We are IntechOpen,
the world's leading publisher of
Open Access books
Built by scientists, for scientists

5,400
Open access books available

133,000
International authors and editors

165M
Downloads

154
Countries delivered to

Our authors are among the

TOP 1%
most cited scientists

12.2%
Contributors from top 500 universities

WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com

Self-Study Research: Challenges and Opportunities in Teacher Education

Kåre Hauge

Abstract

This article aims to describe what self-study research is, why self-study can be a good approach to teacher educators' professional development and improvements in practice and highlight some challenges and opportunities in this research approach. In addition, the article will shed light on some methodological aspects related to self-study. Self-study refers to teacher educators who in an intentionally and systematically way examine their practice to improve it, based on a deeper understanding of practice, as well as the context practice takes place. In the article, I argue that engaging in self-study is a learning and development process and an approach to developing personal professionalism, collective professionalism and improvements in practice.

Keywords: self-study, pedagogy in teacher education, professional identity, teaching about teaching

1. Introduction

The professionalization of teachers´, teachers´ learning and teaching has been high on the political agenda in many countries, both in Europe and in large part of the world [1–5]. In the last 40 years, the discourse around teachers'professional learning and development has largely been linked to various forms of practitioner research. That is, research where teachers actively initiate innovations and research their own practice to improve their understanding of practice, and as a consequence, improve their teaching and professional actions [6–9].

A closely related approach to practice-oriented research related to professional learning and development is also found in the *self-study research*, which is explicitly related to teacher educators [9, 10]. The professionalization of teacher's and teacher educators has both emerged from and been influenced by a range of approaches and has built on the work of fields such as reflective practice (e.g [11–14]), action research (e.g [15–17]), teacher research (e.g [6]) and other forms for practitioners'reseach (for a more detailed overview, see [18]). Self-study is the study of oneself and one's own practice and involves a moral commitment to improving practice [19]. According to Bullough and Pinnegar [20], self-study is used in relation to teaching and research on practice with the intention of better understanding of both oneself (in the different roles one holds as teacher educator), instruction, teaching and learning; and the development of knowledge related to these factors. Self-study refers to teacher educators who in an intentionally and

systematic way examine their practice in order to improve it, based on a deeper understanding of the practices, as well as the contexts practice is taken place [9]. With such an understanding of self-study, self-study is characterized as a specific form of action research, and corresponds to Pinnegar and Hamilton's [19] definition which describe self-study as something more comprehensive than just applying the study of oneself:

> *"it is not the self but the self and the others in practice that is most of interest ... the self seeks to explore the gap between who I am and who I would like to be in my practice and studies that self and the others involved as the self takes action to reduce or alter that gap" (p. 12).*

This means that self-study should not only be of significance to the person who conducting the study, but also of importance for creating meaning and contribute to increased understanding and knowledge for other teacher educators. Self-study research is an approach to understand one's own practice and one's self-concept, means that teacher educators look critically at their own professional values [21], work towards a better self-understanding [22], and have a moral purpose [23].

In this article, it will first be an elaboration of what self-study is about, before it is elucidated why self-study can be a useful approach for development in teacher education and various purposes related to self-studies. Then follows a discussion of methodological aspects associated with self-studies, before a presentation of some methodological approaches from self-studies that have been completed. Finally, some challenges and opportunities related to self-study research will be highlighted. The conclusion is: 1) that teacher educators have a professional responsibility for continuous professional development that contributes to better understanding for teaching and students learning- and development processes, 2) engaging in self-study is a learning and development process and approach to develop personal professionalism, collective professionalism and improvements in practice.

2. Self-study: core characteristics and aspects

Self-study is largely about becoming better informed, gaining expanded under-standing, and an effort to improve oneself as a professional educator and one's own practice. As mentioned, self-study are closely related to action research, teacher research and reflective practice, and all these approaches share the assumption that the quality of education is "hinged" on the practitioner's (teacher's / teacher educators) knowledgeability (ability to; communicate with students, teach, create development processes, facilitate teaching, facilitate meaningful processes etc.), and that practitioner's actively studying their own practice and teaching is a valu-able approach to enhance these abilities [24]. An important aspect of self-study is to search for the "gap" (distance) and contradictions between personal theory, own beliefs, thoughts, ideas, and how own teaching is actually conducted [25, 26]. This means to discover and acknowledge the differences between own normative beliefs and aspirations of teaching on the one hand, and the actual teaching practice on the other hand. This is what Whitehead [27] describes as the notion of experiencing oneself as a "living contradiction". To put it simply: we think, means and say one thing but we do something else in action.

A key characteristic of self-study is that it is initiated and carried out by practitioners whose practice is studied [28]. Nilsson and Loughran [28] empha-sizes and argues that it is teacher educators themselves who must have control over the development and knowledge generation of teaching about teaching in teacher

education, and how to facilitate teacher students´ development, understanding and learning processes. This implies that it is the practitioners (teacher educators) who are responsible and must take responsibility for investigating, describing and articulating the relationship between the given teaching and the students´ development, understanding and learning. Smith [29] uses the term "teacher educators´ agency" about this responsibility. This is about teacher educators´ taking control of their own professional practice by researching it with the intention of developing and improving both oneself and practice and aiming to create new research-based knowledge. One important aspect here is also about being critical of the existing knowledge, traditions, institutional ways of thinking and acting, and institutional and political leadership related to teacher education [29]. Agency acts to the extent that the professional practitioners, teacher educators´, exploits the opportunities and freedom of the professional room in a responsible manner [30]. In that way, self-studies that lead to changes and improvements are the practice of agency.

An important aspect of self-study which is crucial in understanding the methodology is embedded in the desire of teacher educators to better align their teaching intents with their teaching actions [31]. It is unavoidable that the nature of practice itself, with its inherent contradictions and tensions, affects the manner in which the practice is researched. Accordring to Loughran [10], it will also be unavoidable for researchers and teacher educators who engage in self-study that the study of; themselves – their thinking – their actions – their teaching, does not affect or is applicable in their own practice. Another important aspect of self-study is about discovering and becoming aware of the complexities associated with teaching and educating. There are many challenging operations that take place simultaneously, and a teacher have a responsibility for everyone to support and facilitate both understanding and development, and for processes and actions to create meaning as well as challenging students. Zeichner [32] state that research related to self-study has managed to bring out some of the complexities associated with educating teachers and contributed to a certain dignity and to highlight the important, yet underestimated work of teacher education institutes and teacher educators. According to Zeichner [32], self-study may be the approach to research within teacher education that has contributed most to important developments in the field. Although an attempt has been made to briefly describe what self-study is about, it is according to Bullough and Pinnegar [20] difficult to fully understand what it is and what it is not. In addition, they also emphasized that self-study is not a recipe or procedure that is slavishly followed, but rather a methodology for exploring and researching own practice, one's self and own teaching about teaching. In the following, it will be elucidated why self-study can be a good approach to learning and development and what the purposes are for self-study.

3. The relevance of self-study in teacher education

Teacher educators who engage in self-study often share a broad motivation to improve; teacher education both individually and institutionally, goal of building new knowledge and understanding that can be brought into the field, increase the knowledge and understanding of teaching about teaching by researching and improving their own practice [33]. Whitehead [34] articulates this motivation to improve practice through some questions such as: "How do I help / support my students improve the quality of their learning and development?", "How do I live my values more fully in my practice?" and "How do I improve my practice?" ([33], p. 1308). Other questions that can be asked regarding to own practice can be:

- What challenges do I have in my practice and how to investigate, work with and understand these?

- How can I encourage / make students more aware of having a more reflective attitude to experiences from practice periods they have in schools?

- How can I be more informed about and aware of problematic aspects in practice that are usually hidden from my understanding and reflection? (in teaching, there are many problems that are obvious, and we can discover, but we have an understanding, experiences, thoughts and perspectives that make some problems hidden from us – so how to discover these?)

- How can I support my students to raise the quality of their learing and development towards becoming a teacher?

- How to facilitate thorough and meaningful deliberative dialogs?

- How to get students more involved and active in seminar groups?

These are just a few examples of what questions teacher educators can ask related to their own teaching and practice. One of the problems in teaching is that teachers tend to act before they know how things are related or evolved, or that teachers act from past experiences and habits, without knowing they do it [35, 36]. In Dewey's theory of learning and development, which is one of the sources of inspiration for self-study, he makes a clear distinction between actions based on habits and actions based on knowledge [11]. He claims that in situations where we have control, overview and know what it takes to solve the task, we do it based on our habits and learned ways of doing things. In such situations, thinking is unnecessary. It is when challenges or problems arise that cannot be solved with habits and learned methods that we must apply our ability to think and do something with our habits, methods and actions. Dewey [11] describes this as changing habits and actions from being unintelligent to becoming intelligent habits and actions. Based on this theoretical framework, Keltchermans and Hamilton [37] point out that one of the purposes of self-study is that self-studies can help teachers to look beyond technical and mechanical reductionism, i.e. from the perspective of "knowing how" to the perspective of "knowing why", and "becoming some-one-who – for students". This mean: for teachers and teacher educators to live up to society's demands for high-quality education in the 21st century, teachers must be more than professional and educational experts [38]. This in turn means that teaching involves a moral obligation, a moral dimension of one's knowledge that includes personal attributes such as vulnerability, honesty, integrity and credibility that are important in the work of teacher and teacher educators [37]. Here we are talking about a deeper understanding and knowledge that we also can understand considering Schön's concept of single and double loop learning [13]. Where single-loop learning confines itself to focusing on the instrumental, technical, mechanical actions, while double-loop learning goes beyond the actions itself, and to the underlying beliefs, values and attitude to the cenditual and institutional. When there are tensions and contradictions between how practice actually is carried out and our beliefs and values, it is not enough to just fine-tune actions. Then we must go beyond them and back to the sustaining factors to see what changes and improvements can be made so that the teaching can reflect our beliefs and values. An essential purpose in addition to developing practice is to develop one's own moral awareness related to teaching and being a teacher educator. Focusing on self-study for understanding

own practice and self-esteem means that teacher educators critically examine their own personal values [21], work towards better self-understanding [22] and positive changes in identity and practice [39], and, have a moral purpose [23].

Another purpose of self-study is to "model" something for the students. The concept of "modeling" in an educational context can easily be misunderstood, and in some cases the perception of modeling may be to imitate, do the same, model or template for reproduction, or some form of indoctrination. Despite the potential for misunderstandings, the term is widely used in education, but through self-study research the language, intensions and results of modeling are understood differently [10]. In self-study research, modeling is understood as i.e.: 1) a way to illustrate something, 2) a way to process and operationalize something, 3) a way to experiment with something, 4) a perspective and approach how to investigate something, and 5) modeling becomes viewed as a starting point for professional growth and development.

An essential purpose of self-study is also linked to the need to ask critical questions about teaching, learning, development and knowledge, and to articulate the silent knowledge and understanding about the practices of teacher educators. This is also about clarifying pedagogical reasoning and pedagogical argumentation and justification. In other words, making teacher educators thinking, actions, concerns, challenges and professional development more explicit and accessible to other teacher educators [19, 31, 40]. If the result of self-study really intended to influence the work within teacher education beyond the individual, the studies must demonstrate scholarship and knowledge generation that may be central to teacher education and the research field more generally. Self-studies must be made available for public criticism, critical review and evaluations from other teacher educators, so that others can use, build on, develop, adapt and adjust the work in meaningful ways that suit their own teaching context and own level of knowledge. Bullough and Pinnegar [41] emphasize that the question "so what?" is a critical reference for the quality of self-study. In other words: What is the significance of the study for others? What meaning does the study give to others? Is the study transferable to other contexts? If questions like these remains unanswered, the self-study may become a navel-gazing study that others in the field will not benefit from or contribute to knowledge generation [24]. Considering that the methodology in self-study can be perceived as a bit diffuse, it will further be elucidated some methodological aspects related to self-study research.

4. Methodology of self-study

As previously mentioned, Bullough and Pinnegar [20] point out that self-study is not a recipe or a procedure, but rather a methodology. Pinnegar [42] highlights the fact that self-study is a methodology for studying the professional practices of teacher educators, and that there is no particular method or correct way to conduct self-study. Rather, what determines how a self-study is conducted depends on which focus area of practice that is wanted to be better understood and developed. Pinnegar [42] offers a way to understand the methodological when she states:

> "while the methods and methodologies of self-study are not much different from other research methods, self-study is methodologically unique … self-studies involves a different philosophical and political stance … researchers who embrace self-study through the simple act of choosing to study their own practice, present an alternative representation of the relationship of the researcher and the researched … as they explore the development of understanding practice" (p. 31–32).

Therefore, it is crucial when considering how to approach the self-study to be aware of the continuous interplay between research and practice in the practice context [31]. This means i.e., as the research unfolds, learning and development through research will affect the practice, and because the practitioner is the researcher, the practice will inevitably change as a result of this interaction and thus affect what is being researched. According to Feldman [43] and Loughran [44], a persistent criticism related to self-study is the lack of methodological rigor and transparency. LaBoskey [45] presents insightful perspectives into the methodology of self-study, outlining what she sees as four integrated aspects.

The first aspect is that self-study aims to create changes and improvements, both at the individual, the collective and at the institutional level. In addition, one of the purposes of self-study is to bring in new knowledge and development related to the education of teachers. Therefore, it is necessary that self-study thoroughly elucidates and justifies choices made, and studies should point to changes or new structures in thinking, learning- and development processes and actions. It is also important in the studies to highlight how and why changes and improvements occurred. The second aspect is about the interactivity in self-study. Interactivity is connected to interaction with colleagues, with students, with literature and research in the field and the interaction with our own previous practice. According to Zeichner [46], there is an especially important link between the researcher and the students. Students are important participants and must be actively involved in self-studies. Students will be the researcher's "mirror" of what happens in the processes of information, feedback and advice related to teaching and processes, development, learning and their understanding. Pinnegar and Quiles-Fernández [47] point out the importance of building good relationships between researchers in self-studies that takes place in a research collaboration with other researchers. Hauge [35] emphasize that relationships between researchers and teachers based on trust, respect and equality contribute to; delve deeper into the topics being investigated, dare to ask the difficult questions and being critical, creates a lower threshold for trying out and experimenting with new approaches, and this enables them to have a deeper understanding of what is being studied.

The third aspect is that self-study uses several, primarily qualitative methods. Some of these methods are often used in educational research and intervention research, while some methods may have a more innovative character. An essential purpose of methods of an innovative character, or what Engeström and Sannino describe as expansive learning, is about thinking new, experimenting, trying new approaches, and, it is an opportunity to develop "something that is not yet there" ([48], p. 2). The methodological aspect is, as mentioned, a controversial area within self-study (both by researchers who have completed self-study and others who are more critical), and although there has been development, refinement and demarcation in the field, the one correct way or template for self-studies has not emerged. Rather, self-study tends to be methodologically framed through questions, challenges, problems and desires related to areas in practice which should be changed and developed, and where the method most appropriate for examining and collecting data is used according to the study's intent. The fourth aspect is about the need to formalize the work and make it available to the professional community (i.e other researchers in self-study and teacher education research). For self-study to be examples of the development of knowledge and practice, they must be intelligible to other researchers in self-study / teacher education research and to teacher educators, reflective over the human actions, and they must be socially and contextually situated. In addition, the researcher who completed the study must engage and guide the reader into examining aspects of the study related to teaching and learning by elucidating experiences and situations, and the research (text)

must involve the researcher, the author's "self". This means that the researcher must show who he / she is in this landscape by illuminating thoughts, opinions, interpretations, actions, development, and it must involve the construction of meaning and knowledge. In other words: a self-study should not only describe the development of meaning and knowledge, but the moral dimension that involves the researcher's "self" must be brought into the research. Together, these four aspects demonstrate an expectation that learning and knowledge development from self-studies will not only be informative to the individual who completed the study, but also meaningful and useful for other researchers and teacher educators in their practice.

4.1 Methods for self-study in practice

A basic starting point in all empirical research is to choose the research design and the methods that are best suited to illuminate and answer the research questions [49]. It is thus the research questions that lay the foundation for the choice of design and methods for the research. To map, reconstruct, explore, analyze, develop and represent the study to a wider audience, self-study researchers use "whatever methods will provide the needed evidence and context for understanding their practice" ([50], p. 240). To show that self-studies borrows its repertoire of research methods and strategies from empirical-analytical and/or qualitative-interpretive research, some examples of self-study is presented below. The methodological approaches are highlighted in italics.

There are many teacher educators who are concerned about the impact of specific pedagogical interventions have on teacher students´ learning and development, and there can be various reasons to investigate one's own practice. To initiate discussions and reflections among students related to her methods in mathematics teaching, Brandenburg [51] organized short weekly *Round Table Reflection* sessions. The intention was to improve the students´ reflective thinking and to investigate whether her teaching created meaning and understanding, and whether the methods were good approaches for these students. A study conducted by Dourneen and Matthewman [52] analyzed how two student teachers´ transformed an education course on ICT in their internship lessons in a school through *videotaping the lessons*. The purpose was to identify what the students emphasized in their teaching, and how the teacher educators´ didactic approach affected the students and to create a focus for their ongoing improvements in practice with teacher students. In a study of Dinkelman [53], the starting point was an incident in his classroom where a student stated that she did not feel safe or could speak freely in this classroom. To investigate what this was about, a number of *individual interviews* with students´ in the class were conducted. In the interviews, several students appeared who felt insecure and lacked openness to speak freely in class, and the students pointed out that the reason was largely about the teacher's facial expression was perceived by some as judgmental. Although open classroom discourse were an important goal and a personal value in his teaching, there was something in his demeanor and behavior that placed restrictions on its implementation. This is what Whitehaed [27] describes as perceiving oneself as a "living contradiction", which in this case is about valuing one thing but showing something else. Dinkleman's study also show that those who complete a self-study must be able to cope with and handle what is revealed in the study.

Berry and Forgasz [40] have conducted a study based on Clandinin and Connelly's [54] metaphor of "professional knowledge landscape" as a support for conceptualizing teachers' professional knowledge. This "landscape" consists of two fundamentally different places: one is in the classroom with students, and the other is in professional places with others (colleagues, administrators, etc.). At the

intersection of these rooms, *the secret lived stories of practice*, teachers can learn to both tell and live their professional knowledge, while at the same time having the opportunity to reconstruct and adjust their professional knowledge. The broader landscape of teachers' professional knowledge, on the other hand, is full of imposed prescriptions on teaching, *the sacred stories*. Sacred stories are "pulled down" to teachers by a number of seemingly undeniable external authorities, including researchers and policy makers. By disseminating their *secret lived stories*, it was a goal for Berry and Forgasz [40] to find out how articulation and disclosure of own *secret stories* of teaching to colleagues could contribute to a broader and more pedagogical understanding of teacher education practices and at the same time be critical of the *sacred stories* of teaching.

In a study by Vanassche and Keltchermans [24], six teacher educators worked with their professional development in a two-year period where they had monthly meetings. Vanassche and Keltchermans facilitated the study and the monthly meetings, and the six participants made their own research questions related to focus in their professional development. The study was a formative intervention study based on a research collaboration between researchers and participants, where the goal was to create development and understanding of the teacher educators´ practice for both parties, both the facilitators and the teacher educators. The intention of formative intervention research is to carry out interventions to promote change and improvement, and development and research take place in parallel [48], which means that research is carried out on the ongoing development processes while the study is in progress. In order to bring out tensions and contradictions between the teacher educators´ practices and their normative beliefs, *"mirror data"* was collected as a basis for systematic discussions and reflections. According to Cole and Engeström [55], "mirror data" will act as a collective mirror on the participants practice, and the data literally "hold up the mirror". The mirror data included: *video-recordings of lessons with student-teachers´, teacher educators´ staff meetings, observations of teaching and internship evaluation reports.*

Smith and Krumsvik [56] conducted a self-study in teacher education where they searched for weak points in their own pedagogy teaching. An essential part of the study was the teacher educators´ reflection processes. The methods used to collect data for the reflection processes were video recordings of lectures with many students present and seminars with a small group of students. In addition, the teacher educators´ log notes were part of the data base. The video recording became the empirical basis for searching for weak points in the teaching. Based on the video recordings and log notes, the reflection processes were first carried out on an individual level, then they reflected together, before showing the video recordings and discussing the reflections with all the other colleagues in the department of pedagogy. In this study, *video recordings* and *log notes* are used for thorough *individual reflections, reflections in pairs*, and to invite an ever-expanding audience to participate in the reflection processes related to the two teacher educators´ learning process.

An important point that large parts of the literature in self-study agree on is the need for self-study to be a collaborative process (e.g. multiple chapters in the *International handbook of self-study of teaching and teacher education practices*: [10, 20, 45]). Freese [57] conducted a two years self-study collaborating with one student teacher aiming at a better understanding of the complexities of learning to teach, and which specific tasks and activities could contribute to teacher students´ growth and development. Another goal of this study was to discover "oneself" as a teacher through reflection and an inquiry approach in collaboration. In this study, *discussions and reflections (audio-recorded)* related to growth and development for both parties, in addition to finding themselves as teachers` were essential methods.

Koster and van den Berg [58] have conducted a study that focuses on how teachers who participated in a Master's degree study of learning and innovation can explore their professional identity. One of the methods used in this study was a *bio-graphical* approach [59]. There are different approaches to a biographical approach, but here a constructivist approach was used where the students actively constructed their career experiences into a story that became meaningful to them.

What emerges in these different examples from different self-studies is that it does not involve following a recipe or a fixed procedure, but that there are many different methodological approaches. What determines which methodological measures self-study the researcher should take depends on the focus of the study, what is to be investigated and what is the goal and purpose of the study [42]. Until now, it has been tried to illuminate and describe what self-studies is and what makes self-studies special in terms of methodological approaches. In the following, some challenges and opportunities related to self-study will be highlighted in order to study and develop own practice.

5. Challenges and opportunities

5.1 Challenges

The discussion related to challenges in self-study research could have been an article in itself, but here three challenges will be highlighted: 1) the challenge of the self-critical nature of one's own work and practice, 2) the requirement for quality, and 3) the tensions between efficiency and understanding.

Being able to ask "serious" critical questions about own actions and existing interpretations and assumptions is difficult when exploring and investigating own practice and experiences [31, 60]. There is a risk that the learning that comes out of a self-study just becomes a pseudonym for rationalization or self-justification. One of the core elements of self-study is about being informed to a greater extent about and developing own practice through adopting a reflective attitude towards own teaching. A vital feature of reflective teaching involves having a critical view on practice and a critical look at existing assumed assumptions related to various aspects of the educational process. In the field of teacher education there is a wide-spread agreement that there is a strong relationship between what a teacher believes and how teaching occurs in the classroom [45]. Thus, in order to influence practice, teachers´ thinking about teaching must be transformed and critical questions must be asked about what is being done [45]. But, for various reasons this is easier said than done. Firstly, this is due to the fact that our beliefs, values and knowledge about teaching are derived from our experiences and our personal history which is necessarily limited. Secondly, many of these assumptions are implicit, which means they have never been articulated, not even for us self [61]. It is also a fact that some of these ideas and beliefs about teaching are deeply ingrained in us and intimately connected to our identities as teachers and teacher educators [45]. For these reasons, it can therefore be challenging to ask critical and constructive questions related to one's own teaching and practice.

Another challenge, according to Vanassche and Keltchermans [24] is related to the tensions between the relevance of self-study and methodological rigor. In other words, a question of quality and what requirements are placed on quality for a self-study. Self-studies are inevitable in this field of tensions and it is a direct consequence of its dual research agenda. One the one hand, the requirements to contribute to professional development and improvements in practice, and on the other hand the development of a public and accessible knowledge base in teacher

education. Moving too much towards relevance can produce a solipsistic study, which may result in a study in which the person conducting the study becomes the only one that exist in the text. In other words, a navel-gazing study that will not necessarily have transfer value to other teacher educators. Such studies will probably raise awareness and open up new understandings to the person who completed the study, but the value may not extend beyond the local individual context. On this side of the scale, the study will manifest itself as a study about oneself – of oneself – and for oneself, and the question about "so what", what does this mean for others in the field of teacher education which is a critical reference for quality in self-studies will remain unanswered. On the other hand, moving too much towards rigor and requirements that emphasize methodological concerns to justify a generalization of the study's findings could result in an increased methodological focus and reduced conceptualization in order to allow proper measurements [24, 62, 63]. By reducing the conceptualization, there will be less focus on describing actions and models that integrates ideas and concepts about what is done, why it is done and how the researcher came to this. The problem with such an approach is that there is a danger of less focus on the researcher's actions and behavior in the study, which is an essential part of self-study. The question is on which side of this continuum will the study be located and focused, and what is considered most valuable for moving both the individual / local professional knowledge and the public knowledge base on teacher education going forward in a developing direction.

The final challenge is the tension between efficiency and understanding that is described by several as a demanding balance [24, 64, 65]. Although the framework and mindset within self-study has an agenda among other things to adopt a critical view to education policy that in many countries has promoted a rather narrow and instrumentalist view of practice, learning and knowledge development in teacher education and in schools [66], there are examples of self-studies presenting suggestions for quick solutions to problems and increased efficiency of own practice. In other words, find quick and short-terms solutions to complex problems so that students´ learning can take place effectively, in less time and preferably less resources. Such a technical-instrumentalist approach to self-study as research on teaching and learning has great legitimacy among many policy-makers who want clear evidence of "what works" [64]. Whether researchers in self-studies or other research approaches are put under pressure and made responsible by pointing to evidence of "what works" and how pedagogy should be in teacher education an in schools, it is hardly surprising that reseachers´ may be tempted to limit the research agenda to the question of "what works" [67]. Such an approach will limit the value of self-study to its functional, self-oriented and problem-solving nature which is characteristic of self-study. By doing so, self-study risks being cut off from potential inherent in the opportunities to develop a significant critical-political, educational, and epistemological understanding of the complexities of teacher education and teaching in general. Self-studies should articulate the researcher's understanding of what, why and how the study led to understanding, and the study should uncover tensions in a specific course of action such as why one type of action was chosen over others. This is about offering a conceptualization of how the researcher arrived at what he did and what knowledge was generated, which raised it to a more general level that allows the work to be a contribution to the public knowledge base on teacher education [24].

5.2 Opportunities

Although some challenges related to self-study have been described, there are also several opportunities for development and knowledge building in this research and development approach. Korthagen and Lunenberg [68] have presented some

opportunities and gains from engaging in self-study. Firstly, they believed that it is a personal gain to engage in self-study that is about their own professional development as a teacher educator. This is further supported by Clandinin and Connelly [69] and Berry and Forgasz [40] who claims that self-study research is in a particularly good position to influence the teacher education field and develop its knowledgebase. This is because the self-study approach potentially involves changes in the "self", and this is where changes are least likely, but in self-study most suitable to occur. Secondly, Korthagen and Lunenberg [68] believe that there are opportunities to reshape and develop institutions` teacher education in terms of teaching, syllabus, programs and courses. Thirdly, they believed that there are opportunities to lay a foundation for a growing international community for teacher educators who engage in self-studies (or in general teacher education), and who benefit from the ongoing interaction between studies, researchers / teacher educators and the sharing of insight.

In a self-study approach, there are opportunities that more traditional approaches to research are probably not as thoroughly able to encapsulate. In particular, this is about examining features of being a "living contradiction" [27], which i.e. means we think and say one thing but do something else in action. It may also be about the fact that as teachers we feel that we are required to practice a practice that goes across our beliefs, values and attitudes. Such contradictions are challenging and demanding to detect, and it is difficult to stop, take a step back from personal experiences and examine these in a free and detached way. An essential characteristic and factor in self-study, is about making some stops to create an overview of own practice and take the important step back to find out what this is really about, take a meta-perspective [70]. Another possibility with self-study is that it is an effort for teacher educators to better understand how to handle, deal with and decide meaningful actions to dilemmas, challenges and problems, rather than seeking the correct answer to these. By seeing dilemmas, challenges and problems from such a perspective, one will, according to Shulman [71], create opportunities that help to shed light on how the reality of what is being examined actually is. Shulman also says that it makes a qualitative difference when it is the practitioner who defines the challenge instead of being introduced or imposed by external obeservers, decision makers or others, whose work is at distance from the teacher educator.

A self-study research approach can also be a good way to create meaningful processes to become more aware of who you are as a teacher educator and to develop your teacher educator identity. Koster and van den Berg [58] emphasizes that by engaging in self-study, teacher educators can become more aware of who they are- and find their core values as teacher educators. This is about raising awareness of who you are, what you stand for, what are your core values and how to convey these as a teacher educator. The research approach to self-study is closely related to the constructivist approach within the pragmatic paradigm [11]. A key point of Dewey [11] when it comes to learning and knowledge development is that it occurs when people face challenges or problems. Learning and knowledge development lies in dealing with such situations by exploring and engaging in them, working systematically and transforming it into something we understand and master. The new knowledge will then be able to help us change and improve our thinking and actions. When the goal is to create development and generate new knowledge that is important for the practitioner's practice of the profession and to support the teacher students learning, or what Engeström and Sannino [48] describe as developing "something that is not yet there" (p. 2), is testing and experimentation with new approaches to teaching and learning processes a significant factor. Self-study is an appropriate and good approach for experimentation, trying out methods, moving out into the unknown and out of the comfort zone. One of the reasons for this is

the requirement for interactivity with students, colleagues, literature and research in the field and with own previous practice. In collective processes, creativity and innovation are more likely to emerge than if we work individually, and the implementation of the "new approach" takes place in an environment where the participants have collaborated on the changes [72]. When changes to be implemented are a result of collaboration, it is a factor that also makes it a little safer to try out new approaches [73]. Takahashi [5] says that an important factor for teachers´ development and learning is the necessity of moving out of the comfort zone, and says that's the place where exiting, unpredictable and evolving situations arise. Testing and experimenting is probably something all teachers and teacher educators do to a greater or lesser degree, but it does not mean that the testing and experimentation is studied and has a research approach. Through self-study, teacher educators can research and study this testing and experimentation, go deeper into what they are doing, use students actively in the development of new methodological approaches and construct good and meaningful processes that make sense to students and suit the teacher educator's way of thinking and how to facilitate development- and learning processes. In these exploration and testing processes, Takahashi [5] believes that many teachers are afraid of failing or that it does not work as they had intended, and that this fear of not succeeding can be a hinderance for development and learning. According to Dewey [11], we should not be afraid of making mistakes or that the scheme does not go as planned, because a mistake is not just a mistake. Dewey sees mistakes as a starting point and a potential source for developing new knowledge and further development by looking at mistakes as something instructive.

According to Loughran [31], there is little doubt that teacher educators who explore their own practice through the use of self-study methodology, are serious about seeking a better understanding and execution of their own practice.

6. Conclusion

Self-study is a meaningful approach and tool that can be employed to serve several purposes in the preparation of teacher educators. Through self-study, teacher educators can to a greater extend be able to capture, unpack and portray the complexity of teaching that can lead to a deeper understanding of both practice and students´ learning processes. In this chapter, self-study as research is thoroughly described, and the possible positive influence in teacher educators´ development and practice are illuminated. At the same time, it is important to point out that self-study can be challenging, and it places some demands on teacher educators. It requires from teacher educators the courage to be open, willing to examine their own pedagogical thinking, actions and practice and to be vulnerable. As interactivity is an essential methodological aspect in self-study [45], openness to other views, perspectives and critical remarks from colleagues and students is an essential part. Openness is also about being open to and having the courage to try, test and experiment with new tasks, activities and actions in teaching. In addition, openness is about daring to move out of the comfort zone and into a creative and innovative landscape.

For teacher educators´ who enter self-study, it is of great importance that they are willing to examine their own pedagogical thinking and actions. When teacher educators´ are willing to do this, there is also an inherent desire and goal to make changes and improvements in their practice [35]. A starting point for examining one's own thinking, actions and practice can be based on perceived challenges in teaching situations. By examining own practice and searching for new approach

and understandings related to challenges, teacher educators´ can make a transformation from being knowledge consumers to being knowledge producers. When teacher educators perceive themselves as producers of knowledge, it also has an impact on their self-confidence, the development of their identity and the development of a personal pedagogy of teacher education [29, 30].

Finally, the importance of having the courage to be vulnerable. Once teacher educators´ frame their research as a self-study, they enter the field of research with a different approach, a personal approach. They enter the field with themselves and about themselves. It requires them to put themselves, their assumptions, their preconceptions, their beliefs and their ideologies of teaching under scrutiny. How one teaches is a product of who one is and what one considers to be one's own beliefs and truths related to teaching (Austin & Senese [74]. An important influence of self-study is that it is a research approach that facilitates to find out who you are as a teacher educator and to dig a little into your own beliefs and truths with the aim of acquiring a better understanding of practice and reconstructing your beliefs, which in turn can lead to improvements in teaching practice and the strengthening of teacher education.

Author details

Kåre Hauge
Department of Teacher Education, NTNU, Norwegian University of Science and Technology, Trondheim, Norway

*Address all correspondence to: kare.hauge@ntnu.no

IntechOpen

References

[1] Darling-Hammond, L. and Richardson, N. (2009). "Teacher learning: what matters?" Educational Leadership, 66 (5): 46-53.

[2] European Commision, (2010). *Teachers'professional development: Europe in international comparison. A secondary analysis based on OECD's Teaching and Learning Internationalsurvey.* Luxenburg: Office for Official Publications of the European Union.

[3] Garet, M., Porter, A., Desimone, L., Bierman, B. and Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. American Educational Researcher Journal, 38 (4), 915-945.

[4] Postholm, M. B. (edt.), (2012). *Læreres profesjonelle læring og ledelse av profesjonsutvikling.* Trondheim: Tapir Akademiske Forlag.

[5] Takahashi, A. (2013). The role of the knowledgeable other in Lesson Study: Examining the final comments of experienced Lesson Study practitioners. Mathematics Teacher Education andDevelopment, 16 (1), 4-21.

[6] Cochran-Smith, M. and Lytle, S. (1999). The teacher research movement: a decade later. Educational researcher, 28 (1), 15-25.

[7] Gregory, K., Diacopoulos, M. M., Branyon, A., and Butler, B. M. (2017). From skepticism to scholarship: Learning and living self-study research in a doctoral seminar. Studying Teacher Education, 13 (3), 257-274.

[8] Ritter, J. (2017). Those who can do self-study, do self-study: But can they teach it? Studying Teacher Education, 13 (1), 20-35.

[9] Vanassche, E. and Keltcherman, G. (2015). The state of art in self-study of teacher education Practices: a systematic review. Journal of curriculum studies, 47 (4), 508-528.

[10] Loughran, J. J. (2004). A history and context of self-study of teaching and teacher education Practices. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices,* (pp. 7-30). Dordrecht, The Netherlands: Kluwer Academic.

[11] Dewey, J. (1933). *How we think. A restatement on the philosophy of education.* New York: TheMaximillian Company.

[12] Dewey, J. (1966). *Democracy and education.* New York, NY: The Free Press.

[13] Schön, D. A. (1983). *The reflective practitioner: How professionals think in action.* New York: BasicBooks.

[14] Schön, D. A. (1995). Knowing in-action: The new scholarship requires a new epistemology. *Change: The Magazine of Higher* Learning, 27, 27-34.

[15] Carr, W. and Kemmis, S. (1986). *Becoming Critical. Education, knowledge and action research.* London: Falmer Press.

[16] McNiff, J. (1988). *Action research.* Abingdon: Routledge.

[17] Stenhouse, L. (1975). *Introduction to Curriculum Research and Development.* London: Heinemann Education.

[18] Cochran-Smith, M. and Donnell, K. (2006). Practitioner inquiry: Blurring the boundaries of researchand practice. In J. Green, G. Camilli, & P. Elmore (eds.), *Handbook of complementary methods in education research.* (pp. 503-518). Mahwah: NJ: Lawrence Erlbaum.

[19] Pinnegar, S. and Hamilton, M. L. (2009). *Self-study of practice as a genre of qualitative research*. Dordrecht: Springer.

[20] Bullough, R. V. and Pinnegar, S. (2004). Thinking about the thinking about self-study: An analysis of eight chapters. In J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices*. (pp. 313-342). Dordrecht: Kluwer Academic.

[21] Kunneman, H. (2005). Social work as laboratory for normative professionalization. Social work and Society, 3, 191-200.

[22] Keltchermans, G. (2005). Teachers´ emotions in educational reforms: Self-understanding, vulnerable commitment and micropolitical literacy. Teaching and Teacher Education, 21, 995-1006.

[23] Fullan, M. (2001). *Leading in a culture of change.* San Francisco, CA: Jossey-Bass.

[24] Vanassche, E. and Keltchermans, G. (2016). Facilitating self-study of teacher education practices: toward a pedagogy of teacher educator professional development, Professional Development in Education, 42, 100-122.

[25] Harris, P. (2007). Developing an integrated play-based pedagogy in preservice teacher education: Aself-study. Studying Teacher Education, 3, 135-154.

[26] Whitehead, J. and Fitzgerald, B. (2007). Experiencing and evidencing learning through self-study: New ways of working with mentors and trainees in a training school partnership. Teaching and Teacher Education, 23 (1), 1-12.

[27] Whitehead, J. (2000). How do I improve my practice? Creating and legitimating an epistemology of practice. Reflective practice, 1, 91-104.

[28] Nilsson, P. and Loughran, J. (2012). Developing and assessing professional knowledge as a science teacher educator: Learning about teaching from student teachers. In S. Bullock & T. Russell (eds.), *Self-study of science teacher education practices*, (pp. 121-138). Dordrecht: Springer.

[29] Smith, K. (2016). Selvstudier – verktøy for profesjonell utvikling for lærerutdannere. In M. Ulvik, H. Riese and D. Roness (eds.) *Å forske på egen praksis*, (pp. 213-233). Bergen: Fagbokforlaget.

[30] Biesta, G. J. J., Priestly, M. and Robinson, S. (2015). The role of beliefs in teacher agency. Teachers and Teaching: theory and practice, 21 (6), 624-640.

[31] Loughran, J. (2007). Researching teacher education practices: Responding to the challenges, demands and expectations of self-study. Journal of Teacher Education, 58, 12-20.

[32] Zeichner, K. (2007). Accumulating knowledge across self-studies in teacher education. Journal of Teacher Education, 58, 36-46.

[33] Berry, A. (2004). Making the private public: Giving preservice teachers access to their teacher educators´ thinking via an electronic journal. Didaktisk tidskrift: För praktiker och forskare, 14 (1), 17-24.

[34] Whitehead, J. (1998). How do I know that I have influenced you for good? A question of representingmy educative relationships with research students. In A. L. Cole and S. Finley (eds.), *Conversations in Community: Proceedings of the Second International Conference of the Self-study of Teacher Education Practices, Herstmonceaux Castle, East Essex, England* (pp.10-12). Kingston, Canada: Queen's University.

[35] Hauge, K. (2019). Teachers' collective professional development

in school: A review study. Cogent Education, 6(1), 1619223.

[36] Oosterheert, I. E. and Vermunt, J. D. (2001). Individual differences in learning to teach: Relating cognition, regulation and affect. Learning and Instruction, 11, 133-156.

[37] Keltchermans, G. and Hamilton, M. L. (2004). The dialectics of passion and theory: Exploring the relation between self-study and emotion. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices,* (pp. 785-810). Dordrecht, The Netherlands: Kluwer Academic.

[38] Day, C. (2000). Teachers in the twenty-first century: Time to renew the vision. Teachers and Teaching: Theory and Practice, 6, 101-115.

[39] Grant, M. R. and Butler, B. M. (2018). Why Self-Study? An Exploration of Personal, Professional, and Programmatic Influence in the Use of Self-Study Research. Studying Teacher Education, 14:3, 320-330.

[40] Berry, A. And Forgasz, R. (2018). Disseminating Secret-Story-Knowledge through the Self-Study of Teacher Education Practices. *Studying Teacher education,* 14:3, 235-245.

[41] Bullough, R. V. and Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self-study research. Educational Researcher, 30, 13-21.

[42] Pinnegar, S. (1998). Methodolgical perspectives: Introduction: In M. L. Hamilton. (ed.), *Reconceptualizing teaching practice: Self-study in teacher education,* (pp. 31-33). London: Falmer.

[43] Feldman, A. (2003). Validity and quality in self-study: Educational Research, 32, 26-28.

[44] Loughran, J. (2010). Seeking knowledge for teaching teaching: Moving beyond stories. Studying Teacher Education: A journal of Self-Study of Teacher Education Practices, 6, 221-226.

[45] LaBoskey, V. K. (2004). The methodology of self-study and its theoretical underpinnings. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices,* (pp. 817-869). Dordrecht, The Netherlands: Kluwer Academic.

[46] Zeichner, K. (1999). The new scholarship in teacher education. Educational Reseacher, 28, 4-15.

[47] Pinnegar, E., and Quiles-Fernández, E. (2018). A Self-Study of Researcher Relationships with Research Participants. Studying Teacher Education, 14:3, 284-295.

[48] Engeström, Y. and Sannino, A. (2010). Studies of expansive leaning: Foundations, findings andfuture challenges. Educational Research Review, 5, 1-24.

[49] Postholm, M. B. and Jacobsen, D. I. (2018). *Forskningsmetode for masterstudenter i lærerutdanning.* Oslo: Cappelen Damm.

[50] Hamilton, M. L. and Pinnegar, S. (1998). Conclusion: The value and promise of self-study. In M. L. Hamilton (ed.), *Reconceptualizing teaching practice: Self-study in teacher education* (pp. 235-246). London: Falmer.

[51] Brandenburg, R. (2008). *Powerful pedagogy.* Dordrecht: Springer.

[52] Dourneen, J. and Matthewman, S. (2009). Seeing through ICT: Re-viewing student teachers´ Transformation of practice from university session to school placement. Studying Teacher Education, 5, 61-74.

[53] Dinkelman, T. (2003). Self-study in teacher education: A means and ends tool for promoting reflective teaching. Journal of Teacher Education, 54, 6-18.

[54] Clandinin, D. J. and Connely, F. M. (1996). Teacher stories – Stories of teachers – School stories – Stories of schools. Educational Researcher, 25 (3), 24-30.

[55] Cole, M. and Engeström, Y. (2007). Cultural-Historical Approach to Designing for Development. In J. Valsiner, and A. Rosa (eds.), *The Cambridge Handbook of Sociocultural Psychology,* 484-507. New York: Cambridge University Press.

[56] Smith, K. and Krumsvik, R. (2007). Video-papers – A means for documenting practitioners'reflections on practical experiences: The story of two teacher educators. Research in Comparative and International Educartion, 2(4), 272-282.

[57] Freese, A. (2006). Refraiming one's teaching: Discovering out teacher selves through reflection and Inquiry. Teaching and Teacher Education, 22, 100-119.

[58] Koster, B. and van den Berg, B. (2014). Increasing Professional Self-Understanding: Self-Study Research by Teachers with Help of Biography, Core Reflection and Dialogue, Studying Teacher education, 10 (1), 86-100.

[59] Kelchtermans, G. (1993). Getting the story and understanding the lives: From career stories to teachers´ professional development. Teaching and Teacher Education, 9, 443-456.

[60] Loughran, J. and Northfield, J. (1996). *Opening the classroom door: Teacher, researcher, learner.* London: Falmer.

[61] Philpott, C. and Oates, C. (2017). "Teacher agency and professional learning communities; what can Learning Rounds in Scotland teach us?". Professional Development in Education, 43:3, 318-333.

[62] Hamilton, M. L. (2005). Using pictures at an exhibition to explore my teaching practices. In C. Mitchell, S. Weber, & K. O'Reilly-Scanlon (eds.), *Just who do we think we are?* (pp. 58-68). London: Routledge/Falmer.

[63] Schulte, A. (2009). *Seeking integrity in teacher education.* Dordrecht: Springer.

[64] Darling-Hammond, L. (2010). Teacher education and the American future. Journal of Teacher Education, 61, 35-47.

[65] Murray, J. (2008). Towards the re-articulation of the work of teacher educators in higher education institution in England. European Journal of Teacher Education, 31, 17-34.

[66] Hargreaves, A. and Fullan, M. (2012). *Professional Capital. Transforming Teaching in Every School.* New York: Routledge.

[67] Biesta G. J. J. (2010). Why "What Works" Still Won't Work: From Evidence-Based Education to Value-Based Education. Studies in Philosophy and Education, 29, 491-503.

[68] Korthagen, F. A. J. and Lunenberg, M. (2004). Links between self-study and teacher education reform. In J. J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices,* (pp. 421-449). Dordrecht, The Netherlands: Kluwer Academic.

[69] Clandinin, D. J. and Connelly, F. M. (2004). Knowledge, narrative and self-study. In J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices.*

(pp. 575-600). Dordrecht: Kluwer Academic.

[70] McNiff, J. (2007). My story is my living educational theory. In J. Clandinin (ed.), *Handbook of Narrative inquiry: Mapping a methodology* (pp. 308-329). London: Sage.

[71] Shulman, L. (2004). Truth and consequences: Inquiry and policy in research on teacher education. Journal of Teacher Education, 53, 248-253.

[72] Appleget, C., Shimek, C., Myers, J., & Hogue, B. C. (2020). A Collaborative Self-Study with Critical Friends: Culturally Proactive Pedagogies in Literacy Methods Courses. Studying Teacher education, 16:3, 286-305.

[73] Lewis, C., Perry, R. and Murata, A. (2006). How should research contribute to instructional improvement? The case of Lesson Study. *Educational Research*, 35 (3), 3-14.

[74] Austin, T. and Senese, J. C. (2004). Self-study in School-teaching: teacher's perspectives, In J. Loughran, M. L. Hamilton, V. K. LaBoskey, and T. Russell (eds.), *International handbook of self-study of teaching and teacher education practices.* (pp. 1231-1259). Dordrecht: Kluwer Academic.