vignettes themselves, going beyond just reading/analysing existing vignettes. The main focus of the training was the analysis of sample vignettes through discussion, exploring different experiences and making them useful for practice. The majority of participants were keen to use vignettes in practical situations and for the purposes of professionalisation. They were therefore interested in further training sessions. Regarding students' opinions expressed in the narrative feedback, they were collected from each student on two main themes: personal impressions of the vignette method and its potential impact on educational practice.

All written and anonymised feedback was carefully read through several times, focusing on critical considerations, identifying all possible units of meaning and taking care to maintain the uniqueness and original profile of each reflection. In the data analysis, special care was taken to reflect the participants' thoughts, but at the same time we sought to adopt a passive approach that

allowed the texts to speak and the reflections to appear as they were originally expressed, in order to allow for other meanings, through *epoché*. With regard to the material, we sought not to search but to listen for meaning according to the phenomenological principle of “authentic encounter” (Moustakas, 1994, p. 85). The sections below illustrate themes that emerged from the analysis of the identified “meaning units”. The phenomenological analysis pays attention to the web of meanings attributed by the participants and does justice to their voice, their sensitivity to the phenomenon and listening to a deeper meaning.

4.1 *On Perception. The Multiplicity of Potential Perceptions*

Participants admit that they reacted with astonishment and surprise when they realised how many possible perceptions of a phenomenon the vignettes presented to them. The wide range of perceptions and understandings was especially evident in the discursive reading of the vignettes and the participants’ astonishment at the viewpoints of others soon turned into awareness that they were reorienting their own perceptions. The vignette not only brought to light other ways of seeing, but the participants were absorbing new perceptual experiences, making them their own and developing new ways of opening up to what is other and unfamiliar, as one participant states, for example:

I recognised this added value: the diversity, the complexity of the most varied situations, which can be perceived quite differently. (Marion)

Participants referred to other methods and tools that highlighted the multiplicity of meanings and visions, but indicated that vignettes enabled an embodied, lived and felt experience because they were able to sense the atmosphere, feel bodily movements, perceive gestures; the atmospheres described resonated with each individual as if the experience in question were their own. The vignette readers were able to co-experience the experience of the vignette writer and were surprised that the ‘transfer of experience’ was so vivid and intense. Closely connected to this theme were the participants’ reflections on vignettes showing the multiplicity of any given situation.

Participants reported inspiring experiences and insights. Both what was said and the physical expressions described in the vignettes were significant here, with participants describing them as a new and innovative way of looking at things. The potential of a diversity of perspectives on learning and the recognition of the relevance of perception and corporeality were described by participants as having raising awareness and opening up a new field of knowledge, as one participant noted:

The importance of corporeality: giving linguistic expression to bodily experiences in order to clarify its effect. Recognising the strength of one's own bodily experience primarily as a strength rather than a weakness. (Maria)

Vignettes draw attention to body language and minimal movements such as small gestures; they mimic a raised eyebrow and sketch a smile that train the co-experiencer to pay attention to different things and how they are manifested. They help us learn to be more attentive and consciously notice what touches and moves us; we pay attention not only consciously and directly, but also unconsciously, or after being drawn to something.

The process of writing a vignette becomes a perceptual exercise for participants. They have to make the situation resonate with the reader while also reflecting on the challenge to their own experiences, their own biography:

How important it is to perceive the environment and make it transparent for readers of vignettes; also, that individual biographical experiences always flow into the writing of vignettes. (Marco)

4.2 *On Meaning. The Vignette as Unveiling a Multiplicity of Possible Meanings*

The multiplication of possible meanings widens the range of potential responses and actions in situations, both in professional life and, as repeatedly highlighted by the participants, in their personal lives.

The multiplicity of possible meanings that emerge from reading vignettes is a fundamental aspect of using them. Each vignette, writes Iris, a participant,

overwhelms me with the potential meanings that emerge, it also overwhelms my certainties and my own particular views on things. As I became more and more immersed in the method, especially in the writing and discussion phases, it became clear to me how often I looked without seeing, always guided by my habitus and fixed routines. (Iris)

The participants appreciated having their certainties, individual viewpoints, fixed mental structures and implicit theories, if not prejudices and preconceptions, challenged. This is not a matter of reading between the lines, but rather, of recognising that different meanings can exist in parallel and that it is necessary to acknowledge each viewpoint with dignity and value. This led to the development of a very complex professional ethos: Participants felt that the

vignettes enabled them to grasp the multidimensionality of educational phenomena and developmental processes, and at the same time to understand the implications of our changing and differently perceived selves, our multiple attachments and place and role in a composite professional world where a plurality of visions, perceptions and practices are valued.

Through the vignette, I learned that we should be more open to new perspectives that can help us to describe and analyse situations in a new way. (Paul)

4.3 *On Pedagogical Practice. The Vignette as a Tool that Enables Educational and Social Professionals to be Researchers*

I have learnt to describe what I see carefully, without pre-judgement: documenting the day of the child I follow has now become a professional, scientific way of working. (Anna)

As participants learned to write and read vignettes, they felt they were engaging with the concept of knowledge: vignettes facilitated a different approach to knowledge, a knowledge that is reciprocal, that is always questioning, researching and situated within the life-world (*Lebenswelt*), the lived space. The vignette is a tool that allows a different approach to knowledge, an approach that recognises the validity of multiple and diverse 'readings', that encourages complex relationships and the interdisciplinarity of the human sciences. It draws on knowledge from different disciplines, including philosophy, psychology and pedagogy, but also literature and anthropology, because it allows for the demonstration and illustration of relationships and meanings that osmotically overlap, with each reading relating to all the others. The dialogical reading of the vignettes also develops the readers' ability to listen to the other, because he or she experiences new spectrums of encounter that are constantly changing through the dialogue itself. Participants in such a dialogue not only learn to bracket prejudices and beliefs (*epoché*), but also to withdraw and let the other be. Vignette readers and writers do not simply want to know how to use a technique, they want to cultivate an openness that will enable them to grasp and experience situations and events as they arise, accepting them as they are without being constantly tempted to interpret them. It is not true that phenomena reveal their meaning only through a complicated process of analysis, decoding and increasing abstraction; first and foremost, phenomena must be taken at their perceptible face value. This presupposes a phenomenological

epoché: the phenomenological practitioner-researcher thus gains access to the experiential plane and describes experiences in terms of how they appear.

Participants also saw multiple potential in the use of vignettes in practice, including the view that vignettes can assist in reflecting on attitudes and professionalisation processes. Since the participants represented a wide range of professional experiences and activity – they included students, educators and scientists – it can be assumed that they also represent different levels of professionalisation. They therefore provided different responses to the question of how they thought they would use vignettes, such as

reflection on teaching scenarios, on actions in educational practice, using vignettes in courses, practical studies, teacher training, for self-reflection or as an instrument for professionalisation. (Diana)

This also underlines the use of vignettes both as a research and professionalisation tool. In both cases, this methodology has the potential to support both theory-based and practical analysis. Vignettes aim to disrupt the continuous flow of action by capturing incidents and scenarios. Such disruption is necessary to enable the analysis of sequences. In this way, theory and practice remain related and relevant to each other (Meyer-Drawe, 1984).

4.4 *Strengths and Limitations of the Study*

As the participants were unfamiliar with the phenomenological approach, they needed to be introduced to phenomenological principles step-by-step. They sometimes found it difficult to switch from the teaching-side perspective to the less familiar learning-side, and to understand that considering the learning-side does not mean discounting the teacher's experience. However, participants indicated that writing vignettes helped them to get to grips with this new view of learning and teaching. They reported that in doing so, they had profound experiences that required commitment and effort to grasp the complexity and intertwined nature of learning and teaching. Another challenge was to capture irritating or surprising moments and to present them to themselves and other readers in a way that resonated and could be experienced. Questions that preoccupied participants in this context included: Which moments were worth turning into a vignette? What about the dramaturgy of the vignette, literary aspects such as the passage of time, summaries and omissions? Other challenges for many participants were how to stay with the description rather than quickly moving on to interpretation, how to broaden their own perspective and pay attention to physical expressions. In this context, questions also arose for us in our work with participants, including: How can we combine the

theoretical background with the practical work on the vignettes? How much theory do participants need in order to work with vignettes? One challenge for us in this context was the quality requirements associated with the vignette itself: as a research tool, higher demands are placed on it and its creation than if it were being used purely as a professionalisation tool.

5 How Can Vignettes Contribute to the Professionalisation of (Future) Educators?

This paper describes a pilot study in the first international project on the use of vignettes as a professionalisation tool for (future) educators. Preparation for classroom practice and further training are not challenges that (future) educators can be expected to meet on their own. They are processes that require a diversity of approaches to teaching and learning – and one such approach is offered by this innovative project, which understands learning as experience, which sees learning as going beyond knowledge, truth and theory, and as a “process that opens up new horizons” (Meyer-Drawe, 2003, p. 505). With this understanding of learning, other things come into view: Experiences that can be captured and made to resonate thanks to the vignettes. By giving space to discursive discussion, they not only train perception but also the understanding of learning as experience itself and lead to teaching that is aware of its fragility (Waldenfels, 2002) and painfulness (Meyer-Drawe, 2012). Following this understanding, the educators themselves become learners – and in the case of the project also researchers, as they realise through working with vignettes that the original research instrument, used as a professionalisation tool, contributes to the building of different or new knowledge, a broadening of horizons, a new attitude and thus to ongoing professionalisation. In the process, they may lose cherished thought patterns and habitualised views that help to master everyday life, but in return they gain an openness that makes the experiences of other people available to them and thus makes (future) educators more willing to continue to develop professionally.

It is not possible to say what the participants specifically learned from the training. However, their statements indicate an awareness of being able to “rethink learning by focusing on a phenomenon” (Livia). This was our aim: to promote an understanding of learning and teaching that goes “beyond the reach of teaching” (Schratz et al., 2014, p. 123). Phenomenological vignette research can contribute to this by encouraging those involved to pay attention and care for each other’s perspectives, thus developing an attitude that disrupts habitual structures. When training people to perceive seemingly

unimportant everyday situations in educational settings, which according to the feedback received the project has succeeded in doing, it is vital to sensitise perception.

It is also clear from the feedback that at least some of the participants will continue to work with this methodology. In addition to a willingness to use vignettes as a professionalisation tool for educators, there is a need for supportive structural factors, such as time and interest on the part of the whole team to participate in quality development. Time is a scarce commodity especially in institutional settings and this can make work with vignettes difficult. The enthusiasm of the multipliers, which was captured in the feedback, could be an advantage here. Multipliers could be an important way of ensuring that vignettes are used in professionalisation processes on a longer-term basis.

Notes

- 1 The *ProLernen – Professionalisation of educators and educational leaders through learning research with vignettes* project – is funded by the Erasmus+ programme/2020-1-AT01-KA203-077981 (11/2020-11/2022).
- 2 All German quotations and the vignette have been translated into English by the authors of this chapter.

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Making Research Relevant for Future Teachers

Fostering a Problem-Solving Research Model in Initial Teacher Education

Fjolla Kačaniku

Abstract

The need to develop teacher-researchers is often discussed alongside improvement in the quality of future teachers. However, future teachers often question the purpose and value of teacher education research for their profession. At present, only limited educational research is undertaken by teachers in schools: the majority of such research is conducted by university teacher educators. The purpose of this study is to examine the potential of a problem-solving research model (PSRM) to change student teacher attitudes to, and perceptions of, the purpose and value of teacher research in initial teacher education (ITE) in Kosovo. The study used an action research design, with a pre- and post-intervention questionnaire ($n = 128$), followed by a group interview ($n = 15$) with student teachers. The main intention of the PSRM was to enable student teachers to view research as an integral part of the teaching profession. Although data from the pre-intervention phase indicated that student teachers do not perceive research as valuable and do not expect to undertake research in their future teaching jobs, the post-intervention data indicated a change in attitudes, with the majority of student teachers seeing teacher research as relevant for solutions to pressing problems in their future practice. Future teachers' exposure to individualised, tailor-made research activities prompted them to attribute value to research, seeing it as a key element in their development into high quality teachers. This study hence stresses the need for ITE to make teacher education research more practical and relevant for future teachers, enhancing its value for the profession.

Keywords

teacher research – initial teacher education – problem-solving research model – teacher education policy

1 Introduction

Teachers conducting research on their own educational practice investigated as long as 50 years ago by Elliot and Adelman and the Ford Teaching Project (1972–1974) (Elliott, 1976). The historical background of the teacher-researcher movement indicates that the idea of teacher-researchers is not new.

The concept of “teacher as researcher” builds on the idea of extended teacher professionalism (Stenhouse, 1975). The teacher-researcher movement emerged as a means of improving the quality of teachers and school practice in order to achieve change in the education system (Feldman et al., 2018). Advocates of teacher-researchers argue that teachers’ work goes beyond traditional teaching and builds on teaching as practical inquiry (Cochran-Smith & Lytle, 2009).

Although attempts have been made to define the concept of teacher-researcher, the broader notion relates to teachers acting as researchers by analysing the effectiveness of their practice to foster innovation in students, schools and society (Munthe & Rogne, 2015).

According to Stenhouse (1975), a teacher-researcher (1) is committed to the systematic questioning of their own teaching as a basis for their development, (2) has the commitment and the skills to study their own teaching, (3) is concerned with the questioning and testing of theories in practice through the deployment of those skills, and (4) is ready to allow others to observe their work and to discuss it on an honest, open basis (Stenhouse, 1975, p. 144). For Stenhouse, then, the professionalism of the teacher consists in the expertise to seek to understand the world, including one’s own practice, not in superior knowledge that has already been acquired (Stenhouse, 1983, p. 185). According to Cochran-Smith and Lytle (1999), “the concept of teacher research carries with it an enlarged view of the teacher’s role as a decision maker, consultant, curriculum developer, analyst, activist, school leader, as well as enhanced understandings of the contexts of educational change” (p. 17). In consequence, the teacher-researcher concept is broadly understood as referring to teachers who use alternative research approaches to contribute to a variety of changes in an education system (changing themselves, their students, classrooms, and schools).

The development of teacher-researchers is best achieved through research-based initial teacher education (Afdal & Spernes, 2018; Alvunger & Wahlström, 2018; Munthe & Rogne, 2015; Puustinen et al., 2018). There is a general commitment across initial teacher education in Europe to reform programmes of study (Symeonidis, 2021; Zgaga, 2013); some such reforms focus specifically on research-based approaches (Jyrhämä et al., 2008; Krokfors et al., 2011; Niemi, 2008; Toom et al., 2010).

Currently, however, only limited research is undertaken by in-service teachers in a number of European countries, including Kosovo Education research is predominantly conducted by academic staff in initial teacher education institutions (Kačaniku, 2020b). There is a general expectation that it is the role of university-level teacher educators to conduct education research, of teacher educators to transfer that knowledge to student teachers, and of prospective teachers to apply that knowledge in schools (Cochran-Smith & Lytle, 2009; Hargreaves, 2007). This one-sided belief has also led to a common understanding that school-based teachers do not engage in research. Moreover, pre-university teachers themselves often question the purpose and value of research for the teaching profession.

This chapter reports on findings from a “peripheral” European context. The literature refers to this context as the dichotomy between the European ‘core’ and ‘periphery’, emphasising the dominance of powerful countries when it comes to development. Zgaga (2014), discussing the European periphery with regard to education, highlights the neglected area of South-Eastern Europe and the Balkans, including Kosovo.

Institutionalised teacher education in Kosovo has been offered since the 1950s, while teacher education as part of higher education came into being in 2002 (Saqipi & Hoti, 2019). Today, five initial teacher education institutions across Kosovo train future teachers, awarding them university-level qualifications (Kačaniku et al., 2019).

Kosovo has made significant attempts to reform teacher education in the context of European policy initiatives (Kačaniku, 2022). Study programmes meet the Bologna Process objectives by using the European Credit Transfer System (ECTS) and the three-cycle system, and have also introduced external quality assurance processes (Kačaniku, 2020a). Specifically, the Faculty of Education within the University of Prishtina has undergone several programme reforms aimed at improving the quality of initial teacher education and enhancing the professionalisation of future teachers (Saqipi, 2019).

One important aim of study programme reviews was to strengthen standards by developing Masters-level qualifications and promoting research across different courses (Kačaniku, 2020b; Saqipi, 2020). These new programmes aimed to improve future teacher research and reflection skills (Saqipi & Vogrinc, 2016) by including at least one research methods course and making thesis work mandatory (Saqipi, 2020). However, a recent study (see Kačaniku, 2020b) reports that future teachers still see research only as a pre-service requirement.

The purpose of this study is to examine the potential of a problem-solving research model (PSRM) to change student teachers’ attitudes to and perceptions of the purpose and value of teacher research in initial teacher education.

The PSRM is a simplified and practical approach for introducing teacher education research to future teachers, in order to trigger their curiosity about teacher research, and raise their awareness of its importance.

The main research question was as follows: What is the potential of a problem-solving research model to change student teacher attitudes to and perceptions of the purpose and value of teacher research in ITE?

The chapter starts by outlining the theoretical background to the topic. Next, it moves on to the specifics of the methodology, providing an overview of the research design, the problem-solving research model (PSRM), and data collection and analysis. Finally, the chapter moves onto the findings, which are organised into two subsections discussing firstly the questionnaires and then the group interview. The chapter concludes with a discussion and a conclusion that also highlights the limitations of the study.

2 Literature Review

There is currently much discussion about the role of teacher education in developing teachers as researchers. The literature suggests that this is best achieved through research-based study programmes in initial teacher education (see Afdal & Spernes, 2018; Alvunger & Wahlström, 2018; Krokfors et al., 2011; Munthe, & Rogne, 2015; Niemi, 2008; Puustinen et al., 2018).

In the light of the growing importance of cultivating teacher-researchers, teacher education institutions in Europe are committing to transformational initiatives (Flores, 2018; Madalińska-Michalak, 2020; Schratz & Symeonidis, 2018). However, due to the wide variety of potential options, there seems to be a lack of consensus as to what research-based teacher education is (Smith, 2015). Afdal and Spernes (2018) have suggested a context-based approach to improve understanding of research-based teacher education.

The growing body of literature maps concepts and definitions in order to establish a theoretical basis for research-based teacher education (see for example: Afdal & Spernes, 2018; Alvunger & Wahlström, 2018; Krokfors et al., 2011; Munthe, & Rogne, 2015; Niemi, 2008; Puustinen et al., 2018).

In research-based teacher education, programmes are designed to ensure that all modules integrate research (Jyrhämä et al., 2008) and teacher researchers learn about research approaches from the first day of the programme (Toom et al., 2010). Munthe and Rogne (2015) contend that research-based programs have two important features, namely:

- The integration of research into all modules;
- The organisation of courses to ensure that university teacher educators constantly conduct research and engage their students in those processes.

Krokfors et al. (2011) have further identified four specific characteristics of research-based programs:

- The study programme is based on a review of education theories and challenges;
- Teaching and learning are research-based;
- Activities develop students' skills, ranging from reviewing, critical and analytical thinking, decision-making skills, and problem-solving;
- Students develop strong research knowledge and practice.

In research-based study programs, the development of research skills is grounded in two main features (Niemi & Nevgi, 2014; Swank & Lambie, 2016). According to Swank and Lambie (2016), teacher research competence includes (1) research knowledge (what) and (2) research practice (how, why). In order to develop future teachers' research knowledge, study programmes require students to develop knowledge of research methods and techniques, reading and analysing research literature, writing reflections, and engaging in reflective discussions (Toom et al., 2010).

To develop practical research competences, study programmes emphasise activities that foster the skills and attitudes required to undertake research. This means that future teachers are exposed to the application of research skills to practical inquiry by being involved in action research projects to address small-scale problems (Afdal & Spernes, 2018). Another way of developing strong research practice is the requirement that students write theses (Toom et al., 2010). Apart from research knowledge and skills, future teachers need to internalise the link between engaging in research activities and improvements in their teaching practice (Niemi & Nevgi, 2014). Pallas (2001) has described research knowledge as “consumer” competence and research practice as “producer” competence (p. 9). Consequently, the introduction of research-based study programmes is a unique opportunity for future teachers to bridge the gap between theory and practice in their profession.

Niemi and Nevgi (2014) have also defined what future teacher researchers need, recommending that as researchers, teachers should have (1) critical research literacy and (2) access to research with regard to the profession. To foster critical research literacy, study programmes need to develop future teachers' skills in inquiry, analysis of research literature, questioning foundational education knowledge, critical thinking, methods of knowledge creation, and the ability to apply this knowledge to their practice.

Study programs need to develop future teachers' understanding of the importance of their profession in society, of teaching as a process of continuous professional development, and of the expanded roles and responsibilities of teachers; they should also foster the view that research is essential to the

improvement of practice (Niemi & Nevgi, 2014, p. 137). Niemi and Nevgi (2014) present the main goal of research-based teacher education as being to develop prospective teachers' inquiry skills. Research-based programmes for future teachers go beyond technical research skills and focus on the development of positive attitudes and a range of practical and useful skills, aiming to turn out teacher-researchers (Afdal & Spernes, 2018; Alvunger & Wahlström, 2018; Krokfors et al., 2011; Niemi & Nevgi, 2014; Snoek & Moens, 2011).

To gain a better understanding of the origins of research-based teacher education, we analysed a range of teacher education paradigms. Zeichner's "behaviouristic" and "inquiry-oriented" paradigms (1983), for instance, have cross-cutting similarities with research-based teacher education (Feiman-Nemser, 1990). The behaviouristic paradigm emphasises the development of teaching skills that influence student learning (Kynäslahti et al., 2006). Various metaphors have been used to characterise this type of teacher development, including "production", "teaching as applied science", and "teacher as executor" (Zeichner, 1983, p. 4). Inquiry-oriented teacher education, on the other hand, focuses on context-based inquiry (Puustinen et al., 2018). At the forefront of this paradigm are questions as to "what works" in schools and the social context in which teaching is carried (Feiman-Nemser, 1990); it remains the framework in which research-based teacher education operates.

Like Zeichner (1983), Feiman-Nemser (1990) developed several "orientations" for teacher preparation (academic, practical, technological, personal, and critical/social), of which the technological orientation is closest to the concept of research-based teacher education. Feiman-Nemser's technological orientation suggests that teacher education programmes should focus on "the future of teaching as a profession that rests on improvements that will come from the accumulation and application of scientific knowledge" (Feiman-Nemser, 1990, p. 29). The technological orientation reflects teacher education programmes that organise activities in line with student learning outcomes (Afdal & Spernes, 2018). Course objectives and activities aim to turn future teachers into "decision-makers" and "problem-solvers" (Niemi & Nevgi, 2014). Activities are also designed to enable students to acquire skills, knowledge and competencies in a non-mechanical way. The fostering future teachers' research skills is a guiding theme and a fundamental approach of these programmes (Jyrhämä et al., 2008).

Healey and Jenkins' idea of a research-based undergraduate education (2009) has also contributed to the understanding of research-driven curriculum design (see Figure 11.1). According to this model, there are four different approaches to integrating research into study programmes and involving students, namely: (1) a research-led approach that exposes students to existing

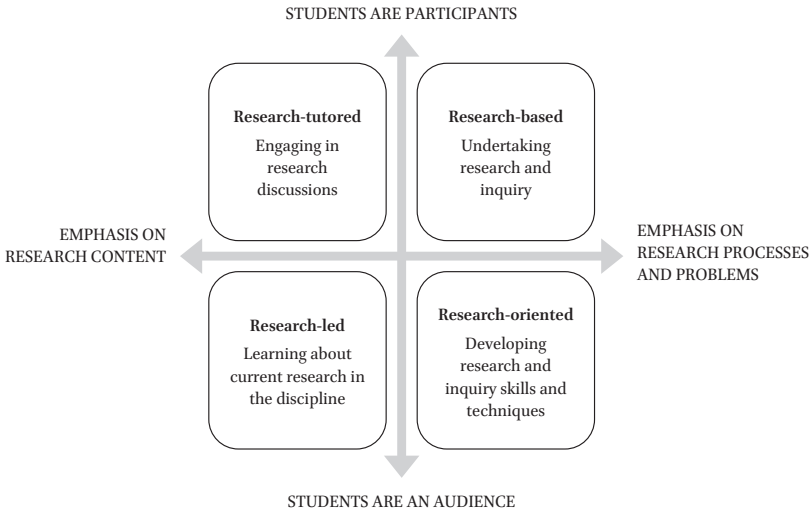


FIGURE 11.1 Research-based curriculum design
 SOURCE: HEALEY & JENKINS (2009, P. 7)

research, (2) a research-oriented approach that develops students’ research methods and techniques, (3) a research-tutored approach that engages students in reflection and research discussions, and (4) a research-based approach that encourages students to undertake research (Healey & Jenkins, 2009). According to Healey and Jenkins (2009), the best way to deliver research-based study programmes is to combine all four approaches and place a close emphasis on student-centred teaching and learning.

However, depending on programme goals and values, three conflicts can emerge with regard to curriculum design; these need careful balancing (see Figure 11.2).

Research-based programs provide future teachers with opportunities to engage in research activities. Zeichner (1983) describes inquiry-oriented teacher education as study programmes that place future teachers at the centre of programme planning and challenge them with context-based research activities. These research activities aim to enable future teachers to study their pupils and analyse their thinking (Afdal & Spernes, 2018). They also enable them to develop self-evaluation skills, allowing them to examine their practice and engage in decision-making and problem-solving (Niemi & Nevgi, 2014; Puustinen et al., 2018). Future teachers gain an understanding of the importance of evidence-informed practice that fosters the ability to adapt their own practice to context (Niemi, 2008). Finally, they develop positive attitudes toward studying and conducting research themselves in future (Jyrhämä et al., 2008; Munthe & Rogne, 2015).

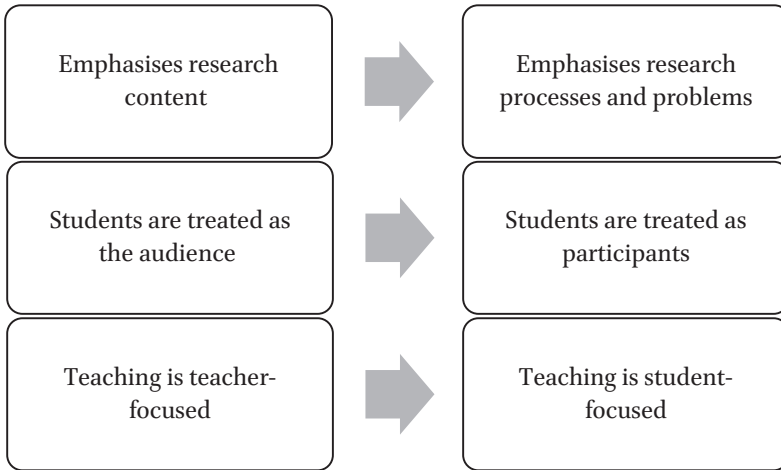


FIGURE 11.2 Three dimensions of curriculum design
SOURCE: HEALEY (2005, P. 3)

Teacher education research activities prepare future teachers to base their teaching on evidence and reflection (Jyrhämä et al., 2008). Such programmes do not require student-teachers to become scientific researchers designing innovative studies in order to generate scientific results. The broader intention of research-based study programmes is to develop a “practitioner-researcher orientation” in future teachers, providing them with a lifelong framework for improving their practice. Ultimately, the goal of a research-based orientation is to prepare teacher-researchers for a wide range of scenarios in their future work (Jyrhama et al., 2008; Niemi, 2011; Alvunger & Wahlström, 2018; Puustinen et al., 2018).

3 Methodology

3.1 *Research Design*

This was a larger qualitative study and the initial findings of an action research design are presented here. Action research is used to engage researchers in systematic inquiry and reflection with a view to promoting better understanding and to addressing problems in education (McNiff, 2017). We deployed this approach to evaluate the potential of a problem-solution research model (PSRM) in the teaching of research methods courses in ITE programmes. Our aim was to foster an understanding among student teachers of the value of research activities for the teaching profession.

3.2 *Problem-Solving Research Model (PSRM)*

Basing ourselves on the literature, we developed a problem-solving research model (see also: Darwin & Barahona, 2021; Flores, 2018). The main intention of the model was to enable student teachers to view research as a tool to plan for, tackle, and improve a range of problems in their current and future teaching practice.

The model is designed to introduce different stages of research in order to make research more relevant, useful, and meaningful for future teachers. The model introduces simplified and practical “research jargon” to enable student teachers to better link research to their teaching practice, and to the profession of teaching more generally. It is designed to be delivered through research methods courses during initial teacher education programmes, where student teachers are initially introduced to and acquainted with research concepts and research activity. The model could be adapted to other courses and contexts.

Overall, such activities aim to change student teachers’ perceptions of the purpose and value of teacher research. Table 11.1 explains the model in detail and the sequence of its delivery. The table is organised into four columns: (1) the first column details the model’s steps and stages, (2) the second column outlines the stages of the research methods to which student teachers are traditionally introduced in research methods courses during initial teacher education, (3) the third column reworks these steps into practical and simplified terminology to assist student teachers’ understanding, and (4) the fourth column explains each step of the model and how it can help student teachers see research as relevant, useful, and meaningful to them as future teachers and the teaching profession in general.

3.3 *Data Collection and Analysis*

The research intervention was conducted using a pre and post-intervention questionnaire (adapted from Van Katwijk et al., 2021) followed by a group interview. The study was undertaken in the University of Prishtina’s Faculty of Education, the largest ITE institution in Kosovo, during the academic year 2021/2022, over a semester-long course on research methods delivered to student teachers from eight subject-based programmes. Sampling characteristics are presented in Table 11.2.

To provide a better understanding of why student teachers from subject-based programmes were selected (Cohen et al., 2018), we outline below the Kosovo teacher education policy with regard to the preparation of subject teachers. In 2012, following a productive stakeholder consultation process, the Ministry of Education issued a regulation (ref. no. 191/01B dated 16 July 2012) requiring the training of lower secondary and upper secondary subject

TABLE 11.1 Problem-solving research model (PSRM)

Steps	Scientific research	PSRM	PSRM explained
Step 1	Research Problem	Education problem	<i>In my class/school/system, I am worried about ... What specific problem have I noticed/observed?</i> In defining the research, student teachers are required to think about a problem they have observed in the classroom, school or system, or to set down something they are worried about. Student teachers are asked to observe specific problems in a classroom during their teaching practice (school placement). This step concludes with group and individual reflection.
Step 2	Purpose of research and research question	Purpose of teacher's investigation	<i>What do I want to explore? I am interested in researching ...</i> Student teachers have already discussed the education problem that concerns them and are ready to move to the second step. This requires them to think about the purpose of their investigation, as current or future teachers. Here, they are asked to specify what they will be investigating in detail. This step concludes with group and individual reflection.
Step 3	Literature Review	Secondary sources review	<i>Reviewing, analysing and discussing secondary sources (focus on research articles)</i> To better understand the problem they have identified and specify the purpose of their investigation, student teachers engage in a secondary sources review. Students are first acquainted with different databases and sites that will assist them. They learn methods of identifying relevant literature. Afterwards, they complete small tasks on organising literature by concept. Such small tasks are constantly discussed and student teachers do not proceed to the next step without ensuring they have learned the purpose and importance of reviewing the literature in order to gain a better understanding of the problem they are interested in investigating. This step concludes with group and individual reflection.

(cont.)

TABLE 11.1 Problem-solving research model (PSRM) (cont.)

Steps	Scientific research	PSRM	PSRM explained
Step 4	Research design	Teacher's approach to investigation	<i>To find out more about my problem, I have planned the following approach ...</i> In this stage, student teachers are introduced to methods for investigating the problem they are interested in. This is done using simplified terminology to help students understand the usefulness and practicality of the approaches in question. Each design is introduced in a way that helps students determine whether it fits the purpose of their investigation. Tasks are tailored to the educational problems selected by the students. Students take time to specify their methodology and design instruments for collecting the information on the ground. They use their school placements to collect data or deliver an intervention (if their research is action-oriented). This step concludes with group and individual reflection, where students report back and receive continuous feedback.
Step 5	Findings and Discussion	Applied results	<i>I have collected the information I need to reflect on the problem ...</i> In this stage, students learn how to organise and analyse their data. They also try to interpret the information collected and use it to help their teaching (or other dilemmas they may face as current or future teachers). Afterwards, students are asked to consider their findings, and discuss and reflect on them in the context of their practice. A series of guided questions are used to prompt detailed discussions. This step concludes with group and individual reflection.
Step 6	Conclusions and Recommendations	Applied conclusions and recommendations	<i>I have identified several approaches to my problem ...</i> This is the final step: student teachers are ready to make use of their findings and make informed decisions about their teaching (or other underlying educational issues they have been dealing with). Student teachers are required to draw on the data to make informed, research-based, practical recommendations that are directly linked to the teaching profession and teacher education. The final step of the task concludes with an overarching group and individual reflection and in-depth discussion.

TABLE 11.2 Sampling characteristics

TE study programmes Course: Research methods in education	Pre- intervention	Post- intervention	Group interview
Mathematics teaching	16	16	2
Technology and ICT Teaching	12	12	1
Biology teaching	18	18	2
Albanian language teaching	17	17	3
Geography teaching	14	14	1
History teaching	12	12	1
Physics teaching	15	15	2
Chemistry teaching	24	24	3
Total	128	128	15

teachers to follow the consecutive model. This model requires prospective subject teachers to first complete a Bachelor's degree in their subject (180 ECTS – a three-year programme) and then complete a mandatory teaching Master's programme for the subject in question (120 ECTS – a two-year programme) in order to qualify and become eligible to teach in the public pre-university education system (Saqipi & Hoti, 2019).

At the beginning of the course, the instructor, who was the researcher in this study, disseminated the paper-based questionnaire to all students enrolled in the course and asked them to consent to participate by filling it out. In the pre-intervention phase, 128 student-teachers from eight Master's-level subject teacher education programmes participated. The first phase of data collection aimed to understand the initial perceptions of students of the purpose and value of teacher research.

The intervention that followed lasted 4 months, with the instructor intensively delivering PSRM (see Table 11.1 for details of the model). During this phase, the instructor observed students and collected continuous feedback on students' reactions and progress. The intervention concluded with the same student teachers filling out the post-intervention phase questionnaire to determine the influence of PSRM on their attitudes towards the purpose and value of teacher research.

To provide further insight into the potential of PSRM to change student teacher attitudes, 15 student teachers participated in a group interview. The students were filtered on the basis of criterion-based purposive sampling (Cohen et al., 2018) to ensure that the selected students were members of the

pre-selected programmes (see Table 11.2 for sampling characteristics). Group interviews help researchers interpret discussions because group members stimulate each other to engage (Frey & Fontana, 1991). The group interview lasted about 1 hour and 15 minutes. The goal was to prompt a discussion about students' experiences with the PSRM and unpack their reflections on the purpose and value of engaging in research in the future. Student teachers who agreed to participate in group interviews also gave informed consent and were assured of anonymity.

The questionnaire (see Van Katwijk et al., 2021) measured four parameters: (1) Perceived value of pre-service teacher research (n = 7) (with items including: conducting research is nice, conducting research is interesting, conducting research is useful), (2) Expectation of using research skills in one's future profession (n = 11) (with items including: conducting research is part of the job description of a teacher, research fits naturally into the work of a teacher, I think research is a good way to increase my professionalism, etc.), (3) Perceived level of research skills (n = 6) (with items including: I have learned how to design research, I feel capable of conducting research, I have acquired knowledge of the topic I researched and I am able to use knowledge from my research in my work as a teacher), and (4) Perceived difficulty of undertaking pre-service teacher research (n = 4) (with items including: I think that conducting research is easy, I think that conducting research is difficult, I think that conducting research is time consuming and Conducting research is too difficult to do without supervision).

A 6-point Likert-type scale was used, ranging from 1 (totally disagree) to 5 (totally agree), including a neutral option. Table 11.3 shows the Cronbach's alphas retrieved from reliability analysis (see also: Van Katwijk et al., 2021).

Data were analysed using descriptive and inferential statistics with SPSS software. Descriptive analyses looking at mean values and standard deviations for student teachers from eight study programmes were conducted with regard to the four parameters to provide a general overview of the results from

TABLE 11.3 Scales of the pre-service teacher research survey and Cronbach's alpha

Scale	Cronbach's α
Perceived value of pre-service teacher research (n = 7)	.89
Expectation of using research skills in one's future profession (n = 11)	.92
Perceived level of research skills (n = 6)	.84
Perceived ease of undertaking pre-service teacher research (n = 4)	.70

pre- and post-intervention questionnaire data (see Table 11.3). A paired samples t-test was then run for student-teachers from all eight study programmes across the four parameters. We considered the two-sided p-value and Cohen's d to establish the size of the effect (for reference: Small effect = >0.2 , Medium effect = >0.4 , Large effect = >0.8).

Data from the group interview were transcribed verbatim and analysed using content analysis. We followed Braun and Clarke's (2006) six phases of text analysis, namely (1) familiarisation with data, (2) generation of initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. Content analysis enables researchers to link different parts of text and produce relevant interpretations. It also helps researchers highlight important aspects of studies by navigating with scattered chunks of text (Cohen et al., 2018). MAXQDA qualitative software was used to organise and analyse the data. The data collected was kept confidential and the anonymity of study participants safeguarded.

The rationale behind the combination of questionnaire and group interview data was to provide more definitive confirmation that exposing student teachers to research activities makes them more likely to attribute value to the conduct of research in the course of their teaching. While the data from the questionnaire provided a quantitative indication that the PSRM model has the potential to positively influence student teachers attitudes towards research, the group interviews facilitated qualitative student teacher reflection on the ability of teacher research to address pressing problems in their future teaching. Synthesising the two types of data was hence important in order to illustrate the full impact of the intervention.

4 Findings

This section reports on the findings from the questionnaire and group interview data. In the first sub-section, descriptive and inferential statistics indicate student teachers' perceptions of the value of education research for the teaching profession. The questionnaire data are enriched by group interview discussions with student teachers; these are presented in the following sub-section.

4.1 *Findings from Questionnaires*

In the pre-intervention phase, the findings showed that student teachers did not perceive research activity in initial teacher education as valuable (see Table 11.4). They also indicated that student teachers' expectations of using research skills in their future profession were moderate to low. Not only did student

TABLE 11.4 Pre-intervention descriptive statistics (M, SD)

Groups (TE study programs)	Dimensions			
	Perceived value of pre-service teacher research	Expectation of using research skills in future	Perceived level of research skills	Perceived difficulty of undertaking pre-service teacher research
	M (SD)	M (SD)	M (SD)	M (SD)
Mathematics Teaching	2.55 (.63)	2.60 (.51)	2.44 (.49)	3.61 (.92)
Technology and ICT Teaching	2.83 (.59)	2.55 (.58)	2.69 (.64)	3.13(1.05)
Biology Teaching	1.90 (.59)	2.21 (.60)	2.31 (.75)	3.82 (.49)
Albanian Language Teaching	1.93 (.79)	2.03 (.66)	2.18 (.57)	4.18 (.44)
Geography Teaching	2.13 (.60)	2.23 (.49)	2.12 (.53)	3.80 (.44)
History Teaching	1.76 (.52)	2.51 (.40)	2.51 (.40)	2.51 (.40)
Physics Teaching	2.41 (.59)	2.49 (.48)	2.40 (.50)	3.60 (.12)
Chemistry Teaching	2.35 (.73)	2.41 (.70)	2.28 (.64)	3.72 (.50)

Note: Results are based on items with 5-point scales ranging from 1 (strongly disagree) to 5 (strongly agree).

teachers not anticipate using research skills in their teaching, they also perceived those research skills as low. Finally, student teachers perceived research during initial teacher education as difficult.

Although the findings are roughly similar across subject-teacher education programmes, some are worth discussing. For instance, student the perceptions of teachers in the Technology and ICT Teaching programme of the value of undertaking research during ITE were more neutral and their reflections somewhat more positive, compared with student teachers from other programmes.

Student teachers on the Albanian Language Teaching programme perceived pre-service teacher research as difficult to undertake, whereas student teachers from the History Teaching programme perceived pre-service teacher research as less difficult than students from all other programmes.

Although the pre-intervention findings indicated that student teachers did not perceive research as valuable and were not expecting to undertake research as part of their future teaching jobs, findings after the PSRM intervention indicated a change in the student teachers' attitudes. The findings in Table 11.5 are promising and show that when student teachers are introduced to research in a more practical context during ITE, they are more likely to see research as valuable and accept it as part of their future teaching activity. There is thus strong evidence for the potential of the PSRM in ITE.

Although the findings are generally positive for student teachers across all programmes, some programmes stand out for the level of "firm agreement" on the importance of education research for the teaching profession. Student teachers from the following programmes, for instance, accorded a particularly high value to pre-service teacher research: Physics, Chemistry, History, and Mathematics. When it comes to student teachers' expectations of using research skills in their future profession, mean values were somewhat lower than those for their perceptions of the value of pre-service teacher research.

In addition, engagement by student teachers in practical research activities resulted in more positive perceptions of their research skills; values here were generally high across all groups.

However, student teachers continued to agree that it was difficult to undertake pre-service teacher research. It is also worthwhile reporting that even student groups who generally perceived research as not being difficult in the pre-intervention phase reported higher levels of hesitation and viewed research as demanding and difficult.

To measure the impact of the PSRM on student teachers' attitudes to the value of research and the expectation that they would undertake it, a paired samples t-test was run for all groups (see Table 11.6). For most student teacher groups and across the majority of dimensions, there was a statistically

TABLE 11.5 Post-intervention descriptive statistics (M, SD)

	Dimensions			
	Perceived value of pre-service teacher research	Expectation of using research skills in future	Perceived level of research skills	Perceived difficulty of undertaking pre-service teacher research
Groups (TE study programs)	M (SD)	M (SD)	M (SD)	M (SD)
Mathematics Teaching	4.01 (.81)	3.61 (.63)	4.16 (.57)	3.86 (.43)
Technology and ICT Teaching	3.98 (.54)	3.56 (.63)	4.32 (.56)	3.71 (.58)
Biology Teaching	3.73 (.62)	3.74 (.47)	4.10 (.59)	3.01 (.70)
Albanian Language Teaching	3.75 (.84)	4.09 (1.35)	4.07 (.55)	3.13 (.57)
Geography Teaching	3.72 (.53)	3.43 (.49)	4.08 (.60)	3.05 (.42)
History Teaching	4.17 (.41)	3.65 (.40)	4.33 (.55)	3.23 (.54)
Physics Teaching	4.31 (.33)	3.73 (.42)	4.48 (.52)	2.29 (.35)
Chemistry Teaching	4.24 (.42)	3.59 (.39)	4.19 (.44)	3.07 (.35)

Note: Results are based on items with 5-point scales ranging from 1 (strongly disagree) to 5 (strongly agree).

TABLE 11.6 Paired samples t-test (all groups)

Groups (TE study programs)	Dimensions							
	Perceived value of pre-service teacher research	Expectation of using research skills in future	Perceived level of research skills	Perceived difficulty of undertaking pre-service teacher research				
	Two-sided p	Cohen's d ^a	Two-sided p	Cohen's d ^a	Two-sided p	Cohen's d ^a		
Mathematics teaching	0.000**	0.38610	0.000	0.41032	0.000	0.37876	0.096	0.56273
Technology and ICT teaching	0.000**	0.44487	0.000	0.36196	0.000	0.82157	0.099	1.11973
Biology teaching	0.000**	0.37880	0.000	0.27977	0.000	0.43222	0.000	0.45013
Albanian language teaching	0.000**	0.25202	0.000	1.07031	0.000	0.11197	0.000	0.38765
Geography teaching	0.000**	0.25771	0.000	0.33376	0.000	0.23883	0.000	0.29417
History teaching	0.000**	0.25809	0.000	0.14550	0.000	0.26493	0.191	0.62158
Physics teaching	0.000**	0.24557	0.000	0.21340	0.000	0.235	0.000	0.28031
Chemistry teaching	0.000**	0.45776	0.000	0.40595	0.000	0.46088	0.000	0.32900

*p < 0.05, **p < 0.01

a Small effect = >0.2, Medium effect = >0.4, Large effect = >0.8.

significant difference between mean values in the pre-intervention phase and mean values in the post-intervention phase, showing a positive change in attitudes to research activities as part of the teaching profession.

Specifically, the findings on whether student teachers perceived pre-service teacher research as valuable after the intervention show statistically significant differences for student teachers in all programmes. This means student teachers started to see value in conducting research after being introduced to it through the PSRM.

Across all programmes, there is a positive change in student expectations of using research skills in the future and in their perceptions of their research skills: after the intervention, student teachers were more likely to engage in research activities in the future and reported higher levels of confidence in their research skills.

However, when looking at attitudes to the difficulty of undertaking pre-service teacher research, some student teachers still reported that they saw research as difficult, even after the PSRM intervention (see for example Mathematics, Technology and ICT, and History). However, student teachers from other groups seemed more confident about conducting research and perceived research activity as less difficult.

In addition to looking at the two-sided p-value, we also considered Cohen's *d*, which looks at the size of the effect of the PSRM approach on student teachers attitudes towards the meaning and value of research. In this case, although there was a statistically significant difference between mean values pre and post-intervention, in most cases, the size of the effect was small or medium (see references in bold in Table 11.6). PSRM should therefore not be viewed as the only model and we need to reflect on other complementary research-based approaches that could help foster teacher researchers who are truly committed to using research in the teaching profession.

The only statistically significant result indicating a large effect size was for the mean differences in the perceptions of student teachers on the Technology and ICT programme of their research skills before and after the intervention. This group of student teachers was the most impacted by the PSRM intervention.

Overall, the findings are promising with regard to the potential of the PSRM approach when introducing future teachers to research methods. Nevertheless, this is only an initial study and a longitudinal intervention would be necessary to better understand its sustainability in teacher education policy and practice.

4.2 *Findings from the Group Interview*

The group interview painted a complex picture of the changes in the student teachers' attitudes to teacher research. At the beginning of the study, the

majority of student teachers did not see much value in conducting research and reported low expectations of conducting research in future. However, after engaging in practical research activities as prompted by the PSRM, the student teachers reported that they had been reflecting on the significance of research for the teaching profession.

Discussions during the group interview provided rich data and strengthened the quantitative dimension of the findings. The discussions were structured around the following themes: (1) revisiting the significance of education research for the teaching profession, (2) seeing research as useful and valuable for the teaching profession, and (3) expecting to conduct research as future teachers. The discussion of the data is organised into three thematic areas; quotes from students are included to give a more direct impression of their reflections and changed attitudes regarding education research.

4.2.1 Revisiting the Significance of Education Research for the Teaching Profession

Discussions with student teachers from different subject programmes revealed some initial misunderstandings about the significance of teacher education research. Many students claimed to have viewed research as a purely scientific activity and found it difficult to understand how and why they needed to conduct research as future teachers. While it was expected that these groups of students would to some extent be confused about education research, given that all had completed their Bachelor's degrees in academic areas (Mathematics, Physics, etc.), the group discussions revealed significant misunderstanding of research as it applied to the teaching profession and significant changes after the course. The discussions below indicate that student teachers had a new understanding of education research and attributed a different significance to it after the PSRM.

In the past, I saw research as a scientific activity and thought it was too difficult to be part of a teaching job. I now understand research is integral to the teaching profession. Now, I can see new meaning in practical research activities; they will help me as a future Geography teacher to shape my teaching practice. (Geography Teaching, student teacher 9)

For me, the meaning of teacher research has changed. Previously, I saw research as technical and theoretical and mainly as course and credit requirements. After engaging with practical research, I understand that the purpose of research is to define a problem that relates to my teaching, reflect on it, and solve it. (Albanian Language Teaching, student teacher 7)

Although this was an initial study, student reflections captured the potential of PSRM to be a practical way of introducing future teachers to education research.

4.2.2 Seeing Research as Useful and Valuable for the Teaching Profession
Discussions with student teachers also showed that not only did they now understand the meaning of education research, they also had a newfound appreciation of the importance of research for the teaching profession. Students discussed a true shift in their understanding and indicated that they would place research at the forefront of their activities as teachers.

I now understand why education research will be useful for me as a future teacher. Conducting research is practical and relates to all other activities we have been trained to carry out as teachers. After this course and all the activities it involved, I realise that engaging in research will help me become a better teacher! I still think that it will be demanding, but it will be useful and valuable too. (History Teaching, student teacher 10)

“Why should research be valuable to me, I am not a scientist” ... This was the mindset I had and my previous studies had fostered this attitude. Being guided through research activities, discussing them in detail with the course instructor and the entire group of colleagues, reflecting throughout the process and being able to come up with practical recommendations for teaching, is what I appreciate and value the most about research. (Technology and ICT Teaching, student teacher 3)

To sum up, the students confirmed that engaging in personalised research activities helped them to understand the potential of research to help them become better teachers. Undertaking such activities showed that when students engage practically with research and when such activities are directly related to teaching, students will view research as integral to the teaching profession.

4.2.3 Expecting to Conduct Research as Future Teachers
Students also discussed how their engagement in practical research activities during the course had enabled them to understand that research is an integral part of teaching; they thus anticipated that they would conduct research in the future. Students also reflected that on the one hand, they had always perceived the teaching profession as practice-oriented and, on the other hand, that they had seen research as technical and theoretical, which made it difficult to link

the two activities. However, they had more positive attitudes after conducting research that was tailored to pressing problems relating to teaching. The discussions below illustrate the shift in students' mindsets with regard to education research and confirm that they are planning to conduct research as future teachers.

As a future Chemistry teacher, I needed to know exactly how I could use research. Maybe my previous studies have failed to present and promote research as a practical activity. Having had this personalised experience with specific projects and tasks, I understand clearly how I can use research in my profession. I commit to conducting research as a future teacher in order to improve my teaching practice. I have a newfound respect for research and I value it highly! (Chemistry Teaching, student teacher 15)

Before, I did not understand how I could use research as a member of the teaching profession. As a future teacher, I thought I would have more than enough practical and demanding tasks, and adding research to that seemed like a lot! However, after being introduced to research in a more practical way, I understand that it is an inseparable part of my duties and responsibilities as a future teacher and should not be seen as a burden, but instead as way of ensuring we deliver quality education. (Mathematics Teaching, student teacher 2)

Overall, the student teachers' discussions corroborated the quantitative findings. Their reflections were relatively positive and showed how important it is to introduce research in practical ways, and that this can improve students' understanding of research and their readiness to conduct it as future teachers.

5 Discussion and Conclusion

This chapter set out to present the potential of a problem-solving research model (PSRM) to change student teachers' perceptions of the purpose and value of teacher research in initial teacher education. The model draws on recent literature focusing on innovative research-based teacher education practices (see also: Darwin & Barahona, 2021; Flores, 2018).

Our findings show that the problem-solving research model (PSRM) can enable student teachers to apply research better and to understand the purpose and value of research for the teaching profession. Specific findings from

the PSRM intervention were a significant improvement in student teacher attitudes to teacher research across three dimensions: (1) student teachers considered research to be valuable and perceived research as having the potential to solve pressing problems in their future practice as teachers; (2) student teachers expressed increased willingness to engage in applied research in future; (3) student teachers had a better perception of their own research skills.

It has long been noted that it is important for teachers to conduct research: this has been advocated in different teacher education contexts (Alvunger & Wahlström, 2018; Jyrhama et al., 2008; Niemi, 2011; Puustinen et al., 2018; Snoek & Moens, 2011). Our findings reflect these studies insofar as they highlight the potential of engaging student teachers in practical research during initial teacher education and the implications for their future professional practice. Similarly, Niemi and Nevgi (2014) have reported that Finnish student teachers value research activities that enhance their research skills and professional development by fostering evidence-based practice. Afdal and Spernes (2018) have also suggested that research activities help future teachers to analyse their pupils and ensure that their decisions are informed by research. More importantly, other studies have supported our findings that when future teachers engage in research, they develop positive attitudes toward conducting research in future (see also: Jyrhämä et al., 2008; Munthe, & Rogne, 2015).

The findings of our study have direct implications for teacher education policy and practice. They highlight the importance of introducing future teachers to research by means of practical and tailor-made approaches that enable them to see research as relevant, useful, and meaningful for the teaching profession. Our findings confirm the potential of PSRM to activate future teachers' desire to conduct research and enhance their research skills, thus improving the quality of their teaching (see also: Feldman et al., 2018). Our model may be a good basis for policy frameworks relating to research-based continuous professional development for teachers. Our study also recognises other research-based approaches as equally important for making research a central theme in teacher education policy and practice.

Our study recommends the introduction of new practical elements to initial teacher education, fostering a more simplified approach to teacher research to make student teachers more aware of the meaning and value of teacher education research for their teaching practice, professional development, and confidence to innovate. Such approaches expose students to real problems during teaching practice in schools and facilitate research-based methods of addressing such problems. This requires ITE and schools to extend their cooperation beyond teaching practice (school placement), adding a strong research element to student teachers' practical learning trajectory. Providing future

teachers with a practical and simplified introduction to research will allow ITE institutions to move past the current debate on whether research is part of the teaching profession. It will free teacher education research from the closed walls of the lecture halls and will motivate teacher educators, student teachers, and teachers in schools to co-create a practical research-based learning environment for future teachers.

We therefore recommend the establishment of better links between ITE institutions and schools and the redesign of the research aspects of teacher education. This approach would not only strengthen future teachers' research skills but also foster a new teacher-researcher culture (see also Flores, 2018) that places high value on education research. Strengthening teacher education research through links between ITE institutions and schools will be a stepping stone towards positive change and the transformation of education systems. In summary, exposing future teachers to individualised, tailor-made research activities will encourage them to attribute value to the conduct of research as a key aspect of becoming high-quality teachers.

5.1 *Limitations of the Study*

This is a small-scale initial intervention study and in that context certain limitations must be mentioned. Firstly, the study measures student-teacher attitudes by means of a questionnaire focusing on four dimensions (as outlined in Table 11.3) in the context of Kosovo; it could be argued that the findings cannot be generalised beyond this context. Moreover, the intervention was delivered over a semester-long course on education research, a subject some of the students were encountering for the first time. It might be argued that a more extended timeline is required to understand the strengths and weaknesses of the PSRM intervention with regard to teacher education research. Future studies could focus on longitudinal university/school research projects with a view to understanding the impact of such large-scale interventions. Comprehensive studies of the cultivation of a teacher-researcher culture across different education contexts are also recommended. Finally, studies examining the influence of research-based teacher education on policy could provide a deeper insight into the importance of university/school education research.

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The Potential of Action Research to Support Teachers' Positive Attitudes toward Inclusive Education

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Abstract

Teacher education plays a crucial role in developing positive attitudes in preservice teachers towards inclusive education and in equipping them with skills and knowledge to support the learning of a diverse range of learners. This study aimed to find out how the changes made in an Implementation of Inclusive Education at School course, offering preservice teachers an opportunity to integrate theory and practice through small-scale action research (AR), influenced the teachers' attitudes and their readiness to apply the knowledge they had acquired to support the learning of students with diverse needs. Analysis of the pre-and post-survey results showed that preservice teachers' attitudes towards implementing inclusive education became significantly more positive. Furthermore, the AR reflection tasks analysis showed increased confidence in preservice teachers about applying theory in practice and their ability to support different learners. Preservice teachers' learning was thus influenced by the structure of the course, where theoretical knowledge was connected to practical tasks in real-life classrooms.

Keywords

teacher education – teachers' attitudes – inclusive education – action research

1 Introduction

In Europe today, teachers need to be motivated, qualified and, most importantly, highly adaptable professionals who can meet their increasingly heterogeneous students' evolving and diverse needs with flexibility, innovation, and creativity. Thus, one of the tasks of initial teacher education is to ensure that graduates have the competences stipulated in professional standards

for inclusive teaching, and are willing to undertake continuous professional development. Research has shown that teachers have a critical influence on the effectiveness of learning (e.g. Rivkin, Hanushek, & Kain, 2005), especially for students needing additional support (Forlin, Cedillo, Romera-Contreras, Fletcher, & Hernandez, 2010; Timperley & Alton-Lee, 2008). As an increasingly multicultural and heterogeneous student body poses challenges for education systems worldwide, attempts are being made all over the globe to develop teacher education curricula that are academically and practically relevant and that support the delivery of inclusive education (e.g. Sharma, 2018).

Although 15–20 years have passed since the idea of inclusive education was introduced into Estonian legislation, recent reports show that the policies that were adopted have not yet materialised in the form of good practice: as less than half of teachers feel prepared to deliver inclusive education (HTM, 2022) and existing support systems are not yet assuring access to education for all (HTM, 2021). Given that data from different parts of the world indicate that preservice and experienced teachers often feel unprepared to work with students with special educational needs (SEN), a central component of inclusive education (e.g. Forlin, Keen, & Barrett, 2008; Räis, Kallaste, & Sandre, 2016), teacher education programmes need to address this issue as a matter of urgency.

Researchers have analysed teacher education (TE) programmes that aim to prepare preservice teachers to deliver inclusive education. First, such programmes often consist of individual, largely unconnected theoretical courses, despite the fact that such theories need to be integrated and applied when it comes to the practice of teaching (Britzman, 2003). Secondly, the special education courses offered to preservice teachers often focus on specific needs, which, according to Florian and Rouse (2009) strengthens preservice teachers' perception that the teaching of children with special needs is primarily the responsibility of those who have received targeted training in special education. Thirdly, the courses provided to preservice teachers often focus only on certain aspects, such as teaching skills and competencies, positive attitudes towards inclusion etc. (Forlin & Chambers, 2011); they do not cover all the key aspects of inclusive education.

If all European schools are to take an inclusive approach to education, teachers will need to be knowledgeable, socially, ethically and culturally sensitive and adaptable, seeking out solutions that support the learning of each individual learner and consciously moving away from exclusionary practices both in the classroom and in school. Such flexibility and responsiveness can be facilitated by the deployment of innovative, research-based approaches to learning and teaching. Darling-Hammond (2010) outlines several practices used by strong teacher education programmes to train effective and creative teachers.

These include in particular extensive practical placements, capstone projects, and action research (AR). In addition, the continually changing nature of society calls for professional teachers with inquiring attitudes who know how to use evidence-based knowledge and who conduct research to evaluate and solve the complex problems of schools and classrooms (Baan, Gaikhorst, & Volman, 2019; Darling-Hammond, 2017; Van Katwijk et al., 2021). As De Arment et al. (2013) have noted, adapting one's knowledge and skills, i.e. adaptive expertise, is essential if teachers are to have an impact on every learner, particularly those at risk of failure or dropping out of formal learning environments.

In order to develop teacher agency, teacher education programmes must thus challenge and support teachers to build theories of practice that bridge research-based knowledge and everyday knowledge – enabling them to understand how their students are learning and how best to help them (Lampert, 2010). Previous studies have found preservice teachers to have a positive perception of practitioner research, and identified a positive correlation between quality research and quality teaching (Van Katwijk et al., 2021); they have also noted that practitioner research promotes professional competence (e.g. Niemi & Nevgi, 2014). All these studies also emphasise the importance of creating authentic experiences during teacher education, and of integrating research studies into classroom practices.

Based on the principles described above and the policy guidelines in the Estonian lifelong learning strategy and the Tallinn University strategic development plan, the teacher professional studies module at Tallinn University was updated. Previously separate smaller modules were integrated into four compulsory 6 ECT modules. The theme of the overall course is teacher professionalism and the autonomy that supports it. Teachers' ability to reflect on their work, carry out research, collaborate and make decisions informed by research enables them to cope with changes in the education system and, more importantly, influence and direct these processes in the classroom, at the school level and within society more broadly.

The foundations of preservice subject teachers' understanding of the basic processes of learning are laid during the first semester, through the Supporting Development and Learning and Emotional and Social Aspects of Learning courses. Learning outcomes relating to inclusive education and support for all learners, including SEN students, are delivered through the Inclusive Education at School course. The present article therefore focuses on changes to the design of this course, which aims to foster positive attitudes towards inclusive education amongst preservice teachers and to enhance their readiness to engage in action research, applying knowledge they have acquired to their teaching practice.

2 The Principles for Including Inclusive Education in School Teacher Education Courses

In 2016, the initial teacher education professional studies module at Tallinn University was redesigned, uniting two previously separate courses (Students with Special Educational Needs and The Teacher as Researcher) within a single 6 ECTS course entitled Inclusive Education in Schools. This aimed to build confidence in working with children with special educational needs, and foster knowledge of inclusive practices as well as the willingness and ability to adapt learning environments to learners' needs. In order to offer preservice teachers an opportunity to put their theoretical knowledge into practice through action research, a 3 ECT teacher education practice module was incorporated into the revised course. One of the goals of this was to help preservice teachers to develop an inquiry mindset. Previous studies have shown that preservice teachers become more proficient practitioners of inclusive education when teacher education courses encourage them to become reflective practitioners and researchers (Barrett & Green, 2009). Teachers with an inquiry mindset and the skills to undertake research are more likely to be able to evaluate and improve their teaching and introduce innovative approaches, which is crucial in an inclusive classroom. Previous studies have shown that practical tasks connected to teaching helps preservice teachers develop inquiring attitudes (Van der Linden et al., 2012) and improves their practice (e.g., Kennedy-Clark et al., 2018). Practitioner research also increases teachers' understanding of students' learning processes (e.g. Elm & Nordqvist, 2019), and enhances reflection and innovative attitudes, which are essential for managing in constantly changing classrooms (e.g. Castle, 2006). Or as Van Katwijk et al. (2021) noted, using practitioner inquiry as a professional learning strategy can help to educate 'future-proof' teachers.

Research shows that courses and modules that include practical and reflective teaching can influence preservice teachers' attitudes, knowledge and skills with regard to inclusive education (Symeonidou, 2017). The 3ECTS teacher education module has thus allowed preservice teachers to put their theoretical knowledge into practice. The practical task entailed designing a differentiated intervention for a single student, a group, or the whole class and applying the principles of action research to identify appropriate support strategies. AR directs teachers to assess their personal beliefs and ask meaningful questions about their teaching principles. In turn, this encourages collaborative problem-solving and creates a supportive environment in which to identify, evaluate and implement research-informed practices (Sharma, 2010).

The course thus focuses on the selection of suitable interventions and the process of creating an action research plan to modify the teaching process in

line with the need of the student or students, as well as the process of data collection and analysis. Support is provided step by step. The topics discussed during the course, i.e. learning difficulties, behavioural difficulties, attention deficit hyperactivity disorder, autism spectrum disorders, giftedness, gender and cultural specificity, also help preservice teacher to design an action research plan and select appropriate interventions and activities depending on the needs of the student(s).

Planned classroom interventions to support students' learning are discussed with fellow preservice teachers, the university lecturer, and the supervising teacher in school, all of whom provide feedback before the activities are introduced. As interventions progress, their effectiveness is evaluated with the supervising teacher on the basis of the data collected (e.g. student work, observation notes, feedback etc.). At the end of the course, preservice teachers submit an evidence-based academic article-style case report about their experience of AR. They receive a grade which considers knowledge, skills, literature review and the practical activities undertaken with a specific learner or group of learners to support their learning. In addition, a reflection task is added to the course paper to enable preservice teachers to analyse their learning and action research process.

3 Attitudes towards Inclusive Education

Research shows that teacher attitudes are key determinants of the success of inclusive classrooms because they influence teacher behaviour, and this affects the classroom atmosphere and students' chances of success (e.g., Avramidis & Norwich, 2002; Jordan et al., 2009; Silverman, 2007). Positive attitudes are the best predictors of the success of inclusive education reforms (Forlin, 2010), while negative attitudes on the part of teachers, parents and education officials are the most critical barriers to implementation (Mittler, 2003). It has also been found that educators with a positive attitude toward inclusion deploy more teaching strategies that take account of individual differences (Campbell, Gilmore, & Cuskelly, 2003; Forlin, 2010). Teachers' attitudes are significantly influenced by their previous exposure to people with special needs, the extent to which they are concerned about their own competencies, and the support provided by their environment; it has been found that teachers with experience of people with special educational needs have a more positive attitude towards inclusion (Burke & Sutherland, 2004). It has also been revealed that teachers who are less concerned about the availability of resources have more favourable attitudes toward inclusion (Lambe & Bones, 2006). A study

in Estonia showed that differences in kindergarten and elementary school teachers' attitudes towards inclusion were explained mainly by differences in learners, staff and working environments. This study concluded that kindergarten staff had more positive attitudes towards inclusion than school staff. Elementary school staff were more likely than kindergarten teachers to see SEN student support as the responsibility of special needs teachers, for example. (Häidkind & Oras, 2016).

Since several studies emphasise the crucial role played by teacher education programmes in the formation of supportive attitudes towards inclusive education (Forlin & Hopewell, 2006; Andrews, 2002) and by practitioner research skills in the continual evaluation and improvement of teaching to support all students' learning needs (e.g. Darling-Hammond, 2017), we aimed to find out how the changes made in the Inclusive Education at School teacher education course had influenced preservice teachers' attitudes and their readiness to apply acquired knowledge to practice through small-scale action research projects. More precisely, we sought to answer the following research questions:

1. What are preservice teachers' attitudes, and what is their level of readiness to introduce inclusive education before and after completing the Inclusive Education at School course?
2. How does the small-scale inquiry that is integrated into the course contribute to preservice teachers' readiness to support the learning of students with different needs?

4 Methodology & Methods

4.1 *Sample and Procedure*

Data was collected in 2021/2022 from preservice subject teachers enrolled in a master's-level teacher education programme at Tallinn University. The Inclusive Education at School course is one of the four core units in the future teachers' professional studies module, which is studied in the spring semester of the first academic year of the master's programme. A total of 84 preservice teachers (11 males, 73 females) provided responses to the pre-and post-survey (58.3% of all attendees). Thirty-three (39.3%) of respondents were aged 20–29, twenty-two (26.2%) were 30–39, twenty (23.8%) were 40–49 and nine (10.7%) were over 50. 77.4% (65) of respondents either worked or had work experience as teachers.

Preservice teachers' participation in the study was voluntary, and they were informed about the study's aims and data usage. The survey was conducted electronically at the beginning and end of the course using Qualtrix online

survey software. In addition, open-ended responses were collected at the end of the course about how small-scale action research could influence personal attitudes and enable respondents to apply what they had learned. Data were anonymised, stored and analysed in line with research ethics standards. The principles of Good Research Practice (Estonian Research Council, 2017) were applied to all aspects of data collection and the implementation of AR in the classroom.

The primary goal of the preservice teachers' action research assignment was to help them apply the knowledge they had gained in the course about supporting students' learning by adapting the learning environment to learner needs. Where preservice teachers did not work as teachers and were completing their teaching practice in schools, students were chosen by the supervising teacher. Preservice teachers who were working as teachers during their studies chose a student for themselves; these were often students who needed extra support. The AR projects enhanced the preservice teachers' teaching skills, and the evidence generated (students' work, grades, observation notes, etc.) was used to evaluate the effectiveness of the changes made to the teaching and learning process. Since the focus of the activities was the development of teaching practices, parental consent was not needed. However, the parents were kept informed about the approach and the preservice teachers' activities. The AR summary presented to university teaching staff, which described the context and any problems with students' learning, was anonymised by means of pseudonyms.

4.2 *Instruments*

The Teacher Efficacy in Inclusive Practice (TEIP, Sharma, Loreman, & Forlin, 2012) questionnaire was used to map changes in the preservice teachers' self-efficacy. The questionnaire consisted of a total of 15 statements, which were divided into three subscales. The first subscale consisted of four statements (Cronbach's $\alpha = 0.73$) describing self-efficacy beliefs with regard to the use of inclusive instructions in regular classes (e.g. *I can provide an alternate explanation or example when students are confused*). The second subscale consisted of 5 statements ($\alpha = 0.89$) and focused on efficacy beliefs with regard to dealing with disruptive behaviour (e.g. *I can calm a student who is disruptive or noisy*). The third subscale comprised six statements ($\alpha = 0.84$) describing efficacy beliefs with regard to collaboration (e.g. *I can assist families with ensuring their children do well in school*). A six-point scale was used for responses to the statements, with 1 denoting "strongly disagree" and 6 "strongly agree".

To analyse preservice teachers' attitudes to including students with special needs in regular classes, the teachers completed a pre-and post-survey evaluating the extent to which they agreed that students with different types of

special needs could be accommodated (Räis, Kallaste, & Sandre, 2016). The special needs evaluated included learning difficulties, behavioural difficulties, special physical needs, difficulties with hearing, vision and speech, and mental and compound disabilities. Statements about whether students with a given special need could be taught in regular classes were evaluated on a four-point scale: “definitely not”, “rather not”, “rather agree”, and “completely agree”.

To establish the preservice teachers’ readiness to deliver inclusive education, they were asked at the beginning of the course whether they had previous experience of teaching students with special needs and how confident they felt about including students with SEN in their classes.

At the end of the course, open-ended questions were added to their final coursework tasks, seeking feedback on how the action research had contributed to their learning. To address the second research question, for instance, we asked learners to respond to the following two questions: What did you learn from the action research process? How has your practice changed, and how has it affected your learners and their learning?

4.3 *Data Analysis*

Numerical data was analysed using the SPSS 25 statistical package. Paired samples were subjected to t-test analyses to compare the differences in preservice teachers’ pre-and post-test responses. Correlation analysis was used to determine the relationships between variables.

Qualitative data were subjected to thematic analysis (Braun & Clarke, 2006), the unit of analysis being a sentence or a paragraph that expressed a concept as a whole. In the first stage of inductive coding, the semantic approach was used, and as many preliminary codes as possible were derived from the written responses. The second step involved identification of patterns and sub-themes in the codes, which were then grouped under broader themes on the basis of similarity. In the final step, the data were analysed again in light of the main themes and sub-themes identified. Table 12.1 illustrates some of the main themes and sub-themes derived from the qualitative thematic analysis, focusing on the central theme of *Seeing opportunities for professional development*.

5 Results

5.1 *Preservice Teachers’ Attitudes towards Inclusive Education before and after the Course*

32% (n = 27) of the preservice teachers who participated in the study had no previous experience of teaching students with special needs, and 47% (n = 39)

TABLE 12.1 Illustration of main themes and sub-themes derived from qualitative thematic analysis

Main theme	Sub-themes	Initial codes
Seeing opportunities for professional development	Changed attitudes, perceptions	<ul style="list-style-type: none"> – Changed understanding of one's role – My options as a teacher when supporting students – Self-criticism – Courage to experiment
	What to change in work	<ul style="list-style-type: none"> – What works and what does not – Useful methods, strategies – Future plans, i.e. how to support student(s) in the future – How to identify shortcomings

admitted to having little experience. 21% ($n = 18$) had at least a couple of years' experience of teaching students with special needs.

Analysis of preservice teachers' pre-and post-survey responses to the question on "My confidence about including SEN students in teaching" revealed that the preservice teachers were significantly more confident at the end of the course ($M = 2.89$, $SD = .71$) than at the beginning ($M = 2.39$, $SD = .89$), $t(83) = 5.7$, $p < .001$) about including SEN students in regular classes. Table 12.2 provides an overview of the distribution of responses.

TABLE 12.2 Preservice teachers' confidence about teaching SEN students

Confidence about teaching SEN students	Beginning of course		End of course	
	N	%	N	%
Very low	13	15	2	2
Low	35	42	20	24
Middle	26	31	47	56
High	10	12	15	18
Total	84	100	84	100

There was a low positive correlation at the beginning of the course between the preservice teachers' previous exposure to teaching SEN students and their assessments of their confidence about integrating SEN students into mainstream classes ($r = .401, p < 0.001$).

The survey revealed positive differences in the preservice teachers' willingness to include students with different special needs in regular classes. Compared with the beginning of the course, willingness to include students with a learning disability in mainstream classrooms was higher at the end of the course $t(83) = 2.80, p = .003$. Willingness to include students with behavioural difficulties was also significantly higher at the end of the course than at the beginning $t(83) = 2.97, p = .002$. However, in case of other specific types of SEN students, the increase in the number of preservice teachers agreeing that they should be included in regular classrooms was not statistically significant. Similar results were revealed with regard to students with mental and compound disabilities.

Preservice teachers' sense of self-efficacy with regard to inclusive practice was evaluated using the Teacher Efficacy in Inclusive Practice (TEIP) scale. All subscale mean scores, i.e. efficacy with inclusive instructions ($t(83) = 2.35, p = 0.011$), efficacy in dealing with disruptive behaviour ($t(83) = 4.39, p < 0.001$) and efficacy in collaboration ($t(83) = 3.97, p < 0.001$), were statistically significantly higher at the end of the course than at the beginning. Table 12.3 gives an overview of pre- and post-test mean scores.

In summary, at the beginning of the course, preservice teachers rated their confidence about including SEN learners in regular classes lower than at the end of the course. However, at the beginning of the course, preservice teachers with previous experience of working with SEN students rated their self-confidence higher. Compared with the beginning of the course, preservice teachers' willingness to include students with learning and behavioural difficulties in

TABLE 12.3 Preservice teachers' self-efficacy ratings pre- and post-test

	Pre-test		Post-test	
	Mean	SD	Mean	SD
Efficacy with inclusive instructions	4.46	0.75	4.62	0.65
Efficacy in dealing with disruptive behaviour	3.74	0.89	4.07	0.75
Efficacy in collaboration	4.09	0.83	4.41	0.67

regular classes had increased significantly by the end of the course. Their self-efficacy beliefs with regard to inclusive practices also increased. The questionnaire results thus indicate positive changes in preservice teachers' attitudes during the course.

The section below analyses the preservice teachers' answers to the questions focusing on the action research, its value and how it contributed to their readiness to support students with different needs.

5.2 *Potential of Small-Scale Inquiry to Strengthen Preservice Teachers' Readiness to Support Students with Different Needs*

As a result of the thematic analysis of answers to the questions: What did you learn from the action research process? How has your practice changed, and how has it affected the learners and their learning?, four broad themes emerged: (1) Seeing opportunities for professional development, (2) Understanding students who need support, (3) the importance of collaboration, (4) AR as a method.

5.2.1 Seeing Opportunities for Professional Development

The majority of the preservice teachers pointed out that during AR, they learned to notice opportunities to develop as a teacher. Preservice teachers' skills and knowledge increased the most with regard to strategies that work or do not work for individual students in need of support.

The action research process as a whole supported my professional development as a teacher because I got real experience of how to support my students as a teacher; I also learned that I can support them as a teacher even if I can't do it specifically in my lesson. (St 66)

Searching for and testing new solutions, methods and strategies to support students' learning also gave preservice teachers the courage and confidence to test many further options in the future. Answers referred not only to what had been learned during the study but also to what could be done in the future to support individual students' learning. The experience of success also had a positive influence on preservice teachers' attitudes and beliefs.

I know now what effective reading strategies are and how important it is to teach them to students and to work on them together in class. Students may not be able to apply reading strategies unless they have practiced them with the teacher. I also developed and enhanced a growth mindset,

because I saw with my own eyes how much a student could develop if his or her weaknesses were dealt with in-depth and fostered. (St 6)

Introducing changes enhanced preservice teachers' self-confidence and increased their willingness to differentiate their teaching.

I gained more confidence in devising and implementing interventions and activities, and now I have the self-belief to plan different activities to promote learning and good behaviour in my classes in the future. In addition, the research was a good exercise in focusing on the individuality of different students, and I realised how important differentiation is in lessons. (St 52)

As the interventions were planned during the teacher education course with the support of the university teaching staff and the school and the results were analysed together with fellow preservice teachers, a safe learning and experimentation environment was created. However, some preservice teachers wrote that the beginning was nerve-racking, especially where they were on placement and did not know enough students and had limited time. It was therefore very positive that all participants experienced success during the process and recognised the importance of the teacher's role and actions for bringing about change.

As a teacher and the author of the AR work, I learned tremendous patience and persistence. I understand that you should not give up easily. The development process is slow at first, but when it starts, it is noticeable and very stimulating for both the teacher and the student. (St 53)

Although all preservice teachers recognised that the action research results were positive because they learned a great deal and saw changes in the students, they were also self-critical. Many preservice teachers who were already working full-time as teachers acknowledged that the action research made them realise that they either did not understand the student in question or had not succeeded in identifying suitable solutions until that moment. The action research process made them analyse their previous actions and attitudes as a teacher in more depth.

As a teacher, this process taught me that I do not actually know my students very well. (St 54)

In the past, I had looked for solutions to problems when they arose, but not with any scientific basis, and I did not take a consistent approach towards the results. In retrospect, the change started with increased awareness on my part and changes in my behaviour. [Student pseudonym 1] has not changed in herself, but I have adapted my methods to her needs. I have learned to communicate with her in a supportive way. I can only speculate on what might have happened if I had sought help earlier. (St 56)

On the other hand, just as the process of action research is focused on learning and views problems as opportunities, the preservice teachers had to develop a researcher mindset; this foster the ability to learn from failures, continuous improvement of knowledge and skills, and a readiness to innovate.

Probably the biggest thing I have learned is that one unsuccessful lesson does not mean I have failed as a teacher – it is rather a personal lesson on how to handle a similar situation better in the future, or avoid it if possible. (St 12)

5.2.2 Understanding Students Who Need Support

The second most frequent learning experience referred to in preservice teachers' answers was related to the learners. Since the main focus of the action research was supporting the learning of one specific student, the preservice teachers got to know that student better during the AR. This meant they were more likely to notice and understand the individual attributes of the student in question. One of the sub-themes of this central topic thus related to establishing a relationship with the student, as the basis for working with them.

When an individual student notices that the teacher cares about them and their activities and is supporting them, they understand the teacher, and trust develops between the teacher and the individual student. Through that trust, I was able to create a learning environment in this study that met the student's needs and gave them a sense of security. (St 48)

By having contact with him, I managed to create a relationship that was not shaken even by the fact that he sometimes continued to stop working or was in such a mood in the morning that he did not want to do anything. The most important thing was that I did not give up on him, because he is an unhappy little boy who can't deal with his emotions. (St 57)

The second subtheme was related to noticing and understanding the unique features of a student in need of support. During the action research, many of the preservice teachers were surprised when they took the time to get to know the student and understand them better.

I admit that I also looked at [Student pseudonym] that way and blamed him for his poor results: if you read the workbook, you would get a better grade! Because of the AR, I know that [Student name 2] will read the instructions when I prepare them in a way that is suited to his working memory and ability to concentrate. (St 15)

I now understand the background to [Student pseudonym]'s learning difficulties much better, and I believe that if he had been supported since the first grade, he would be coping better with his studies now. (St 61)

In so many cases, it was recognised that, in reality, the solutions were more superficial than they initially seemed, and the change started with the teacher in question.

Most of all the action research taught me that what initially seemed like the big problem of learning disabilities and undiagnosed ATH had simpler causes and solutions. (St 18)

Even though I've been teaching [Student pseudonym] for a few years now, I felt that I was now able to do something for him. It seems that an individualised approach is better for [Student pseudonym]. Change still starts with me, with my own attitude, and step by step, as a teacher, I am now understanding [Student pseudonym] better. (St 51)

5.2.3 The Importance of Collaboration

The third topic raised in the responses and learned about during the AR process was collaboration. Respondents indicated they had learned that collaboration is essential to finding solutions to complex student problems and that teachers should not be left in isolation. In some cases, a second opinion can help teachers understand the situation better.

Collaboration was key for me in this assignment. Talking about the student with the class teacher gave me a deeper understanding of them, and the subject teachers' opinions helped me find a way to approach the student's lack of self-confidence. (St 54)

Although collaboration was considered necessary, some answers referred to the challenges of working with colleagues who had lost faith in the learner. They also reported complicated relationships with parents who might be unwilling to admit that the child needs additional support, or are not ready to collaborate with the teacher to support their child. However, responses mainly reflected a belief in the necessity of collaboration, and the attempt made by the AR to achieve that.

It also became apparent during the task that this kind of thing cannot be attempted alone. Other teachers, the class teacher and parents must be involved so the result is as effective as possible. This child is the concern of the whole school, and it should be in the interest of the whole school to ensure they receive a fully adequate education. Therefore, in my action research, I tried to involve as many teachers as possible, and it was good that there was also communication with the social pedagogue. (St 69)

5.2.4 Importance of AR as a Method

Although action research was a method that put theory into practice and during which the teacher-researchers learned about themselves, their students and the support they needed in collaboration with colleagues, the preservice teachers' responses also revealed the benefits and usefulness of AR as a method. The preservice teachers recognised that although AR was time-consuming, it helped them deal with problems and identify systematic solutions.

The most valuable thing I learned about was the action research approach to students and their learning problems, namely the "diagnose-plan-do-evaluate" cycle. (St 42)

Many of the teachers that were already in work highlighted the importance of AR for their learning and development.

It is unbelievable that I taught him for a whole school year, but it took action research to make me notice something so basic. As a result of the action research, I identified and mapped the problem, developed possible ways of supporting the student and planned their application going forwards. All in all, I understood the importance of action research. If there is a problem, you should always dig deeper and find out what the cause might be. This is the only way to offer high-quality, expert and meaningful support as a teacher. (St 8)

At the same time, conducting action research was more challenging for pre-service teachers who were on placement in a school: lack of experience and lack of familiarity with the learners initially complicated the situation. In addition, the lack of time was cited as problematic, prompting teacher-researchers to make too many changes at once or not planning their time well. This, and the desire to work with the student in question for a more extended period, was the main issue highlighted by learners who undertook AR as part of a placement.

I was not satisfied with my action research because I felt I could have approached it more systematically and been more precise. I intend to establish a specific time frame for interventions in the future. It is important to plan the frequency of interventions so as to ensure the gap between interventions is not too long. (St 55)

The preservice teachers also pointed up several practices from the action research that had supported them and that they wished to continue applying in their teaching. These included the researcher's diary, the creation of a time and action plan, which helped them maintain focus, and reflection in general.

As a teacher, I learned that reflecting on your work is essential. If you reflect a little after each class or at the end of the day and analyse your actions, you will only get better at your job. If I notice a weak point, I can immediately talk to my colleagues or read the literature to see what I could do better. But to develop, you have to think about and analyse your lessons. (St 47)

Conducting action research helped preservice teachers understand the necessity of reading scientific literature in order to introduce evidence-based interventions.

The more and more thoroughly I read the theoretical material, the more I could see and understand the child's point of view. (St 41)

Many preservice teachers recognised that working with theoretical material was helpful and that it would be necessary to read more than the given time frame allowed. AR helped them to connect what they learned from their studies with the practice of teaching.

The action research gave me a lot of knowledge and an opportunity to connect theory with practice. Now I feel more confident about this topic, and about intervening if need be. (St 69)

In summary, integrating practical action research into subject studies supported preservice teachers' learning and helped them develop positive attitudes towards inclusive education.

As a teacher and parent, I value this experience because I saw the result of conscious action and thus understand the idea and the potential of inclusive education; I also learned how to apply it in real life. (St 50)

6 Discussion

This study aimed to determine how the incorporation of action research into the Inclusive Education at School course influenced preservice teachers' attitudes and readiness to apply the knowledge they acquired in practice.

Just as the preservice teachers had very different backgrounds, for instance in terms of work and life experience, so they initially had different attitudes towards inclusive education and different levels of readiness to introduce inclusive education and include students with special needs in regular classes. At the beginning of the course, for example, more than half of the preservice teachers (57%) rated their confidence about including SEN learners in the mainstream classroom as low or very low; 31% rated their confidence as average, and only 12% rated it as high or very high. However, over the duration of the course, the number of preservice teachers who assessed their ability to cope with the inclusion of SEN learners as low or very low decreased, and the number of preservice teachers who assessed their ability to cope as average or high increased. At the beginning of the course, preservice teachers with previous experience of working with students with special needs were also more confident about including SEN learners in the regular class. Similar results were obtained in earlier studies, with teachers with previous contact with people with special educational needs being more positively attuned to inclusion (Burke & Sutherland, 2004). Personal contact reduced fears relating to special needs and created a greater willingness to 'normalise' any so-called specialness.

According to Loreman and his colleagues (2007), it is crucial to create opportunities for preservice teachers to communicate directly with students with special needs, in order to develop positive attitudes towards inclusive

education and the confidence to deliver it in real learning situations. The importance of preservice teachers undertaking practical activities with learners requiring extra help was also reflected in the responses to open-ended questions at the end of the course. Preservice teachers valued opportunities to apply the knowledge they had acquired in practice and to reflect on the experience with their peers.

The survey data also showed that preservice teachers' self-confidence and willingness to include students with special needs in regular classes were higher at the end of the course. They were more willing to include students with behavioural, hearing, visual and speech difficulties in regular classes. In the case of students with mental and compound disabilities, preservice teachers continued to take the view that they should be taught in special schools or classes. At the same time, preservice teachers expressed the general view both at the beginning and the end of the course that students with special physical needs and health problems could study in regular classes. These results reflect those of previous studies (Avramidis & Norwich, 2002), which found that teachers were more willing to include students with mild special needs and students with physical needs in regular classrooms, but take a more negative view of including students with complex special needs and behavioural difficulties. The positive effect of training on teachers' attitudes was emphasised, highlighting that increased skills and knowledge also created a greater willingness to include a range of learners in regular classes. It was found that teachers who had received training were less worried that including students with special needs in regular classes would lead to academic problems or difficulties with students being accepted (Sokal & Sharma, 2014).

Analysis using the Teacher Efficacy in Inclusive Practice questionnaire revealed significant increases in teachers' self-efficacy across all three subscales, namely the use of inclusive instruction, dealing with disruptive behaviour and the use of collaborative practices to support the learning and well-being of students with different needs, by the end of the course.

The responses to open-ended questions also reflected the change in preservice teachers' attitudes. These pointed out that the more positive attitudes resulting from the AR increased the teachers' confidence in their ability to change. Qualitative analysis of those answers revealed that AR supported preservice teachers' learning and enhanced their ability to create inclusive classrooms. It helped them understand the role and responsibility of the teacher and apprehend the importance of collaboration in supporting the learning of all students. There is evidence that combining knowledge with practical field experience can lead to more positive attitudes towards inclusion (e.g., Lautenbach & Heyder, 2019); we may therefore assume that integrating

small-scale AR tasks into the course may have had a positive influence on our preservice teachers' attitudes towards inclusion.

In order to support preservice teachers' development of adaptive expertise competencies, they need to be allowed to apply theoretical knowledge in practice and to learn how to deploy inquiry skills to analyse and improve their support for the learning and well-being of all students. Teachers must master complex skills and integrate their knowledge of their subject, student development, teaching techniques and context. They must also be able to reflect on their practice, evaluate it, and decide how to adapt it in order to support all students. There is significant concern that most teacher education courses do not successfully support the transfer of theoretical knowledge into practice, and often focus primarily on subject-specific knowledge. It is true that teacher education can never prepare one for all the problems and difficulties encountered in the daily work of teachers. However, it is possible to foster the development of the necessary attitudes, skills and knowledge that will help teachers cope in a constantly changing environment. An inquiry mindset and the associated skills are tools that will help teachers identify research-based solutions when problems arise. Crawford et al. (2005) have highlighted the importance of developing research-informed and data-driven forward reasoning, causal reasoning, cognitive flexibility, and self-regulation; these assist with the development of innovative approaches to novel aspects of the learning context, and will enable teachers to survive in the face of the unpredictable challenges their profession may encounter in the future.

Although we cannot claim that the present study proves that participation in this course was the sole reason for the preservice teachers' attitudinal change, the course did represent a positive step towards fostering positive attitudes and promoting readiness to deliver inclusive education. At the same time, we must keep in mind that some preservice teachers felt pressurised while doing AR in the context of a teaching placement. The limited time did not always enable them to get to know their learner sufficiently, and there was sometimes not enough time to deliver the interventions in question. An important role is played here by the supervising teacher within the school and the preservice teacher's collaboration with that teacher. The ideal scenario would be for the student to join a group of practitioner-researchers already operating in the school; unfortunately, this is not yet a common practice.

7 Conclusions

As noted above, our global situation is changing rapidly, with environmental and recent geo-political challenges affecting Europe's education, and

accelerating the need for teachers to accommodate ever-increasing diversity with regard to learners and learning environments, and the expectation that they will do so. The ability to cope with complex, changeable contexts is thus a vital skill for teachers. Teacher education cannot prepare teachers for every single problem and situation they will face in the future. However, it can help them to develop inquiring attitudes and the skills to continuously evaluate and improve their teaching, to innovate and to identify solutions to support the learning of every student. It is thus essential to develop preservice teachers' research skills, and foster their awareness of – and positive attitudes towards – practitioner research (e.g., Maaranen & Krokfors, 2008). Positive attitudes towards research are more influential than knowledge and therefore, strong predictors of future behaviour (Van Der Linden et al., 2012). Positive experiences can be created through practical tasks that allow preservice teachers to apply what they have learned in a safe and supportive environment that enables experimentation and learning from experience.

Although the results of the current study show that small-scale AR tasks helped preservice teachers to link theory with practice and enhanced their confidence about introducing more inclusive practices in the classroom, it is important to bear in mind that the results reflect the attitudes and thoughts of preservice teachers at the end of their first year of masters' studies. It would be desirable to reassess these skills and attitudes again at the end of their teacher education to see if and to what extent these competencies continue to develop within the framework of further studies. Moreover, as we know, despite the increasing attention being given by teacher education programmes to preservice teacher research, a number of studies (e.g., Puustinen et al., 2018; van Katwijk et al., 2019) have shown that teachers do not accord value to the conduct of research once teacher education has concluded.

It should also be kept in mind that although teachers' attitudes towards inclusive education, and their knowledge and skills to practice it in the classroom are essential and can be shaped and enhanced during teacher education, the success of inclusive education more broadly depends on schools and the education system as a whole. Teacher education alone cannot alleviate or solve all the concerns of schools with regard to inclusive education. Positive attitudes and a collaborative approach on the part of all teachers are essential, as is the presence of support specialists. School principals play a vital role in introducing an inclusive way of thinking at the organisational level and creating an environment where the learning of all learners, including teachers, is valued and supported. It has been found that differences in the level of inclusion in different schools depend more on the quality of management than on funding, and that it is shared values, beliefs, attitudes, traditions and behavioural norms across the entire school family that are pivotal to the achievement of inclusive

education (Mitchell, 2016). For schools to fulfil their task and offer equal educational opportunities to all children, attention must be paid to the attitudes and competencies of teachers. Engelbrecht and Savolainen (2018) point out that good inclusive policies do not lead to inclusive education unless teachers change their traditional ways of thinking about students with diverse educational needs. The opposite is also the case – teachers with supportive attitudes and high self-efficacy cannot deliver inclusion in a school environment that does not support it. Hence, the entire system must support the introduction of inclusive education, by sharing goals and providing resources, and by planning and coordinating activities. Universities have an essential role to play here, providing evidence-based training for teachers, school leaders and professionals to bolster educational institutions' efforts to support the learning of all.

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Bridging Research and Practice in Teacher Education

Creating a Conversational Community to Support Curriculum Development in Teacher Education

Ina Cijvat, Marco Snoek and Aziza Mayo

Abstract

Research-based teacher education can be understood in different ways: as a call to understand teacher education institutions as research institutions, as the ambition to educate student teachers to have an inquiring attitude, as the basing of teacher education curricula on the latest research, or as a combination of all three.

In this chapter we reflect on a method of connecting research, curriculum development and practice in teacher education, presenting a case study of a conversational community of teacher educators and researchers. The aim of the conversational community was to understand the process of curriculum design in teacher education as an inspiring and practical combination of design research, self-study, collaborative action research and curriculum study by teacher educators. This process was supported by a conversational framework in which curriculum development was understood as an ongoing dialogue between vision, intentions, design and practice in the teacher education curriculum. Using the conversational framework in this single case study of a conversational community, we have tried to connect teacher education research, curriculum development and practice in a meaningful way.

Keywords

research-based teacher education – curriculum development – conversational community – conversational framework

1 Introduction

Research-based teacher education seems to become more and more standard for high quality teacher education practices (Munthe & Rogne, 2015; Puustinen

et al., 2018). This raises the question of what exactly is meant by research-based teacher education. There are a number of possible answers to this question, as is shown in this volume. One way of understanding research-based teacher education is to recognise that teacher education institutions themselves are increasingly becoming research institutions with PhD programmes; teacher educators with PhDs are engaging in regional, national and international research projects and thus contributing to the (teacher) education knowledge base. Examples here include the NAFOL national PhD school in Norway, the development of research programmes within teacher education institutions in the Netherlands and Flanders (see e.g., Tack & Vanderlinde, 2016), and the development of doctorate programmes (EQF level 8) with a special focus on teacher education, such as EDiTE.

A second way to understand research-based teacher education is through the increasing value that is placed on educating research-oriented teachers with an inquiring mindset who are able to use research outcomes within their daily practice (see e.g. Flores et al., 2016).

A third way of understanding research-based teacher education focuses on teacher educators, and highlights the use of research outcomes by teacher educators to draw up evidence-based teacher education curricula. Research outcomes are distributed through handbooks (see e.g. Peters, Cowie, & Menter, 2017 or Loughran & Hamilton, 2016) or journals, but also via initiatives such as the European InFo-TEd, which aims to develop a knowledge base for teacher educators (Murray et al., 2017). This links closely with the 'What works' clearinghouses and initiatives such as the Education Endowment Foundation, which have been developed to make research evidence accessible for teachers in primary and secondary education. Within teacher education, parallels can be seen.

These three perspectives on research-based teacher education emphasise different aspects and will have different impact on teacher educators. The first one adds a new role to the work of teacher educators, namely the role of the teacher educator as researcher (Murray, 2010), but does not necessarily lead to dramatic changes in the way in which teacher educators educate student teachers. The second perspective changes teacher education by adding new goals and learning aims to teacher education curricula, changing some of their content and methods.

The third approach might have the most dramatic impact on teacher educators as the outcomes of education research can provide pointers both in terms of what (novice) teachers need to be able to do in schools (with implications for the content of teacher education curricula) and how teacher educators

should prepare and support them in this (with implications for teacher education methodology).

However, the ‘what works’ focus of evidence based (teacher) education has met with some fundamental critiques. These focus on the idea that research is able to deliver guidelines on how to teach, warning that such an approach

- risks reducing the teacher (educator) to a recipient of protocols that are the result of careful studies, ignoring the practical wisdom of the teacher (educator). It thus contradicts the second perspective of the teacher (educator) as researcher.
- focuses on the ‘how’ of teaching. However, although research focusing on ‘what works’ can provide pointers with regard to the how within teacher education curricula, it cannot give answers with regard to the what and why, as these questions focus on decisions about what it is important to teach and seeks answers that relate to underlying values (Biesta, 2007).
- risks creating a mechanistic view of education, teaching and learning, by reducing learners to objects without intrinsic intentions, ignoring their role as active and conscious participants in the learning process (Korver, 2007; Van Manen, 1995).
- risks ignoring context-specific aspects (Hammerness & Craig, 2016).

This raises the question of how the three perspectives can be combined in an approach to teacher education that recognises the values of all three approaches and that values the active role of both the teacher educator and the student teacher.

In this chapter, we will recount a specific case in which we as teacher education researchers worked with two teacher educators in an attempt to connect research, curriculum development and practice in teacher education in a meaningful way. We used a reflective framework that can assist teacher educators to design teacher education curricula that recognise the key role of teacher educators as inquirers, that can create role models for student teachers, and that are consistent with a pedagogical relationship between teacher educators and their student teachers.

2 Education as Relationship

To understand this pedagogical relationship it is essential to consider the roles of teacher educators and student teachers. Every day, teacher educators face the challenge of judging and choosing what educational experiences their

student teachers need and what it is possible to offer them. They need to transform these intentions into appropriate curricula, lesson plans and forms of assessment, but foremost into encounters that provide student teachers with experiences that allow them to develop their understanding and being. However, as their educational activity is directed at student teachers who are also active and reflective agents, the way such educational activities take place and what they bring about is never a given, no matter how well intended or designed they are.

We thus see teacher education as a reciprocal process between two active and reflective agents: the teacher educator and the student teacher. This process starts with a relationship between two (or more) human beings, and aims to foster the confidence and ability 'to be in the world' (Delors, 1996). Such confidence and ability can cover a variety of aspects of human intelligence, including the cognitive, social, moral, physical, creative, emotional, and spiritual dimensions (NIVOZ, 2018). This perspective conceives the core purpose of education as being pedagogical rather than selective (van Manen, 1995; cf. Biesta & Miedema, 2002; Biesta, 2019).

This pedagogical purpose involves creating and safeguarding the educational space and the conditions that allow for students' 'existence-as-a-subject', by opening up the world for learners and by arousing their desire to exist in and with the world in an adult manner (Biesta, 2019; 2022). The pedagogue Max van Manen states that this requires learners to actively realise that they have been born into a condition of possibility and that to become a subject is to transform a possibility "into commitment, responsibility – one must choose a life" (Van Manen, 1991, p. 3). Whether, how or when the learner will respond to the call is out of the influence of the teacher as it is entirely up to the learner. As such, "[p]edagogy is the art of tactfully mediating the possible influences of the world so that the child is constantly encouraged to assume more responsibility for its personal learning and growth" (Van Manen, 1991, p. 80). This implies that education is a complex (social) reality that is made up of the conscious acts of reflexive agents. These acts are all part of the expertise and responsibility of educators who themselves need to be active and reflexive agents of education: they think and act on the basis of their thoughts, judgements, and decisions (Biesta, 2016, p. 203). A strong pedagogical focus calls for a teacher education curriculum that provides the space, conditions and experiences that invite teachers-to-be to desire to be in and with the world of education in an adult manner.

As a consequence, teacher education requires purposeful and conscious action from teacher educators, but it also requires tact to attune its thoughtful intentions to the reality of the encounter with their student teachers.

More than many vocations, the task of educating young people is particularly demanding and consuming of a person's spirit. [...]. Moreover, the structure of modern society, the pressures of institutional workplaces, and the conditions of the professional life of teaching are such that feelings of frustrations and failings are a constant concern. What teachers need to do is create conversational communities with others to be able to discuss and address experiences. Some of these communities spring up naturally in school staffrooms or even in hallways. Other conversational communities may need to be created purposefully in special designated times and spaces. (Van Manen, 1991, p. 82)

3 Creating Conversational Communities

When it comes to developing meaningful and purposeful practices of teacher education, an important goal is to stimulate a growing sense of ownership, responsibility, and agency among teacher educators, in other words, to contribute to the 'soft emancipation' of teacher educators (de Vries, 1990 in Biesta, 2020, p. 34). This can be done by fostering conversational communities of teacher educators as part of their processes of curriculum development. In such communities, curriculum development is approached as an ongoing process of purposefully and intentionally designing, putting into practice, evaluating, and redesigning educational experiences for student teachers. The communities provide a setting in which teacher educators can collaboratively engage in and reflect on curriculum development to further support the development of student teachers. They aim to provide a space where teacher educators can share their experiences; engage in constructive reflection on their judgements, decisions, and actions; and jointly deepen their understanding of the desirability and quality of the educational processes they provide.

Conversational communities provide a context that combines the three perspectives on research-based teacher education. Through conversations, teacher educators and community facilitators engage in collaborative research activities, including critical discussion of underlying assumptions, collection of data within daily practice and evaluation of – and reflection on – such data. Teacher educators act as role models for their student teachers, encouraging them to focus on research. This is especially the case when student teachers are given a voice in the conversations and reflections, e.g., through participatory action research (Chevalier & Buckles, 2019; Saldana & Omasta, 2022). The third perspective is visible when conversations are inspired and deepened by

theory and models from earlier research and when research outcomes are used to design an evidence-based teacher education curriculum.

4 A Framework to Support Conversational Dialogue in Curriculum Development

Conversational communities can assist teacher educators with their ongoing task of providing ‘good education’ through the design and development of practices that are increasingly aligned with their aims. They support the translation of teacher educators’ purposeful thoughts into purposeful actions by engaging them in a collaborative process of curriculum development.

While traditional approaches to curriculum design involve a linear one-way process from vision to aims to design and finally to action, conversational communities allow dialogue to work in both directions, as practical experiences can help to clarify aims or to formulate visions more precisely.

Building on previous work, in which we analysed several projects where educators and researchers had collaborated to strengthen the alignment between educational visions and lived experiences in schools (Modderkolk, 2022), we identify several purposeful acts that can be encouraged through dialogue in conversational communities:

- Intending: translating educational ideals into tangible goals and outcomes;
- Designing: designing lessons and educational experiences that will achieve the intended goals and outcomes;
- Practicing: putting the lessons and educational experiences that have been designed into practice in the form of encounters between educators and pupils or students;
- Evaluating: charting pupils’ or students’ results with regard to the lesson or educational experience, and connecting them to factors from the practice that led to such results, generating insights with regard to the present design that may have an impact on the design of future lessons and educational experiences;
- Reflecting in the light of intentions: exploring the extent to which the designed and delivered curriculum contributed to the intended goals and outcomes for pupils and students, and the way it did so, clarifying and rethinking explicit or implicit goals and outcomes;
- Contemplating: considering whether pupils’ or students’ results and what was designed and delivered through educational practices are aligned with educational ideals, and whether this necessitates reconsideration of such ideals.

To emphasise the notion that this process has neither a fixed beginning nor definite end point, we used a horizontal lemniscate to illustrate these acts (see Figure 13.1). The lemniscate includes four key elements: visions (our underlying convictions about our purpose and our understanding of education), intentions (what we aim to bring about), design (how we organise and provide for this), and practice (what we do and what students learn). The six purposeful acts illustrate a process of going back and forth between vision, intentions, design, and practice, aiming to strengthen the alignment between these four key elements. Each of the four key elements can serve as a starting point for acts of critical but constructive and reflective dialogue aimed at developing purposeful designs and practices. For example, the process can be kicked off by ‘painting’ two pictures: a picture of the community’s ideal vision and intentions and a more realistic depiction of the actual design and practices. Painting the first picture typically involves collecting and bringing together a broad range of perspectives and understandings of what is important and why, for instance through dialogue or debate. Painting the second picture is more straightforward and usually involves collecting and analysing a broad range of qualitative and quantitative data. This is followed by a critical, evaluative process to determine the extent to which what is intended matches and can be delivered through the actual design and practices, and on the other hand to determine how our experiences in practice can help to deepen, clarify, and change our vision and intentions. All in all, the process can help us understand what can be done to strengthen the alignment between our educational vision, our pedagogical intentions, and the goals of our curriculum – our ideals – and the actual interactions and experiences of our student teachers and teacher educators – our reality. These understandings are then used to sharpen our ideals and to redesign and implement changes in the everyday learning environment and in educational practices.

This lemniscate could support and guide teacher educator dialogue during the ongoing process of designing and refining curricula, providing a

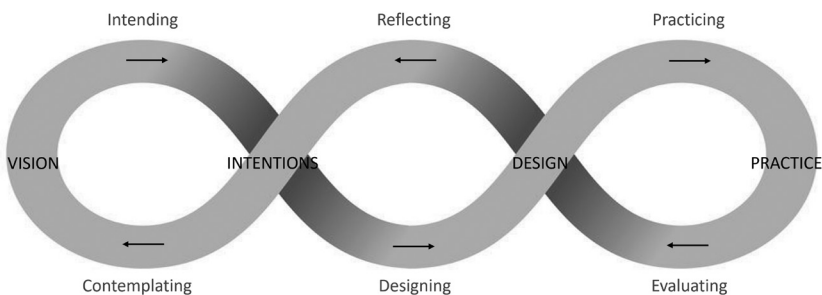


FIGURE 13.1 The conversational framework

conversational framework (similarly to the way in which Laurillard's Conversational Framework fosters dialogue between teachers on the design of blended learning environments (Laurillard, 2002)). This would turn the process of teacher education curriculum design into an inspiring and practical combination of design research, self-study, collaborative action research and curriculum study by teacher educators.

Inspired by Van Manen's concept of conversational communities and the conversational framework, we created a conversational community in which we as researchers joined with two teacher educators who were designing and delivering part of a new experimental teacher education programme. Below, we describe and reflect on our experiences, focusing on the following key question:

How does engagement in a conversational community and the use of the conversational framework help teacher educators engage in active inquiry and self-study within processes of curriculum design and refinement?

5 Research Design

We used a two-step educational design approach for this process (McKenney & Reeves, 2013). The first step consisted of designing the conversational community using the lemniscate-based framework. In the second part, we tested the conversational community with two teacher educators involved in curriculum innovation.

5.1 *Context*

The background to this case study is a collaborative curriculum innovation project in four teacher education institutions in the Netherlands, launched in 2020. The key focus of the project is to develop educational experiences for student teachers that foster a more comprehensive – or whole child – perspective on education and its purpose. 'Whole child education' can be defined as education that aims to engage all dimensions of human intelligence and development including the cognitive, social, moral, physical, creative, emotional, and spiritual dimensions (NIVOZ, 2018; Darling-Hammond & Cook-Harvey, 2018). The four teacher education institutions focus on developing a curriculum that fosters a 'whole teacher' perspective, taking a multi-dimensional approach both to the aims of the curriculum and to the methodology of educating teachers.

The conversational community we created is located in one of these teacher education institutions. Within this institution, a process was initiated to develop a new teacher education programme that translated several aspects of the vision and its intentions regarding 'whole teacher education' into a new curriculum. After two years of preparation, formulating the vision, intentions and design, a pilot program was launched in the 2021–2022 academic year, covering a large part (40%) of the first year of a four year bachelor's programme for student teachers in secondary education. This pilot programme put several aspects of the vision and intentions of 'whole teacher education' into practice with a small group of eight student teachers, who were supported by two experienced teacher educators. The teacher educators were new to the innovation project, having not participated in the preparatory activities, and as a result they had to develop a sense of ownership in relation to vision, intentions, design and practice. In particular with regard to the latter two elements (design and practice), they had to put together specific interactions, tasks and activities and put them into practice. A conversational community was created to support them in this process, consisting of the two teacher educators and two teacher education researchers (first and second author). This community focused on one specific and innovative element of the pilot program: the aim of strengthening student teachers' agency by offering them opportunities for self-directed learning and active inquiry and by challenging them to develop that agency by taking collaborative responsibility for their learning process, the curriculum and assessment criteria.

Alongside the conversational community focusing on design and practice with regard to agency, the two teacher educators were also part of another design community focusing on the full four year program.

5.2 *Design of the Conversational Community*

For us, the conversational community had a double aim: (1) to support the two teacher educators with the development of the pilot program and with their practical engagement with students (with a focus on student agency); (2) to gain a better understanding how the conversational framework could support conversational communities and challenge teacher educators to engage in active inquiry and self-study within processes of curriculum design and refinement.

To achieve these two aims, we used a dialogic and interactive process, arranging four meetings of the conversational community across the year (in December 2021, March 2022, May 2022 and July 2022), in which we discussed insights gained with regard to vision, intentions, design and practical experience over the preceding period. We used a reflective document that the teacher educators were encouraged to use to record their reflections, both in preparation for

meetings and in reflecting after each one. The document thus evolved throughout the year, with input from both teacher educators. In preparation for each meeting, the teacher educators were invited to record their joint insights from the preceding period and add these to the reflective document. The teacher educators' insights were thus captured in their own words. Insights were structured by means of leading questions focusing on the key elements of the lemniscate:

- General insights
- Vision & intentions: what does the 'agency of student teachers' mean to you?
- Design: what are the implications that follow from this understanding of student teacher agency for the design of the new program?
- Practice – teacher educators' perspective: what do teacher educators need this programme to include in order to help student teachers develop their agency, e.g. in terms of knowledge, skills, attitudes, materials, guidance?
- Practice – student teachers' perspective: to what extent do student teachers feel they have agency? To what extent do student teachers demonstrate agency? What do they need, e.g. in terms of knowledge, skills, attitudes, materials, guidance?

During the conversational community meetings, we discussed the insights of the teacher educators, drawing out how the insights of each of the key elements were related to each other, thus moving through the lemniscate and discussing the alignment or misalignment of the key elements.

After each meeting, the teacher educators added the insights from the meeting to the reflective document. The reflections of the teacher educators before and after the meetings were captured in the document using different colours. This allowed all members of the conversational community to see how insights developed over time.

Since our second focus was the way in which the conversational framework supported conversational communities and challenged teacher educators to engage in active inquiry and self-study within the process of curriculum development, at the end of the second, third and fourth meetings we also discussed the extent to which the conversational framework enhanced teacher educators' awareness.

5.3 *Data Collection and Analysis*

The reflective document was our main source of data when answering our key question. The second source of data was the four meetings of the conversational community, which were recorded for triangulation. These recordings were used when the reflective document was unclear.

We analysed the reflective document that captured the teacher educators' reflections using a thematic coding technique (Miles & Huberman, 1994) with codes relating to the conversational framework. As the meetings and reflective document covered more themes than student agency, we first selected the parts of the document relating to agency. We added the teacher educators' reflections before and after each meeting. To strengthen the validity of the analysis, a third outside researcher (third author) assisted the two researchers who were members of the conversational community. The three researchers individually coded the reflective document, using the key elements of the lemniscate. During this process we used the audio recordings of the meetings to better understand the coded parts of the reflective document, and to check meanings. Afterwards, we discussed differences between coders in order to reach a shared understanding of codes and the interpretation of the data. Next, each individual researcher coded all relevant sections of the document for a second time. At this point, the coders reached 85% agreement and remaining differences were discussed and resolved. In a final step, the first author completed the analysis of the reflective document.

The analysis deployed three approaches. First, we analysed the teacher educators' reflections on the four key elements of the conversational framework by collecting all coded parts per key element and describing the content. Second, in order to understand how the teacher educators moved through the conversational framework, all parts of the reflective document (general insights, reflections on the four key elements) were plotted graphically over time. Finally, we mapped the teacher educators' reflections on the process by summarising their answers on the value added by using the conversational framework during the meeting.

6 Results

6.1 *Part 1: Reflections on the Key Elements of the Conversational Framework*

Our first analysis focused on the teacher educators' reflections on the four key elements of the conversational framework with regard to student teachers' agency.

6.1.1 Vision

In the reflective document, references to the vision were mainly formulated as questions about the underlying vision and did not provide explicit answers: "A vision of student agency: how do we build it and communicate it?" or "What

does learning in a community mean to us: taking responsibility for each other's learning process?" (added in December). Later the teacher educators also clarified their underlying vision on student teacher agency, albeit in a very limited way: "We think this programme is suitable for all students seeking to develop and grow" (added in May).

The lack of an explicit vision could be explained by the fact that the two teacher educators were new to the project and had not participated in the preceding work of the design group that prepared the programme:

The vision was formulated over the past two years by the design group. Our job in this pilot was only to deliver it. Because of this, the vision sounds rather abstract to us, i.e. quite difficult. We need to talk to members of the design group about it, and try and understand it for ourselves. (added in December)

However, they felt supported by the new design group that was preparing the new bachelor's programme, and considered the present programme as a pilot for the new programme: "In the design group we are discussing and formulating our vision. Our experiences in the pilot this year make it easy for us to contribute to that" (added in May). This remark shows how the vision of the teacher educators and of the design group preparing the full programme was inspired and enriched through practical experiences in the pilot program.

6.1.2 Intentions

The reflective document provided little insight in the intended outcomes of the programme with regard to student agency. As with the questions about vision, the remarks in the reflective document about intentions also took the form of reflective questions, and did not providing explicit answers to such questions: "What kind of agency do we expect student teachers to demonstrate when they start the programme, and do we expect them to develop during the programme?" (added in May). The limited way in which intentions were discussed in the reflective document could be explained in three ways. First, the two teacher educators were supported by the new design group preparing the new bachelor programme: as we learned in conversational community meetings, learning outcomes were also discussed and formulated during that group's sessions. It may be that they did not feel the need to revisit those discussions in the conversational community. Second, the learning outcomes of the pilot program were fixed on the basis of formal guidelines and there was not much room for the teacher educators to make independent choices. Third, the formal learning outcomes focused mainly on the knowledge and skills that

students had to acquire with regard to pedagogy and education; they were not very explicit in terms of intentions or outcomes with regard to agency.

These last two elements created tensions: the detailed learning outcomes students had to achieve did not leave much room for students' agency. The teacher educators recognised the tension and had explicit views on how to formulate programme intentions for their students that would strengthen agency:

We have to formulate rather general learning outcomes, students (and their coaches) have to formulate their own qualitative criteria and data points. Then there will be room for the student teachers to adapt the learning outcomes to their own needs and this will stimulate student teachers' awareness. (added in December)

As an example of generally formulated learning outcomes, they formulated one of the intended learning outcomes: "Student teachers have to be able to design critical, innovative and creative education for all their students, based on a strong personal and substantiated vision of education".

6.1.3 Design

In contrast to the limited references made to intended outcomes, the reflective document made extensive reference to programme design in relation to student agency. The first reflections in the document focused in rather general terms on design principles for the pilot programme, e.g. regarding the focus on whole child development: "We have to preach what we teach, see the whole student, their background and experiences, and give them space to explore and make their own mistakes". However, they related that to the implications for their own role and expertise: "We have to know what learning outcomes entail and have sufficient knowledge and theory to be flexible and to be able to answer students' questions and coach them" (added in December). Later on, often in response to observation of practice, they reflected increasingly explicitly on the consequences for the design of the pilot programme and the new bachelor's programme:

When students feel lost, we have to be there to support them. The art of teaching is being there at the right time: not too early, not too late. Having sufficient time for coaching is crucial. This is also an important focus for the new Bachelor's programme. (added in March)

It would be best to let them write their learner reports immediately at the end of their internship day. We always have to be there at that moment

to coach them when needed. They need time and space in their schedule that day to reflect on their experiences. (added in May)

6.1.4 Practice of Teacher Educators and Student Teachers

The reflective document, also includes extensive references to observations of behaviour and the benefits of the practice in the pilot programme with regard to student agency. Teacher educators reflected on their observations of student behaviour and on the benefits for the students: “Students tell us: we are allowed to make mistakes, and learn from them, we always have time to improve things. Students say that that makes them do the best they can. We see that students take responsibility for each other’s learning, that students understand they have to give each other space and help each other to learn to do things they find difficult” (added in March).

They also reflected on students’ progress:

We have noticed during the year that students are becoming more able to define their own criteria. We see that students are more aware of what they have to learn, are familiar with the intentions and quality criteria, and are able to design their own tasks that require appropriate time and effort.

Subsequently the teacher educators also reflected on their own behaviour:

How can we explain this change in students’ behaviour? It is our open and supportive attitude, the joint process we developed for the feedback/feedforward process, the coaching sessions where we spent a lot of time on student input. And the developmental reflections: the second time we focused more on process than on product evaluation. They developed reflective skills very fast because we focused explicitly on that, using learner reports, coaching and developmental discussions. (added in March)

Their reflections on their own behaviour were also often critical: “We noticed that students had to do a lot of work in period 3, and hadn’t planned very well. The question is: should we have given them more guidance, or do they need to make these mistakes in order to learn from them?” (added in May), or: “One group did better than the other when writing learner reports. This could have something to do with the types of students, but also with differences in our skills” (added in May).

6.2 *Part 2: How the Teacher Educators Moved through the Conversational Framework*

The examples above demonstrate that the teacher educators were moving back and forth through the conversational framework.

Although the vision is sometimes rather implicit, it becomes more explicit through the design criteria they use: “They have to feel uncomfortable” – indicating that in their view learning processes often include dips and frustrations that students have to go through. At the same time this design criterion impacted on practice and on what they had to do as teacher educators:

We have now done two exercises asking student teachers to define qualitative criteria for their products, and the second time it was a lot easier for the students. It was crucial to ask the right questions, we made the discomfort explicit and showed the students that we also try and make mistakes: practice what you preach.

These experiences provided input for reflection on the design of the program: “It is important to give students space and time to make their own choices (autonomy), foster good relationships between students (safety) and provide enough scaffolding when it is hard for students”. Over time these reflections were strengthened: “The first time students had to define qualitative criteria it was quite difficult. The third time it was a lot easier, students were better prepared. Maybe because they knew what was expected of them?” These insights also reflected the new full programme that was being developed: “So it is important that the new programme provides the time for these processes”.

The reflections of the teacher educators on the outcomes for students provide food for thought on design: “We see students developing a positive attitude towards developing themselves, in terms both of pedagogy and teaching techniques”. This reflection prompts thoughts about the way they coach students in this and the potential implications for the design of the programme: “We also notice that we don’t have enough time for coaching. It’s important that the new programme provides enough time”.

To understand how the teacher educators’ understanding of the curriculum developed while running the course, we illustrated their movement through the conversational framework by plotting their responses in the reflective document graphically over time. By way of example, Figure 13.2 shows how the teacher educators reflected on student practice over time.

This visualisation shows that the teacher educators mainly moved back and forth between practice and design, indicating that experiences in practice

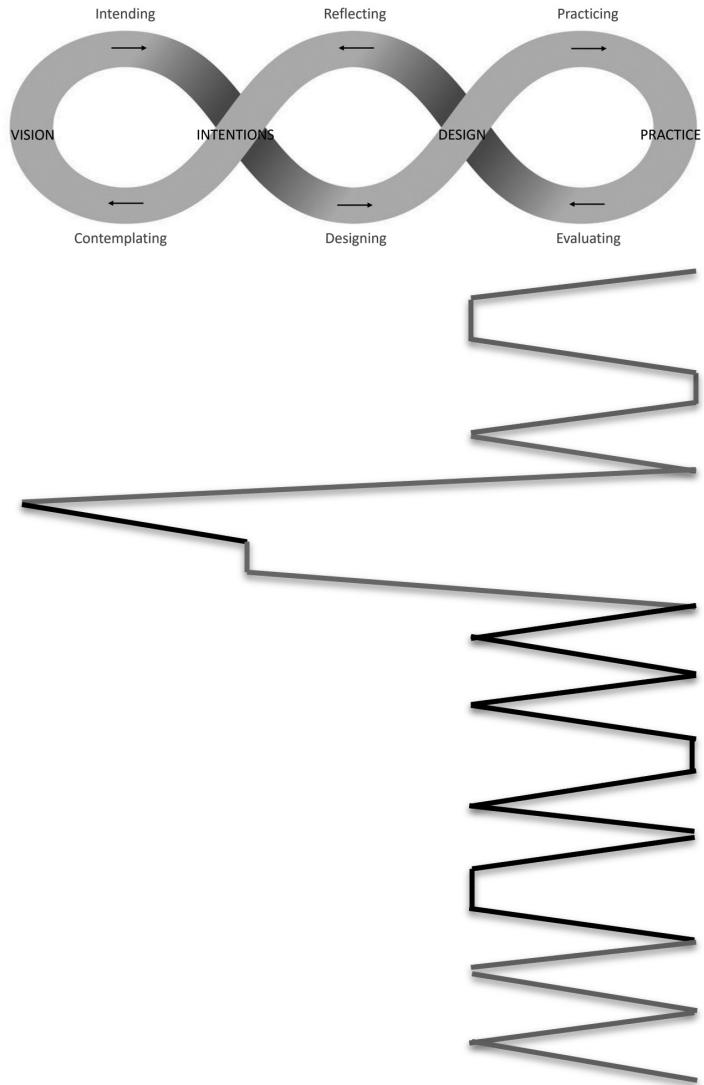


FIGURE 13.2 Visualisation of how teacher educators moved through the conversational framework when reflecting on the questions about student practice

provided input into the redesign of the program, but hardly any input into the rethinking of intentions or vision.

6.3 *Part 3: Teacher Educators' Reflections on the Process*

To answer the main research question 'How does a conversational community and the conversational framework help teacher educators to engage in active

inquiry and self-study within curriculum design and refinement processes?' we summarised the reflections of the teacher educators during the conversational community meetings on the value added by the conversational framework.

During the meetings the teacher educators reported that they considered the meetings useful and meaningful:

It is meaningful to talk to people who are engaged, but also outsiders. The conversation is at a more abstract level than I am used to. It helps me to think things through, and I don't have to find out everything myself. Besides that, the meetings give me time and space to take a step back, to make explicit what I do and why I do it. To be asked critical questions about our practice experiences helps us to reflect on what we do and which steps to take.

The final questions of each meeting focused on the conversational framework, its goal and the key elements. During the meetings, the teacher educators became more aware of the distinction between the key elements:

Sometimes I think it is difficult to distinguish between vision and intentions, or intentions and design. To me they are so interrelated that it is hard to distinguish them. But it helps me to realise that I use all four of them though I'm not always aware of them. I know that the lemniscate is in my head, but it's more or less implicit. I think I often refine my vision and intentions without being aware of it; I'm more focused on design and what I learn from practice.

They clearly see the added value of the conversational framework:

We often talk about content, but the lemniscate urges us to explain all the aspects, especially our vision and intentions. We don't talk often about vision and what exactly we mean by the concepts in our vision. It is very useful to move back and forth through the lemniscate, refining our vision. And asking each other: Why do we do it? Why do we do it this way?

At the end of the final meeting one of the teacher educators asked: "I wonder how the two of us differ in how we use the elements of the lemniscate. I think I often start by designing, doing practical things. What about you?" The other teacher educator answered: "Yes, we are different. I like to start with the vision: What do I think is important? I'm now more aware that it's very valuable to

collaborate with someone who starts at the other end: you both learn, you ask more questions, you complement each other". So by discussing the conversational framework, the teacher educators became aware that they had different styles of working, and that working with someone who had a different style added value because it required them to make their way of thinking explicit, and to ask each other about the key elements.

7 Conclusions and Discussion

In this case study we focused on a conversational community of two teacher educators and two researchers with regard to the implementation of a pilot program one of whose aims was to strengthen the agency of first year student teachers. The aim of the study was to explore and understand how a conversational community could support the process of curriculum development and the alignment of vision, intentions, design and practice. To structure reflections and responses within the conversational community, we used a conversational framework focusing on the alignment of these four elements. The study showed how such a framework can help teacher educators make their curriculum choices, experiences and reflections more explicit.

The initial analysis of the data showed that the teacher educators lacked an explicit underlying vision for the pilot program e.g. what exactly they understood by 'agency', reflecting the fact that the teacher educators had not been involved in the preparation and design of the pilot program and were new to it. Although the program itself had clear intentions in the form of learning outcomes that student teachers had to master, the lack of a clear vision for student agency also resulted in a lack of clarity about expectations with regard to the development of agency. However, based on their previous experiences the teacher educators had clear ideas on how to foster and support student agency, both through designing a learning environment that challenged and helped student teachers to develop their agency and through supporting that agency in practice.

The second analysis, which looked at how the teacher educators moved through the different parts of the conversational framework, showed that they tended to focus their reflective dialogue on the key elements of design and practice. As such, practical experience of encounters with students served as important prompts for teachers to engage in reflections on the design of the programme. During the year, the reflections became more and more concrete and explicit as the teacher educators gained experience and confidence within the

pilot program. However, reflections on vision and intentions remained somewhat implicit. These findings show that – at least for these teacher educators – daily practice is focused on their engagement with students. The experiences of this engagement are catalysts for reflection on the design, but do not necessarily lead to explicit reflection on intentions and vision.

Our assumption was that a conversational framework could support the teacher educators' reflections on the alignment between the four key elements of the curriculum process. The conversational framework was used during the meetings to guide their thinking. Although the second analysis showed that this use of the framework led only to a limited extent to explicit reflection on the first two key elements (vision and intentions), the teacher educators were positive about the value added by the framework and the conversational community. It helped enhance their awareness of the implicit elements in their thinking and of the unconscious choices they were making in designing the curriculum and in their work with students, and it made them aware of their preferred approach to curriculum development and elements that could be added to enrich that approach. The meetings of the conversational community forced them to interrupt their daily work and the conversational framework helped them to make clearer separations between the four key elements; this enabled them to formulate their reflections, questions and answers more precisely.

It also showed that teacher educators might have different preferences regarding the different key elements of the conversational framework as starting points for reflection. This indicates that it might be useful – when working with teams of teacher educators – to set up teams so that they consist of teacher educators with different preferences to enable them to benefit from a range of perspectives.

8 Final Reflections

In the introduction to this chapter, we identified three ways research can play a role within teacher education. The first way identified a new role for teacher educators as researchers, without necessarily connecting the roles of educator and researcher. The second way involved teacher educators focusing on their student teachers and their inquiring mindsets, emphasising their role as educators of student teachers, without necessarily connecting with inquiring mindsets on the part of teacher educators themselves. The third way focused on teacher educators as users of the body of knowledge that stems for research

outcomes, emphasising the role of teacher educators as designers of curricula and educators of teachers and not necessarily highlighting their role as researchers themselves and as contributors to that body of knowledge.

This chapter explored a fourth way of understanding research based teacher education, in which an inquiring attitude on the part of teacher educators as active and reflexive agents is crucial, stimulating critical reflection on their thoughts, judgements and decisions and on the resulting alignment between vision, intention, design and practice within teacher education. This critical reflection is necessary to make intentions and design choices more explicit and at the same time to support systematic reflection on teacher education practices, which in turn can help to sharpen intentions and visions. By making choices and reflections more explicit, teacher educators' agency and the alignment of curricula can be strengthened, and at the same time teacher educators can contribute to the development of a body of knowledge that is based on the one hand on theory and concepts and on the other on practical experience and reflection.

However, this case study with two teacher educators running a new pilot programme shows that that critical reflection cannot be taken for granted and that such critical reflection might benefit from reflective conversations within a conversational community and from the use of a conversational framework. Such a framework can help teacher educators find opportunities for interruption, suspension and sustenance (Biesta, 2017) in their daily work. Creating a conversational community and using the conversational framework supports teacher educators and prompts them to take time to make implicit choices explicit and to connect purpose and practice within their curriculum.

We assumed that a conversational community supported by the use of the conversational framework might promote stronger integration between the practice of educating teachers and research, by combining elements of design research, self-study, collaborative action research and curriculum study. However, although the teacher educators appreciated the lemniscate, it only fostered more explicit reflection on vision and intentions to a limited extent. The teacher educators made active use of two sources for learning as identified by Koffeman (2021): their own practical experiences and exchange with colleagues. The third source – learning from theory – was not mentioned during the meetings and in the reflective document: no references were made to theories, concepts or research outcomes, though these might have helped them formulate answers to the questions they raised regarding aspects of their vision. This demonstrates that for many teacher educators there is still a gap between practice and research.

It also demonstrates that as researchers, we are still coming up against the gap between research and practice and have actually kept that gap in place. Looking back at the process we created and went through, we realise that while creating a conversational community, we still thought in terms of ‘us’ (researchers) and ‘them’ (teacher educators). We were curious about their ideas and thoughts and tried to help them to make these explicit by providing a conversational framework. However, we created a separation during the meetings, resulting from the implicit distinction between ‘interviewers’ and ‘interviewees’. The result was that we did not provide the teacher educators with the theory and concepts relating to agency and self-directed learning that might have helped them make their vision more explicit. We did not consider ourselves as members of the pilot team with responsibility for contributing more directly to the alignment between the key elements in curriculum development, but rather as observers and facilitators of the process.

For us as researchers, that awareness provides new insight and challenge regarding the connection between research and practice in teacher education. The challenge is what balance our role as researchers should strike: are we critical friends – keeping a distance between researchers and teacher educators – or partners in the process of curriculum development?

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Developing Research Literacy in Language Teacher Education

A 'Buddy Project' on Written Corrective Feedback (wCF)

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Abstract

In second language teacher education (SLTE), problems can arise from the disconnect between student teachers' initial classroom experiences in their teaching placements and the research-based, academic content they study at university. University methodology classes therefore need to find ways of presenting current academic research in a way that student teachers perceive as relevant to their experiences in practice and to equip student teachers with the knowledge and skills they need to continue their engagement with research once they join the profession.

This chapter presents a project that forms part of a course on Written Corrective Feedback (wCF) for student teachers of English as a foreign language at an Austrian university. The project aims to help student teachers develop the research literacy they need to evaluate the often contradictory academic research on wCF, connect it with their own classroom experience and eventually develop their own personal methodologies.

Small-scale projects such as the one presented in this chapter have the potential to foster student teachers' emerging research literacy, but their impact will need to be evaluated in the future, possibly in the form of self-study by the instructors, so that they can be adapted and extended as needed. In order to facilitate such projects, policymakers also need to prioritise productive engagement with current research in teacher education.

Keywords

second language teacher education – Written Corrective Feedback (wCF) – research literacy

1 Theory and Practice in Second Language Teacher Education (SLTE): Productive Tensions?

Teaching is often seen as an art or a craft rather than a profession (see e.g., Lethaby et al., 2021). This view is also found among student teachers, and its impact on their beliefs about their own professional learning should not be underestimated: one learns a craft from an experienced practitioner, and knowledge is transmitted from master to apprentice. Teachers and student teachers who – consciously or unconsciously – hold this belief about the nature of knowledge with regard to teaching are therefore less likely to be very interested in current research in their field and more likely to prioritise other sources of information when considering their classroom practice.¹

Groß Ophoff et al. (2015), citing Hammersley (2004), explain why it can be a struggle to get teachers and students teachers to engage with published research:

On the one hand, scientific evidence is formulated falsifiably and generalisably. On the other hand, educational practice aims to solve problems instantly and efficiently. It is because of this gap between theory and practice that practitioners frequently view research information as abstract and irrelevant knowledge that cannot be applied to practical problems. (p. 561)

Unfortunately, following established models without engaging with current research in the field can have a negative, limiting effect on teaching: “[E]ffective teaching cannot dispense with empirically based knowledge. To do so would amount to accepting (legitimising even!) the fossilisation of the profession in conservative practices, derived from our collective experience, reproduced through the ‘apprenticeship of observation’ (Lortie, 1975), and never questioned” (Kostoulas, 2018a, p. 13). Likewise, Ur (2013), a highly regarded author of popular teaching handbooks and practical guides for ELT, argues that “language teaching should not be primarily based on a method but rather on a set of principles and procedures based on teachers’ practical situated experience, enriched by research, theory, and practice relevant to teaching and learning of any subject, as well as those relating to linguistics and applied linguistics” (p. 468). In a similar vein, Widdowson (2012) urges that “[w]hatever practice teachers favour, it is professionally incumbent on them as reflective practitioners to critically examine its theoretical implications” (p. 14).

Thus, Lethaby et al. (2021) urge teachers to “tak[e] note of research discoveries from the fields of education, cognitive science and neuroscience

(albeit with a discerning eye)” (p. 8). Teacher education clearly has an important role to play here. Ideally, teacher education programmes should foster research engagement among student teachers so that they remain engaged with research once they enter the profession. Trying to combine the theoretical, academic focus of Master’s level studies with the practical focus required to prepare student teachers for their first jobs, however, can lead to tensions in language teacher education. Student teachers in MED programmes are often critical of what they see as the overly theoretical content of their courses when they are expected to study and discuss research papers or even carry out their own small-scale research projects.

This remains true despite the fact that, in recent years, a ‘practicum turn’ in second language teacher education (SLTE) has been observed internationally (Molway, 2022), meaning that more weight is being given to the practical component of teacher education programmes. This also applies to Austria, where a new curriculum introduced in 2013 significantly increased student teachers’ practicum hours. Students in the teaching programme are now required to complete three periods of practical training in their bachelor’s degree instead of the previous requirement of two periods of practical training (Burkert, 2022).

However, this new curriculum was also designed to provide students with a sound understanding of the theory of ELT as a basis for their future teaching. In the curriculum for the English teacher education programme, it is clear that students are also expected to engage with theory. They should “acquire knowledge of the relevant theoretical basics of differentiated language teaching” and “innovative forms of teaching and learning” (University of Graz, 2019–2021, p. 173). They should further develop “the ability to critically reflect on communicative language teaching” (University of Graz, 2019–2021, p. 173, cited in Burkert, 2023). The curriculum thus reflects a combination of theory and practice.

While this is a positive development overall and – if properly implemented – could even be a step towards closing the theory / practice gap which is a recurrent topic of discussion in ELT research (see, e.g., Hutterli & Prusse, 2012), problems can arise from the disconnect between student teachers’ initial experiences in the classroom and the research-based, theoretical content of their academic university classes. It is important to note, however, that the tensions between theoretical input and practical experience do not have to be negative, as Molway (2022) points out:

Integrated models [of SLTE] can help beginning L2 teachers to identify *productive tensions* between what is observed in classroom field experiences and what is suggested by educational research. Course designers

might seek to explicitly acknowledge these tensions and place emphasis on beginning teachers (a) reflecting on research-informed principles and (b) developing ‘situated methodologies’ (Ur, 2013), which are effective in their individual school and classroom contexts. (p. 127, original emphasis)

The project this chapter presents seeks to exploit these tensions and lay the groundwork for fostering student teachers’ research literacy.

2 Research Engagement and Research Literacy

Groß Ophoff et al. (2015) emphasise the importance of research literacy in the modern knowledge society with its continuous scientific progress. This includes the area of education, and they define educational research literacy as “the ability to purposefully access, reflect, and use evidence from educational research” (Groß Ophoff et al., 2015, p. 560).

Referring to language teaching, Xerri (2018) states that

research literacy involves the knowledge and skills with respect to doing research, but it also involves a set of attitudes and beliefs that allow you to see yourself as someone who is capable of doing research, and considers research as part of their identity. (p. 130)

This view of research literacy clearly goes beyond merely studying published research and hints at a more active involvement in practitioner research:

Besides knowing how to critically engage with published research [...] teachers also need to develop attitudes and beliefs in relation to research that will enable them to position themselves as research-engaged professionals [...] to see themselves as capable of finding answers to the questions they have about their context. (p. VII)

Without a doubt, there is a strong case to be made for practitioner research. Kostoulas (2018) makes an important point when he writes that merely studying published research selected by “knowledge brokers” such as teacher educators “creates a risk of disempowering the teaching professionals, who are relegated to a role of passive consumers of information. Developing the teachers’ ability to actively participate in knowledge construction therefore seems imperative in order to counteract this danger” (p. 16). In a similar vein, Freeman (2018) argues that such an approach “can ‘colonise’ teachers by putting them

in the role of users, rather than producers, of knowledge about learning and teaching” (p. 26).

On the other hand, when it comes to research engagement in teacher education, Maley (2016) warns of the dangers of negative experiences student teachers have of research undertaken in the course of their degrees:

If unsuccessful or dissatisfied, the teacher will probably close her mind to the possibility of ever undertaking classroom research again – remembering the experience as over-demanding in terms of time and effort, and as ultimately stressful and unrewarding. [...] In other words, relatively few ‘ordinary’ classroom teachers are likely to be engaged in classroom research on a long-term basis.

In line with Borg (2010, cited in Groß Ophoff et al., 2015) it could therefore be argued that although practitioners in education need to engage themselves *with* research, they do not necessarily have to engage themselves *in* research. Engagement with published research in teacher education, guided by researcher-practitioners, can be seen as a first step towards becoming a research-engaged teaching professional, which may in time lead to a more active involvement in practitioner research activities. This is the approach taken by the project discussed below.

3 A ‘Buddy Project’ to Foster Research Literacy in Written Corrective Feedback (wcf)

Language teachers invest a lot of time into providing feedback to their learners, and written corrective feedback (wcf) is both time-consuming and challenging, especially for novice teachers. Rod Ellis (2009) describes written corrective feedback as a “complex phenomenon [whose] complexity is reflected in the controversies that surround such issues as whether to correct, what to correct, how to correct, and when to correct” (p. 16). Researchers in the field disagree with regard to the effectiveness of different types of feedback (e.g., whether explicit or implicit feedback is more effective), and some have even questioned whether any kind of feedback has any kind of positive impact on language learning; although there does seem to be a consensus that overall, feedback is effective (for an overview of the debates surrounding feedback in language learning, see Lethaby et al., 2021, pp. 189–204).

Not surprisingly, teachers’ beliefs and practices concerning wcf are very varied, and student teachers are likely to have encountered a wide range of

approaches to WCF in their careers as language learners, but also during their practica. All of this makes WCF an ideal topic to explore with student teachers, from both a practical and a theoretical perspective.

The 'buddy project' presented in this chapter takes place in the context of a course on language testing and assessment in the ELT programme at an Austrian university (BEd level). For the project, the university instructors work closely with an English teacher at a partner school, whose learners then become the student teachers' school buddies (one buddy per student teacher) for the duration of the project. The buddies interact with the student teachers as the student teachers are guided through an entire task cycle by their instructors: designing a prompt for a writing task, providing WCF on a learner text based on this task, and getting feedback on their WCF from their buddies. The present chapter will focus on the second phase of the project – providing feedback – and how the project is designed to foster research literacy among student teachers. An overview of the whole project is given below for context.

3.1 *The Practical Component: Project Overview*

In Austria, learners of English have to be able to produce certain text types with clearly defined characteristics (e.g., opinion essay, blog entry, report) for the writing component of their English school leaving exam. The writing tasks the student teachers work on in the buddy project follow the model of these standardised tasks. As the text types are standardised, the learners are all given the same information by their teachers on how to write them, and the student teachers therefore know what information the learners have received and what they can reasonably expect them to know about the text types. In addition, the buddy project includes a writing workshop for the buddy group at the partner school, taught by one of the university instructors and preparing the learners to write the specific text type dealt with in the project during the semester in question.

At the beginning of the project, the student teachers contact their buddies by email and ask them for some personal information about themselves (e.g., hobbies, interests). The student teachers then use this information to create a personalised writing task. For example, in a semester that focuses on writing an opinion essay, a learner with an interest in sports might be given a writing prompt for an essay arguing for or against students' timetables including a daily sports lesson. The writing tasks the student teachers create are subjected to peer feedback within the group, and the student teachers also receive feedback on their task design from their instructor.

Next, each student teacher sends their prompt to their buddy; the buddy then writes the text and sends it back to the student teacher, who corrects

TABLE 14.1 Structure of buddy project (passages in italics refer to aspects of the project that are particularly relevant for developing research literacy ['focal points']; these are discussed in detail below)

Step	Partner school	University
1	Buddy group writing workshop, taught by the university instructor	Introduce student teachers to task type and prompt writing / task design
2		Student teachers introduce themselves to their buddies by email
3	Buddies introduce themselves to the student teachers by email	
4		Student teachers design a personalised writing task and send it to their buddy
5	Buddies write a text based on their personalised task and send it to the student teachers	<i>Student teachers are introduced to different forms of WCF and the debates regarding the effectiveness of WCF [Focal point 1]</i>
6		Student teachers correct the text and return it to their buddy
7	Buddies send feedback on the corrections to the student teachers	<i>Student teachers discuss buddies' feedback on the different forms of WCF used with their instructor [Focal point 2]</i>
8		Student teachers create a portfolio of their work in the Buddy Project, <i>including personal reflection [Focal point 3]</i>

it. Before the buddies receive the corrections and feedback from the student teachers, however, the student teachers submit their corrections and comments to their university instructor to ensure that the feedback the student teachers send their buddies is linguistically appropriate and accurate.

After the corrections and feedback have been checked by the instructor, the student teachers send them to their buddies, with a note asking for their comments on the student teacher's corrections: did they find them helpful, too much, too little, etc.? The student teachers discuss their buddies' comments with their instructor. They also include and reflect on the responses they receive in the portfolio they are required to submit at the end of the course.

3.2 *The Theoretical Component: Introducing WCF Theory*

Alongside practical work with their buddies, the student teachers are also introduced to debates and controversies relating to WCF over the course of the project. They begin by reading relevant chapters from practitioner handbooks and articles from professional journals (rather than research articles in academic journals), working on study questions and discussing the texts in class with their instructors. They explore different forms of WCF and reflect on their own experiences with WCF as learners of English.

Once they have received a text from their buddy, the student teachers correct it with the help of their instructor, who is also an experienced language teacher/practitioner. Once the student teacher and the instructor are satisfied with the corrections, the corrected text is returned to the school buddy.

Buddies then feed back to their student teacher about their corrections. This allows the student teachers to see how their choices regarding WCF were received by the buddies. This has the potential to create 'productive tensions' as buddies may not respond well to a feedback strategy a student teacher decided on based on their reading of the relevant literature. Such instances are then discussed in class with the student teachers' peers and one-on-one with the instructor. Student teachers are encouraged to reflect further on the theoretical input they have received in the course so far and on their attempts to implement what they have learned from the sources they have studied.

Rather than answering all their questions and solving all their problems in the one-on-one meetings, the instructor engages the student teachers in discussions and points out links between their questions and relevant research. At this stage, student teachers are often encouraged to read more about specific aspects WCF, to help them to reflect on their choices and become more secure in their decisions.

Finally, the student teachers submit a portfolio of the work they have completed over the semester as a whole. This includes a summary of their experience with their buddy and reflection on their engagement with WCF research throughout the project.

3.3 *Student Teachers' and Instructors' Perspectives on the Buddy Project*

This section discusses in more detail the focal points within the buddy project that make a particular contribution to the development of the student teachers' research literacy. It presents both the student teachers' perspective and the instructor's role and aim at each focal point, with a view to providing concrete examples of how the stated goals of the project translate into teaching practice in the university classroom.

TABLE 14.2 Student recollections of feedback: worksheet with sample student answers

What approach did your teacher use?	Why do you think it was (not) effective?	How did it make you feel?	What might have been your teacher's motivation for choosing this approach?
She underlined the mistakes in the text and wrote a letter in the margin. She did not provide a correct version. We had to rewrite the text and correct our mistakes.	It was not effective because we were never sure what her letters meant and it was difficult to come up with a correct answer.	Frustrated and stupid when I couldn't think of a better way to express myself.	I think maybe she hoped we would look things up in a dictionary and learn new vocabulary.

The samples of student questions and statements included below are an amalgamation of typical comments at the various stages of the project.

3.3.1 Focal Point 1: Theorising

3.3.1.1 *The Student Teachers' Perspective*

Students do not arrive at the WCF course as blank slates. On the contrary, they have been exposed to many WCF approaches as learners. It is an important step in their development as teachers to transition from the learner's to the teacher's perspective. Before they correct their buddy's text, student teachers are therefore invited to recall their own experiences with WCF as learners and to categorise the types of feedback they have experienced as learners in a worksheet. A sample student answer from this worksheet is provided in Table 14.2.

In a whole-class discussion, the instructor first helps to categorise the students' experiences and introduces different approaches to WCF. For instance, in the example above, the student teacher describes a form of error coding within a process writing approach. The instructor is also careful to familiarise the student teachers with WCF terminology in the course of the discussion as this will make it easier for them to search for information in the literature later.

TABLE 14.3 Evaluating WCF approaches: worksheet with sample student answers

WCF type	+	-
Error coding	Learners have to think about the mistakes and look information up, e.g. in a dictionary – this can lead to deeper processing	Learners may not understand the codes and become confused and frustrated; teacher has to check every piece of writing at least twice

Next, the instructor initiates a discussion of the positive and negative aspects (as perceived by the student teachers) of different approaches to WCF. For the approach recalled by a student teacher in Table 14.2, the result could look like this:

This naturally raises the question of the effectiveness (i.e. their contribution to language learning) of the various approaches for the student teachers: as all the approaches have different advantages and disadvantages, teachers would want to pick the most successful one. At this point, the instructor directs the students to an overview of existing research, for example, the chapter by Lethaby et al., 2021, mentioned above, or a webinar from a reputable source, for example Lambert (2015).

Crucially, neither of these sources or indeed any other comparable sources claim that any one WCF method is perfect. They do, however, provide an insight into the rationale behind several different potentially effective approaches, for example, by referring to second language acquisition research.

3.3.1.2 *The Instructor's Role and Aims*

The instructor's goal at this stage of the project is to arouse the student teachers' interest in written corrective feedback beyond their own personal experiences as learners. To achieve this, the instructor first aims to gauge the student teachers' level of experience with feedback and to guide them towards approaching WCF from the teacher's perspective rather than the learner's. The student teachers are encouraged to consult sources presenting research in the relevant area, for example to ascertain which feedback method is most effective for correcting a specific type of error.

It is important for student teachers to realise that the literature on WCF does not provide simple answers to what are, after all, highly complex questions. What it does provide, however, are different perspectives based on research rather than personal preferences or practices handed down from one's

mentors. With the guidance of their instructor, student teachers learn to see that this is often where the value of engagement with research lies.

It should also be noted that, at this stage, student teachers are not expected to read research articles published in academic journals. Rather, under the guidance of their instructor, they engage with professional literature that synthesises insights from research for language teachers'/practitioners' use.

Focal point 1: Summary

Student teachers learn to put their experience as learners into perspective, to ask general questions about WCF and to consult professional literature to find answers to their questions.

The instructor guides their transition from personal experience with WCF to general questions about WCF and selects professional literature for the students to engage with.

3.3.2 Focal point 2: Personalisation

3.3.2.1 *The Student Teachers' Perspective*

At this stage of the project, the student teachers have learned to think about WCF in general terms. They are familiar with the basic terminology and have been introduced to some research-based sources of professional knowledge (handbooks, webinars for language teachers/practitioners, etc.) that they can turn to with any questions.

They are now given the opportunity to correct a text written by their buddy, under the guidance of their instructor, experimenting with the types of feedback they have read about and discussed in class. Buddies then react to the feedback and/or corrections from the student teachers, essentially providing 'feedback on feedback' (Anderson, 2015). This is likely to raise further questions for the students, for example:

TABLE 14.4 Sample questions: student teachers react to 'feedback on feedback'

Q1	My buddy disagreed with some of my corrections because she had already used an automated grammar checker to eliminate mistakes before she sent me the text. How should I deal with my learners' use of such tools?
Q2	My buddy criticised the way I marked tense mistakes. I indicated errors by underlining and giving a hint (e.g. 'wrong tense – past event'), but I did not provide the correct version myself. He said he found that confusing. What is the best way to mark tense mistakes at that language level?

The student teachers have one-on-one meetings with their instructor to discuss these questions. Rather than answering student teachers' questions outright, the instructor points them towards research articles dealing with questions similar to their own, e.g. a multiple case study on learners' use of automated feedback (Koltovskaia, 2020) for Q1 and an experimental study of the impact of WCF on tense accuracy (Benson & de Keyser, 2019) for Q2. This enables student teachers to put their questions about WCF into a broader context.

Unlike the sources in the previous phase of the project, the articles student teachers are referred to report directly on research projects and are addressed primarily to an academic audience, making them more challenging to read and absorb. However, as the student teachers are approaching them with a genuine, personal question about their own practice rather than encountering them as an item on a reading list they have no particular interest in, they are more motivated to engage, even if they perceive material as difficult.

At this point, they have already learned that there is no one true answer or one optimal approach to WCF, but they can see what a research-based answer to their questions might look like and how engaging with research can inform teachers' reflections on their practice.

3.3.2.2 *The Instructor's Role and Aims*

At this stage, the instructor once again helps the student teachers locate sources they can turn to with questions relating to their personal practice. This time, the sources are research articles in academic journals. The instructor also provides guidance on reading research articles critically: can the source be trusted? How convincing is the research design? Does the data in fact support the conclusions? etc.

It is important to note that the instructors model a research-oriented mindset in this phase. In conversations with the student teachers, instructors draw parallels between their own experience and the findings in the sources under discussion, critically discussing the research articles in the context of their own practice and encouraging the student teachers to do the same.

Focal Point 2: Summary

Students learn to engage with research as presented in academic journals. They take the first steps towards critically examining the quality of research studies and considering their relevance to their own practice.

The instructor guides students towards relevant sources for their personal questions and, more importantly, models professional engagement with research on WCF.

3.3.3 Focal Point 3: Reflection

3.3.3.1 *The Student Teachers' Perspective*

In the final stage of the project, students have to submit a written reflection on their experiences with WCF as part of their course portfolio. In this document, they summarise their experiences with the buddy project at a practical level; but they also address their exploration of research literature on WCF, retracing their steps from the sharing of their personal experiences as learners to being introduced to the theory of WCF; from the theoretical discussions in class to their engagement with research that is personally relevant to them; and from handbooks for language teachers/practitioners to academic research articles.

3.3.3.2 *The Instructor's Role and Aims*

At this stage, the instructor has the opportunity to reinforce the student teachers' emerging research literacy by commenting on their choice of sources, adding suggestions for more helpful reading or pointing them in the direction of researchers who have worked on questions that personally interest them:

Through such exchanges, students and instructors work together to lay the groundwork for a personal theory of WCF that is based on insights from research as well as student teachers' personal experience and the input of their mentors.

Focal Point 3: Summary

Working on the reflection paper allows the students to integrate theory, research literature and their personal experiences with regard to WCF.

The teacher's feedback aims to support students' emerging research literacy.

TABLE 14.5 Sample student reflection with instructor's comment

Student teacher's reflection	Instructor's comment
I found some of the articles I read throughout the semester really interesting. To be honest, though, I am not sure if the information will be relevant for my work with my own students, at their specific level etc.	You could always carry out your own mini research project on WCF – see, for example, this article in which a practitioner describes his small-scale research project: “Errors under the spotlight” (Clements, 2015)

4 Impact of the Buddy Project

It has to be noted that a small-scale project such as the buddy project cannot be expected to lead to sustainable engagement with research all by itself. Students would need to go through a version of the process outlined above in several different courses, exploring different topics, to build habits that will persist once they enter the profession. In this section, the buddy project's approach to enhancing research literacy will therefore be set in context and possible future adjustments will be suggested.

4.1 *Aspects of Emerging Research Literacy*

As Groß Ophoff et al. (2015) point out, there are different levels of educational research literacy: “[W]hereas laypersons support claims with arbitrary findings or experiences, experts base their conclusions on systematic and goal-oriented inquiry, analysis, and interpretation of evidence” (p. 560). The buddy project hopefully goes some way towards warning student teachers against relying on arbitrarily chosen sources, introducing a wide variety of sources and fostering critical engagement with research.

According to Kostoulas (2018), research literacy is “the ability to engage with the collective knowledge of the field [and] consists of three interlocking skills: the ability to locate information, the ability to subject evidence to critical scrutiny, and the ability to synthesise this information into a usable, personally relevant, theory of teaching and learning”. The buddy project aims to facilitate all three of these components: accessing information, reflecting on information, and using new information.

4.2 *Accessing Information*

In the course of the project, student teachers are introduced to various different sources of information on an area they have an interest in because of a task they are required to complete for their course (i.e., correcting a learner text). The project attempts to create the conditions that may prompt a practitioner to turn to published research for answers in a professional context: WCF is a difficult task, raising many questions to which there are no clear answers, even such fundamental questions as whether feedback is effective at all. The student teachers are introduced to sources that select and synthesise published research to make it more accessible to teachers, such as professional journals, handbooks, webinars, etc. They are also introduced to research articles and in the process learn about key journals in the field as well as the hallmarks of sound research.

4.3 *Reflecting on Information*

Throughout the project, student teachers are encouraged to make connections between their own experiences as learners, but also as teachers in their practica on the one hand, and the research they encounter in the literature suggested by their instructor on the other. When there are contradictions between the two areas, they are encouraged to perceive these as ‘productive tensions’ and an opportunity to explore a wider range of ideas.

4.4 *Using New Information*

When deciding on correction strategies to apply to their buddy’s work, the student teachers are encouraged to take their newly acquired theoretical knowledge into consideration. In their portfolio, they reflect on these thought processes and thus lay the groundwork for a personal understanding of and approach to WCF.

4.5 *Evaluating the Buddy Project*

In addition to reflecting on their role and aims within the buddy project in the context of the theoretical framework outlined above, it would be helpful in the context of future iterations of the model for instructors to collect data from the students in order to assess the impact of the buddy project on their emerging research literacy. Analysis of their reflections could be one possible first step in this process; interview data could also provide deeper insight into student teachers’ shifting perceptions of research. This kind of data enables the project to be evaluated and adapted as necessary. If the evaluation is positive, the project could potentially be expanded.

In addition to these obvious benefits, such an evaluation would also give instructors yet another opportunity to model productive engagement *with* and *in* research in the form of self-study, as suggested by Dinkelman (2003). Highlighting the role of modelling in teaching, he notes: “Self-study by teacher educators, a form of deliberate and systematic reflection that is oftentimes visible to students, promotes reflective teaching by the very example it sets” (p. 11).

Moreover, the design of the buddy project makes it possible to include students as collaborators or co-researchers. In this way, “the nature of the participation in and of itself can serve as a powerful force for professional development along reflective teaching lines” (Dinkelman, 2003, p. 12).

It can thus be argued that adding an element of self-study to the buddy project in the future would enhance its value further. In addition, the insights gained in this way could add significantly to the knowledge base of research-oriented language teacher education.

5 Future Perspectives: Practical Challenges and Potential

When discussing the future of the buddy project, some limiting factors need to be taken into consideration. The buddy project in its current form is part of a single course student taken by teachers as part of their university degree, and the connection to the partner school is limited to this one course. This means their university instructor can encourage students who develop an interest in WCF research to pursue their own practitioner research projects in the area (see Section 3.3.3), but they cannot supervise or support such projects, which would be the logical next step.

Setting up and maintaining a partnership with a willing school takes time and effort, and unfortunately, this effort is not acknowledged and rewarded by universities, which tend to prioritise academic research over engagement with practice. This is unfortunate; Sato and Loewen (2022), for example, cite school-university collaborations as one dialogic way of overcoming the theory-practice divide in teacher education.

School-based teachers who are interested in research and willing to work with university instructors face similar problems; moreover, they are unlikely to derive any tangible benefits from their engagement. Collaborations between schools and universities are therefore often based on personal connections between teachers and university instructors, who derive personal satisfaction from their projects, but enjoy little or no institutional support.

It is hard, therefore, to argue with Kerr's response (2021) to Sato and Loewen's (2022) call for institutional support for increased researcher-teacher cooperation: "[W]ithout institutional support, mindsets are unlikely to become more collaborative, and the suggestions for institutional support (e.g. time release and financial support for teachers) are just pie in the sky".

It is to be hoped that the 'cultural' support Sato and Loewen (2022) also advocate – for example, a greater appreciation of researcher-practitioner collaboration that helps student teachers understand the relevance of research to their classroom activity – will be easier to achieve. It must not be forgotten, however, that this is only a first step. If the potential of school-university collaboration to develop student teachers' research literacy is to be realised, more practical institutional support – of the kind Kerr describes as currently being 'pie in the sky' – is an essential next step.

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Note

- 1 While theoretically possible, cases where the master/experienced practitioner values research and passes that view on to their 'apprentice' are rare given the demands on teachers' time.

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Enhancing the Value of Teacher Education Research

Implications for Policy and Practice

Vasileios Symeonidis (Ed.)

This book invites us to critically reflect on the value of research in, on and for teacher education. It explores the nature and role of teacher education research and identifies ways to enhance its value for policy and practice. It gathers together studies that deploy a wide range of methodologies, including small-scale practitioner-focused research and large-scale empirical studies, considering the value of both approaches for the development of teacher education research that is meaningful for practice, but also valid and relevant for policy. The studies collected in this book were undertaken in different countries and put forward powerful messages for teacher education research in the 21st century. The ultimate objective is to contribute to the generation of a knowledge base for teacher education, identifying strategies and acknowledging challenges. The various arguments presented here can be utilised by teacher education policymakers, practitioners and researchers wishing to enhance the role of teacher education research in their own countries and contexts.

Vasileios Symeonidis, PhD, is Visiting Professor at the University of Education Freiburg and a Postdoctoral Researcher at the University of Graz. He has published extensively on teacher education from an international comparative perspective, including *Europeanisation in Teacher Education: A Comparative Case Study of Teacher Education Policies and Practices* (Routledge, 2021).

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