NORSK OG INTERNASJONAL LÆRERUTDANNINGS-FORSKNING

Hvor er vi?

Hvor vil vi gå?

Hva skal vi gjøre nå?

NAFOL
Nasjonal forskerskole for lærerutdanning

Kari Smith (red.)

NORSK OG INTERNASJONAL LÆRERUTDANNINGS-FORSKNING

FAGBOKFORLAGET

Boken ble første gang utgitt i 2018 på Vigmostad & Bjørke AS.

Boken er utgitt med støtte fra NAFOL.

Boken er fagfellevurdert i henhold til UHRs retningslinjer for vitenskapelig publisering.

ISBN trykt utgave: 978-82-450-2259-9
ISBN elektronisk utgave: 978-82-450-4086-9

Spørsmål om denne utgivelsen kan rettes til:
Fagbokforlaget
Kanalveien 51
5068 Bergen
Tlf.: 55 38 88 00
e-post: fagbokforlaget@fagbokforlaget.no
www.fagbokforlaget.no

Omslagsdesign ved forlaget; utført på basis av plakaten av Tintin Rosvik.
Grafisk produksjon: John Grieg, Bergen

Forord

Nasjonal forskerskole for lærerutdanning (NAFOL) er stolt over å publisere den tredje NAFOL-boken.[1] Den første ble publisert i 2012, *Teacher Education Research Between National Identity and Global Trends*, og den andre boken ble publisert i 2014 med tittelen *En gang lærer, alltid lærer? Once a Teacher, Always a Teacher?* Vår tredje bok har fått tittelen *Where are we? Where do we want to go? What do we want to do next? International and Norwegian Teacher Education Research*.

I likhet med de tidligere NAFOL-bøkene er også dette en antologi av artikler skrevet i etterkant av presentasjoner på en NAFOL-konferanse. Artiklene i denne boken ble presentert på den fjerde NAFOL-konferansen. Konferansen ble arrangert i oktober 2016 i Kristiansand i samarbeid med Universitetet i Agder. Konferansen hadde nasjonale og internasjonale hovedtalere og artikkelpresentasjoner av norske og internasjonale ph.d.-studenter.

I etterkant av konferansen inviterte NAFOL alle som hadde presentert på konferansen til å sende inn et artikkelabstrakt på 1000 ord, som ble fagfellevurdert. Forfatterne av de utvalgte abstraktene ble deretter invitert til å skrive en full artikkel, som også ble fagfellevurdert av nye fagfeller. Utvalgte artikler er revidert i tråd med fagfellekommentarene, og det er resultatet av en grundig vurderingsprosess som blir presentert i denne boken.

Boken har et internasjonalt preg, og mesteparten av artiklene er skrevet på engelsk. Dette er gjort med bakgrunn i et av NAFOLs mål: å internasjonalisere norsk lærerutdanning ved å presentere internasjonal kunnskap, og å motivere norske unge forskere til å gjøre kunnskapen sin tilgjengelig for et internasjonalt publikum.

Boken er delt inn i tre deler.

1 Alle artiklene i denne boken er gjennomgått fagfellevurdering i henhold til kriterier for vitenskapelig publisering.

DEL 1

Den første delen består av tre artikler, hvorav den første artikkelen av Kim-Daniel Vattøy og Kari Smith er en studie av NAFOLs innflytelse på lærerutdanningen på NAFOLs nettverksinstitusjoner og på lærerutdannere som har vært NAFOL-studenter. Artikkelen bygger på data samlet inn ved NAFOLs egenvurdering høsten 2015. De andre artiklene i del 1 er skrevet av konferansens hovedtalere, professor Frances Rust fra New York University i USA og professor Tina Seidel og hennes team fra Tyskland. Rust's artikkel, «Wrestling with Complexity: The Work of Teacher Educators in Uncertain Times», diskuterer, fra et internasjonalt perspektiv, kompleksiteten rollen som lærerutdanner innebærer i en tid da utdanningssystem blir mer og mer preget av å være politisk kontrollert. Rust snakker om å ta til seg kompleksiteten og se mulighetene i den, i stedet for å forenkle lærerutdannerens rolle og ansvar gjennom styring og krav om målbare resultater. Den tredje artikkelen har flere forfattere fra forskergruppen til Tina Seidel, og førsteforfatter er Maralena Pielmeier. Alle forfatterne kommer fra Technical University of Munich (TUM), School of Education. Artikkelen har tittelen «Fostering Dialogic Teaching – The 'Dialogic Video Cycle' as a video-based professional development programme to enhance classroom discourse». Forfatterne presenterer forskning på hvordan videoopptak fra undervisningen kan brukes som et profesjonelt utviklingsverktøy for lærere for å styrke klasseromsdialogen.

DEL 2

Den andre delen av boken består av artikler fra NAFOL-studenter og internasjonale ph.d.-studenter som kommer fra ulike kontekster, et vidt spektrum av emner og temaer, og fra ulike land: Norge, Island og Seychellene. Svava Björg Mörk fra University of Iceland skriver om det tredje rommet, møtepunktet mellom praksis og teori, i den islandske barnehagelærerutdanningen fra et historisk perspektiv. Andre artikler om barnehagen og barnehagelærerutdanningen er Kathrin Olsen og Abigail Croydons artikkel om støtten til barn med autisme i barnehagen. Justin Zelime, sammen med Mats Deutschmann fra Umeå universitet, presenterer forskning på språkundervisningen på Seychellene, som har en sammensatt språksituasjon. Tilbake i Norge så skriver Gro Løken, Ratib Lekhal og Peder Haug om kjønnsforskjeller i spesialundervisningen i grunnskolen, og overraskende

nok så fant de små eller ingen forskjeller. Fra spesialundervisning til kroppsøving, i sitt bidrag påpeker Svein Olav Ulstad at når elevene får økt støtte til å være selvstendige og ta egne valg, øker prestasjonene og motivasjonen for faget. Det to siste artiklene i del 2 handler om lærerstudenter og skoleledere. Øystein Kvinge omtaler det kjente praksis–teori-gapet fra en ny innfallsvinkel ved å undersøke hvordan lærerstudenter forstår lærerens profesjonskunnskap, og hvordan studentene opplever at den kommer til syne i lærerutdanningen. I den siste artikkelen i del 2 argumenterer Pia Hagerup for at kunstbaserte metoder kan styrke de praktiske læringsprosessene hos deltakerne på rektorutdanningen. Del 2 gir et bredt og internasjonalt bilde av aktuelle og spennende temaer i lærerutdanningsforskningen per i dag.

DEL 3

Den siste delen av boken har bare én artikkel, en invitert artikkel fra NAFOLs første leder, professor emerita Anna-Lena Østern. Hun har analysert NAFOL-studentenes prosjekter, og har skrevet en review-artikkel om tematikken i NAFOL-prosjektene. Det er med stolthet og takknemlighet overfor Anna-Lena at artikkelen hennes er avslutningsartikkelen i antologien.

Jeg vil gjerne takke alle fagfellene for støtte, dedikert lesning og profesjonell tilbakemelding på artiklene gjennom hele prosessen. Takk til Anna Synnøve Hovstein og Monika S. Nyhagen for uvurderlig hjelp med de administrative sider i arbeidet med boken. Takk til Fagbokforlaget for profesjonelt samarbeid gjennom hele prosessen, og ikke minst, takk til alle bidragsyterne. Uten dere ville vi ikke hatt noen bok.

Jeg ønsker leserne god lesning.

Kari Smith (redaktør), daglig leder av NAFOL

Innhold

DEL 1

Innledning

Den første delen består av tre artikler, hvorav den første artikkelen av Kim-Daniel Vattøy og Kari Smith er en studie av NAFOLs innflytelse på lærerutdanningen på NAFOLs nettverksinstitusjoner og på lærerutdannere som har vært NAFOL-studenter. Artikkelen bygger på data samlet inn ved NAFOLs egenvurdering høsten 2015. De andre artiklene i del 1 er skrevet av konferansens hovedtalere, professor Frances Rust fra New York University i USA og professor Tina Seidel og hennes team fra Tyskland. Rusts artikkel, «Wrestling with Complexity: The Work of Teacher Educators in Uncertain Times», diskuterer, fra et internasjonalt perspektiv, kompleksiteten rollen som lærerutdanner innebærer i en tid da utdanningssystem blir mer og mer preget av å være politisk kontrollert. Rust snakker om å ta til seg kompleksiteten og se mulighetene i den, i stedet for å forenkle lærerutdannerens rolle og ansvar gjennom styring og krav om målbare resultater. Den tredje artikkelen har flere forfattere fra forskergruppen til Tina Seidel, og førsteforfatter er Maralena Pielmeier. Alle forfatterne kommer fra Technical University of Munich (TUM), School of Education. Artikkelen har tittelen «Fostering Dialogic Teaching – The 'Dialogic Video Cycle' as a video-based professional development programme to enhance classroom discourse». Forfatterne presenterer forskning på hvordan videoopptak fra undervisningen kan brukes som et profesjonelt utviklingsverktøy for lærere for å styrke klasseromsdialogen.

CHAPTER 1

Developing a Platform for a Research-Based Teacher Education

Kim-Daniel Vattøy, Høgskulen i Volda
Kari Smith, NAFOL and NTNU

INTRODUCTION

The international trends to make teacher education more academic and raise it to a Master's level affect teacher education programmes in many countries (European Commission, 2014; Tatto, 2015). By its nature, tertiary education is strongly research-focused, and teacher education is no exception (Biesta, 2012). There is a need for high-quality research in teacher education around the world (Tatto, Richmond & Andrews, 2016), yet the relationship between research in teacher education and improvement of other's learning has been problematized in the wake of highly questionable claims about the veracity and value of certain kinds of research (Vanderlinde & Braak, 2010). Related to this issue is the narrow assumption that research is only necessary when it produces certainty about what to do (Winch, Oancea & Orchard, 2015). The definition and activation of the term "research" in teacher education is consequently not unproblematic. Heikkinen, de Jong, and Vanderlinde (2016) define "practitioner research" in accordance with Dinkelman's (2003, p. 8) definition of "self-study", i.e., as the "intentional and systematic inquiry into one's own practice". "The main interest of practitioner research is not necessarily to produce knowledge (*theoria*), but first and foremost, to enable good (professional) work" (Heikkinen et al., 2016, p. 15). Heikkinen et al. (2016) adopt Aristotle's three forms of

knowledge, *episteme, techne,* and *phronesis,* and claim that "practitioner knowledge" has a focus on the practical forms of knowledge: *techne* and *phronesis*. Such fundamental assumptions about knowledge challenge traditional standards of measuring good research by the concepts of validity and reliability.

Teacher education has been construed as variously important in different periods of history: from being neglected to being a major field of study, and from having a unilateral focus on positivism to revealing a diversity of political, epistemological and methodological perspectives (Cochran-Smith, 2016). Research in teacher education consisted mainly of smaller-scale studies until the investment in large scale studies in the past few decades (Tatto & Furlong, 2015). There is evidence that teachers are motivated to engage in research to improve their own classroom practices (Leat, Reid & Lofthouse, 2015), and that such engagement is vital for their morale and professionalism (Mincu, 2015). However, the direction and distance that teachers are prepared to go in their engagement in research differ greatly (Leat et al., 2015). Another problematic area is teachers' implementation and utilisation of research-based knowledge: "Teachers have been mandated to use research, and yet there is almost no teacher preparation literature that provides empirical guidance on how to prepare teachers to engage in this complex practice." (van Ingen, Alvarez McHatton & Vomvoridi-Ivanovic, 2016, p. 187). A research-based teacher education is therefore a concern that engages policy makers. Tatto (2015) claims that "research-based teacher education programmes seem more effective than traditional programmes" (p. 175) and classifies Finland, with its inquiry-based approach to learning, as "excellent" (p. 176) in an analysis of four countries: Finland, Singapore, the USA, and Chile.

However, how to develop a research-based teacher education is more complex, since there seems to be no common understanding of what it entails. A major reason for this is that teacher education educates for a profession, and professional practice inevitably responds to context (Biesta, 2012). The context of teacher education differs greatly at the international, national and institutional level (Vanassche et al., 2015), and as such, research-based changes found to be successful in one context might not be equally successful in other contexts (European Commission, 2014). Research suggests, nonetheless, that educating critically reflective practitioners who are able to consume as well as produce research should be inherent aims in all teacher education programmes

(Darling-Hammond, 2006; European Commission, 2014). In addition, conducting and publishing research has become compulsory for academic promotion in a growing number of countries, including teacher educators (Korthagen, Loughran & Lunenberg, 2005). Cochran-Smith (2005) argues that engaging in research is complimentary to teaching and an integrated part of teacher educators' job responsibility. In one of the first large-scale quantitative studies on teacher educators' professional development, Tack & Vanderlinde (2016) found that research experience had a positive correlation with valuing research, being a smart consumer of research, being able to conduct research and conducting research. The understanding of research-based teacher education proposed in this paper is in strong agreement with the way Krokfors et al. (2011) describe Finnish teacher education:

> 1) the programme is structured according to systematic analysis of education, 2) all teaching is based on research; 3) activities are organized in such a way that candidates can practice argumentation, decision-making and justification when inquiring about and solving pedagogical problems; and 4) the candidates learn formal research skills during their studies (Krokfors et al., 2011, p. 3).

However, not all teacher educators are able to respond to the above-mentioned requirements as many teacher educators have been recruited from school teaching because of their outstanding teaching skills, and research is not their primary expertise (Murray & Male, 2005; Smith, 2011). Despite an emphasis on teacher educator engagement in producing research, it is not always a common practice in many countries (Willemse, Boei & Pillen, 2016). Teacher educators have to become research literate themselves before they can develop a disposition of inquiry in their student teachers. The international literature does not provide much information about how to develop research competence in teacher educators; an exception is, perhaps, the increasing body of literature on self-studies (Roche, 2014; Russell & Berry, 2015). This genre of research centres around researching own practice in teacher education, yet does not specifically discuss issues related to developing teacher educators' research competence. Czerniawski, Guberman, and MacPhail (2017) point out research as one of the most urgent professional development needs for European teacher educators. Therefore,

a relevant question to ask is what initiatives are taken internationally and nationally to empower teacher educators to become research literate? An example of such an initiative is the European Doctorate in Teacher Education (EDiTE) project in which five European countries, Portugal, Austria, Poland, Hungary, and the Czech Republic, cooperate to strengthen teacher education internationally. In Norway, the Norwegian Research School in Teacher Education (NAFOL) was established in 2010 to support teacher educators' research competence. The aim of the current chapter is to present a study which examines the impact of NAFOL on research in Norwegian teacher education institutions after six years.

The Norwegian Context

Norwegian teacher education is in a state of transformation (Afdal & Nerland, 2014; Rasmussen, 2008). The government has decided that teacher education is to be at a graduate level from 2017 (cf. Norwegian Ministry of Education, 2014, p. 14). This change is rooted in the assumption that the current teacher education does not uphold a high enough level of quality, nor does it attract enough ambitious candidates. A 2014 Government document says:

> As with any other higher education, teacher education shall be research based. The content of teacher education shall be based on updated knowledge. Research-based teaching also means that the education is characterised by scientific methods and oriented towards new ways of thinking and developing the practice field (Norwegian Ministry of Education and Knowledge, 2014, p. 44, authors' translation).

Historically, there have been two pathways to the teaching professions: through teacher education colleges, which mainly educate teachers for grades 1–10, and through universities, which educate teachers for grades 8–13 (Garm & Karlsen, 2004). The 200-year-old "seminar tradition" has been a central feature in the many colleges in Norway. A general characteristic of this tradition is a focus on teaching and learning, and less on research. The second pathway to teacher education, by contrast, has been more discipline-oriented with increased focus on specialization (Garm & Karlsen, 2004) and research within the disciplines. Rasmussen (2008) claims that the seminar tradition has been put under pressure

in the face of the new demand for research-based education. Afdal (2012) argues that the professional knowledge in these two models differs: "Knowledge in the seminar tradition holds logics closer to the logics of practice, whereas the logics of a research-based programme hold logics closer to the logics of science" (p. 248). She contends that the current transformation cannot be reduced merely to a question of academization, but must entail deeper and more fundamental processes (cf. Rasmussen, 2008). Norway has introduced a research-based teacher education in accordance with the Finnish model, where teacher education has been placed in universities since the late 1970s (Afdal, 2012; Rasmussen, 2008; Østern, 2016). The implications of a "research-based education", however, remain unclear, and policy-makers, scholars and commentators convey conflicting attitudes of the terminology (Afdal, 2012; Smith, 2015).

Along with the introduction of the new national curriculum for compulsory education in 2006 (Norwegian Ministry of Education, 2006), the Government White Paper No. 16 (Norwegian Ministry of Education, 2006–2007) stated that a main objective in the long-term perspective is to make teacher education more research-based. The Government White Paper No. 11 (Norwegian Ministry of Education, 2008–2009) continued these ideas and emphasised the importance of "research-based teaching" in Norwegian teacher education. Paper No. 11 also provided examples of what a "research-based teaching" might imply: e.g., teacher education students' involvement in research and pedagogical developmental work (p. 76). National research schools were introduced as measures to cope with this enhancement of teacher education: "The national research schools shall help raise the quality and increase the degree of completion in research training, and provide doctoral candidates with access to renowned research groups" (p. 79, authors' translation).

In 2015 teacher education was offered at 19 universities and university colleges at a diversity of sites across the country (Norwegian Minsitry of Education, 2014–2015, p. 37). From the autumn of 2017, teacher education at the Master's level will be offered by 15 institutions. However, the current picture in Norway is blurred, since most institutions of higher education are subject to a governmental merging policy, and these merging processes are still taking place.

This is the backdrop on which NAFOL was established, originally for a project period from 2010 to 2016, and then with a prolonged period until the end of 2021.

Norwegian National Research School in Teacher Education (NAFOL)

The idea of a national research school in teacher education was initiated by the Norwegian Council of Teacher Education, in which all deans[1] of Norwegian teacher education programmes are members. The Council is in close dialogue with the Ministry of Education, and in 2009 the idea of a national research school was brought to the attention of the Ministry. It was positively accepted, and the Research Council of Norway was asked to put out a call for proposals of a research school. Instead of having several competing applications from the institutions, the majority of deans, through the National Council of Teacher Education, decided to join forces and submit one application. Funding was granted and NAFOL was established in 2010 with an aim of providing added value to PhD candidates from the then 23 different teacher education institutions in Norway (Østern & Smith, 2013; Østern, 2016, p. 75). The PhD candidates are enrolled in PhD programmes at their respective universities or university colleges. NAFOL represents a complementary offer with its strong focus on research in teacher education. An overall goal is "to develop, in a long-term perspective, a research-based teacher education to improve Norwegian education at all levels" (Smith, 2015, p. 45). A research-based teacher education must involve teacher educators as both consumers and producers of research-based knowledge (Smith, 2010, 2015; Tack & Vanderlinde, 2016). Within the development of a research-based teacher education, NAFOL is a research school aiming to strengthen the quality of Norwegian teacher education at all levels.

This study examines the impact of NAFOL as a national research school in teacher education on its network institutions, by seeking information from the deans, graduates, and staff. In the Norwegian context, there have been studies on teacher education reforms in Norway (Garm & Karlsen, 2004; Rasmussen, 2008) and their implications on curricula (Afdal, 2012). Other studies have focused on the consequences of a research-based teacher education and the role of the teacher as a researcher (Postholm, 2007; Smith, 2010, 2015). However, to our knowledge no studies have explored the impact of national research schools on teacher education institutions. In the light of this research gap, the current

1 In this chapter "deans" is also used for heads of teacher education programmes which are not faculties, but departments.

study explores the impact of NAFOL's activities as perceived by the network institutions and staff.

The main research question that guided this study is: How do network institutions, represented by deans, graduates, and of NAFOL's founders, perceive the impact of NAFOL's work in its first project period?

THE STUDY

The initiative to undertake the study was triggered by an assignment NAFOL was given by the Research Council of Norway to undertake and report on a wide self-evaluation process towards the end of the first project period from 2010–2016. The leadership of NAFOL decided to hire an external research assistant to collect data and do the first analysis to make the process more objective and trustworthy.

Sample

The network institutions, graduates, and one of NAFOL's founders were invited to participate in the study. The participants were purposively selected according to the objectives of the study (Boeije, 2002; Creswell, 2007), and participation was voluntary. All deans (23) of teacher education programmes in the NAFOL network institutions were approached and 20 responded. All graduates (69) from the three first cohorts were asked to respond to the questionnaire, out of which 44 responded. Another respondent was one of the founders of NAFOL, and finally, the institutional network council members gave permission to record a network council meeting discussing the impact of NAFOL.

Data Collection Instruments

In order to be able to reach a comprehensive understanding of the impact of NAFOL, a triangulated data collection approach was chosen. The data collection consists of two sets of digital questionnaires through the online service of SurveyMonkey, a recording from a NAFOL council meeting, and an interview with one of the founders of NAFOL.

The two sets of questionnaire were respectively piloted with two deans and three graduates and subsequently revised. The open questionnaire to the deans consisted of eight questions, and was not anonymous. The first three questions

aimed at mapping out the respondents' names, professional titles, and institutions by closed questions (see Appendix A). The other questions asked about the impact of NAFOL in their respective institutions, the communication flow with the network and NAFOL's leadership, suggestions for improvement, and the envisioned future after NAFOL's project period in 2021. The questions related to the impact of NAFOL and suggestions for improvement were specifically noted. The questionnaire to NAFOL graduates (first three cohorts) (see Appendix B) consisted of 10 questions, out of which the first four questions asked about their professional status, followed by six open questions which sought information about how they felt NAFOL had affected their identity as teacher educators, experiences as a NAFOL student, and learning outcomes. They were also asked about current research and publication activities, which have not been included in this study. This questionnaire was anonymous.

A NAFOL council meeting was recorded in the autumn of 2015. The topic of this meeting was feedback and perceptions of NAFOL's contribution in the research environments across the council members' respective universities/university colleges. All members of the council agreed to the recording for purposes of the evaluation which was explained prior to the recording. The participants were informed that participation was voluntary and their anonymity would be protected.

A semi-structured qualitative interview was used to learn about the perceptions of one of the founders of NAFOL. The interview was recorded and the recording was complemented by observation notes. The interview guide consisted of 10 questions (See Appendix C). Questions were asked about future challenges, cooperation between the institutions, administration and daily management, and about the quality of the NAFOL candidates and their dissertations. For the purposes of this study mainly information about the perceived impact of NAFOL and the dissertations has been used.

Process of Analysis

The data material was analysed by the two authors applying a *constant comparative method* (Boeije, 2002; Hewitt-Taylor, 2001). Initially, the researchers processed the data material through the method of open coding, which entails carefully scrutinising the data and coding of the material (Nilssen, 2012).

Through the open coding, the data were broken down into more manageable pieces allowing comparisons of similarities and differences (Strauss & Corbin, 2014). At all stages, the data from the different sources were compared with one another. The open coding was carried out by categorising and coding the questionnaire responses, interview transcripts, and recording transcripts vertically. Subsequently, the data were analysed horizontally through axial coding. This entailed singling out the main categories from the open coding, and examining the interrelationship between the main categories and the subcategories. The coded material from the horizontal analyses was analysed vertically in tables. At all times, the data from the different sources were compared and triangulated. Finally, the core categories were identified, which are what we identified as the main themes of the data material (cf. Strauss & Corbin, 2014).

Data from the questionnaires were copied into a word processing document, and each of the respondents' statements were categorised through open coding. This vertical analysis provided the researchers with a large amount of codes. Initially, these codes were kept in their entirety and unaltered in order to strengthen validity, avoiding premature condensation. Subsequently, these codes were analysed axially or horizontally through the use of tables. Through this process, the excerpts from the respondents' answers were condensed into larger categories. These categories were later collected and condensed further. Finally, the researchers used selective coding in order to identify the core categories.

The semi-structured interview with a founder of NAFOL was recorded and transcribed. The transcription was also analysed through a constant comparative method, involving open, axial and selective coding, as described above. In order to ensure trustworthiness, the researchers re-listened to the voice recording after transcription. The observation notes were used supplementary to the transcription.

Similar to the interview, the voice recording of the council meeting was transcribed and analysed. The utterances of each council member were coded and thematised. Subsequently, all codes from the open coding were gathered and condensed before they were analysed axially. The themes that many council members (CM) highlighted were presented horizontally. The remarks that captured the essence of a theme were kept in their entirety in order to maintain transparency.

Ethical Considerations

Ethical issues and considerations permeated all processes of the study. The study is approved by The Norwegian Centre for Research Data (NSD), which is the Data Protection Official for Research in Norway. The researchers opted for transparency in revealing the objectives of the research project, and sought permission from the participants to record and collect data. Prior to data collection, the participants were informed about the purposes of the study, the right to voluntary participation, and the consequences for participation. It was specifically important to clarify these to the member of the founder group, since this identity was well known in Norway. Information collected by Questionnaire Set 1 was anonymised during the analysis and presentation of the data. In Questionnaire Set 2, all participants were anonymous from the start. Nevertheless, since the participants were asked to, e.g., state their professional title, the researchers felt an obligation to protect the confidentiality of these responses.

FINDINGS

The research question in the current study is: "How do network institutions, represented by deans, graduates, and a founder of NAFOL, perceive the impact of NAFOL's work in its first project period?". Firstly, the main findings are briefly summarised, and secondly, in support of the overall findings, more detailed data from the various groups are presented.

The triangulated findings from all data confirm that NAFOL has a positive impact in connecting Norwegian teacher education institutions. Both the graduates and network institutions expressed a sense of closer ties through networking and focusing on research in teacher education, and they experienced an increased sense of empowerment and strengthened identity as teacher educators and teacher education institutions. The findings, furthermore, indicate that the investment NAFOL places on networking, both at the national and international levels creates an important research platform for their respective institutions. The focus on empowering teacher educators as researchers is considered essential in relation to creating a research-based teacher education and especially in relation to the 2017 reform of upgrading primary and secondary teacher education to a graduate level. The main criticism of NAFOL concerns activities earmarked early childhood education; insufficient attention has been given to this specific group of teacher educators.

Deans

20 deans responded to the online questionnaire (13 men and 7 women). Upon examining their responses, some central themes such as: networking, identity building, linking research, theory and practice and the need to better address early childhood education were salient. Extracts from the responses are presented in support of these themes.

Deans about Networking

Several respondents drew attention to NAFOL playing an essential part in joining the network institutions together, basing their response on their personal understanding and feedback from the NAFOL candidates in their institutions.

"NAFOL offers a meeting point for dedicated educators and researchers. Whatever the size of their own institution, it is an important arena to hone ideas and point of views" (Resp. 6).

"From the beginning of the work process, each participant is part of a larger academic community. This is positive for both the candidate and the teacher training" (Resp. 15).

The feeling of being a member of a larger community was perceived as having an impact on the culture for doctoral education and research of the candidates' alma mater institutions:

"NAFOL has contributed in creating a culture for doctoral education within our institution. NAFOL offers a good professional support and a collegial environment for doctoral and associate professor candidates" (Resp. 13).

It seems that the purposeful investment in networking has a dual function as it connects both the candidate to a larger community, as well as it strengthens the research environment at the candidates' institutions. The networking activities are perceived to be national and international:

"Our candidates have a very good learning outcome through their participation, and they establish good national and international networks" (Resp. 12).

Deans about Identity

Overall, the deans reported positive feedback from their PhD candidates, and stressed the central function of the NAFOL programme in supporting increased

professionalism and specialisation in teacher education. This professionalism supports forming a sense of identity as researching teacher educators, something that had been missing in some of the smaller institutions:

"NAFOL contributes to identity related to teacher education and as a teacher educator" (Resp. 9); "NAFOL's contribution creates an identity for quality research in teacher education" (Resp. 6.).

Several respondents reported that NAFOL has contributed to development within the respective network institutions:

"The PhD candidates' contribution to the institutional teacher education environment is excellent. We experience empowerment through participation in research and methods courses" (Resp. 10).

"Since our candidates are largely permanent employees at our institution, their professional development directly benefits teacher education" (Resp. 14).

"Our PhD candidates receive good support and inspiration to develop their projects, which helps to develop our teacher training academically" (Resp. 16).

Deans about Research Linking Theory and Practice in Teacher Education

A number of deans stated that NAFOL needs to continue to act as a platform for Norwegian teacher education research by arranging meeting places, involving PhD candidates in practice-oriented research, carrying on the work of consolidating teacher education research, and participating in national and international networks. The deans see NAFOL's work as vital in creating ties between education, research and practice:

"Through the broad, interdisciplinary, profession-oriented approach and participation in national and international networks, NAFOL represents a platform that Norwegian teacher education has never had before, both for the participants and the host institutions" (Resp. 10).

"NAFOL creates affiliation to the teacher education profession. By strengthening researcher competence, this will gradually improve education, research, and practice" (Resp. 14).

"NAFOL should primarily aim to accept candidates with projects closely connected to the practice field" (Resp. 6).

Deans about Suggestions for Improvements and Thoughts about the Future

With regard to improvements suggested by the respondents, it was pointed out that the strong focus on primary and secondary education might neglect the need to address early childhood education. The findings suggest that the need for more attention to early childhood education is the major criticism of NAFOL's activities.

> The cooperation with NAFOL is mostly good. Early childhood education may be forgotten because it is common to think of primary and secondary teacher education when talking about teacher education. This is mostly a problem at council meetings. The leadership and steering committee have so far had great focus on early childhood education (Resp. 14).

Many of the respondents pointed out that NAFOL had become the platform for Norwegian teacher education and this had to be continued:

"We must ensure that the networks between teacher education institutions established through NAFOL are continued and maintained" (Resp. 3).

Furthermore, a number of respondents pointed out that NAFOL should seek more funding to further extend the project period, or make NAFOL a permanent offer for teacher educators pursuing a doctorate. The argumentation behind this wish was due to the implementation of teacher education at a graduate level and a need for educators with research competence.

> With the introduction of graduate level teacher education, there will be a great need for NAFOL. This should imply working for making NAFOL permanent. There is a need for such an offer that brings candidates from many different institutions together. (Resp. 12).

NAFOL Graduates (Graduates)

Of the respondents in Questionnaire Set 2 (n = 44), 27.5% of the respondents listed that they work at universities, whereas 72.5% work at university colleges. In alignment with findings from the deans' responses, the NAFOL graduates emphasised the themes of networking, teacher educator identity, and the acquisition of new subject-related and theoretical perspectives as the main impact of

NAFOL. The findings from the graduates also criticize NAFOL for insufficiently addressing early childhood education, especially expressed by early childhood teacher educators when asked about their learning outcome after the four years as NAFOL candidates.

Graduates about Networking

With regard to networking and the building of research partnerships, one respondent emphasized the career-long perspective of NAFOL's contribution:

"My network within teacher education has become drastically expanded, and will be important for the rest of my professional career. I have gained increased insights in collaboration with different professional disciplines" (Resp. 29). Other respondents answered: "I have established a network with other teacher educators and preschool educators" (Resp. 2). "NAFOL has provided me with a larger network, and given me inspiration to work as a teacher educator" (Resp. 14). "I have a larger network than I previously had" (Resp. 15). "My network within teacher education has expanded enormously, and will be important for the rest of my professional career" (Resp. 29). "I have colleagues who I can contact around the country at several of teacher education institutions" (Resp. 41).

Graduates about Teacher Educator Identity

Several of the respondents highlighted an increased sense of teacher educator identity through their participation in NAFOL: "NAFOL has given me an identity both as a teacher and a teacher educator" (Resp. 26). "NAFOL has affected me to a great extent. I have gone from being a music teacher to also becoming a teacher educator. This has strengthened my identity as a teacher educator" (Resp. 20).

This identity is closely connected to a renewed and enhanced sense of professionalism: "NAFOL has given me a stronger professional affinity" (Resp. 5). "I have become more aware of my roles as teacher educator and researcher, and it has developed my professionalism" (Resp. 11). "NAFOL has provided me with new perspectives, professional consciousness and identity" (Resp. 21).

One respondent emphasised the focus on research in teacher education and, particularly, the connection between subject, subject-related didactics and pedagogy:

> NAFOL has contributed to realising the significance of research *in* teacher education as well as *on* teacher education. Furthermore, I have had a great learning outcome in terms of following a cohort of scholars with background from different subjects, school and education research. This has affected my view of the relationship between subject, subject-related didactics and pedagogy (Resp. 28).

In this latter quote, we see the multi-faceted role of NAFOL in terms of providing a platform for researchers representing different subjects and research interests within the context of teacher education. This indicates that NAFOL contributes to boundary crossing in the graduates' perspectives on teacher education.

Graduates about Research Linking Between Theory and Practice

Through participation in NAFOL, many respondents stressed the acquisition of new subject-related and theoretical perspectives:

"NAFOL has led me to better understand how the different subjects in teacher training must work together and be seen in relation to each other. Besides, I have seen how many talented people there are in Norwegian teacher education" (Resp. 1)

These perspectives were seen by some graduates as crucial in their own work: "The research programme provided perspectives on educational research, which I can feed into our institutional teacher education programme" (Resp. 7). "I have gained greater understanding of the cooperation between different disciplines" (Resp. 29). "NAFOL has made me aware of my own academic environment, and I've become familiar with new areas that are of relevance to my own work" (Resp. 33).

Graduates about Learning Outcomes

Most of the respondents were pleased with their own learning outcomes after the four years as NAFOL candidates:

"I have learned a lot from my participation in NAFOL. It has been absolutely fantastic to listen to and acquaint myself with world-renowned researchers" (Resp. 1). "NAFOL gatherings have provided outcome at two levels: 1) technically in terms of writing a doctoral dissertation, and 2) professional specialisation through attending international conferences" (Resp. 6).

However, there were also more critical voices, especially from early childhood teacher educators, such as:

"I had an OK learning outcome. There was much about school research and the teacher's role, and less of kindergarten research. I had also wanted more training in quantitative research" (Resp. 2). "I had varied experiences, specifically because I work with childhood education research, and NAFOL is predominantly focused on compulsory education and school research" (Resp. 16). "I have missed a clearer focus on the early childhood teacher education in the seminars and conferences. It has been too 'school dominated'" (Resp. 14).

Findings from Recording of Council Meeting

The findings from the recording of the council meeting identified eight themes: positive feedback from the PhD candidates, competing with some institutions' PhD programmes, networking, teacher educator identity, internationalisation, teacher education at graduate level, and supervisor seminars. Due to space limitations only the most central themes are presented.

Council about Feedback from the PhD Students

The network representatives reported on positive feedback from their NAFOL students as illustrated in the following statements:

"It has been clear to us that NAFOL has been beneficial for the fellows and participants, so there has been a steady influx to NAFOL".

> NAFOL has almost become a rule of thumb in terms of choice of research schools, and now there are some candidates who have to wait to become accepted. It is quite a disaster if the candidate has to enroll in a different research school/programme.

Council about NAFOL's Relation to Institutional Doctoral Programmes

As more and more institutions are developing their own doctoral programmes, the "competition" in terms of candidates' time was brought up as a potential concern by some institutions. NAFOL was, however not seen as a threat to the institutional programmes, more as complementary to their own programmes.

"We have a PhD study of professional practice, which is rather broad and includes various professional studies. What is important to our graduates is that they receive more professional specialisation which we lack in our own programme."

Council about Networking

Networking was also stressed by the council as one of the major benefits of NAFOL by smaller as well as by larger institutions, and at a national and at an international level.

"We have one candidate, and he spends a lot of his time alone. That's what candidates do. So, for us this is a network. Meeting others and establishing contacts, so that it doesn't get too lonely".

"NAFOL supports creating a research environment for candidates who sit solitary around the various colleges that do not have their own doctoral programme. That's pretty lonely".

"NAFOL strengthens a closer supervision and a stronger group identity, which is very positive. We've have quite large groups of candidates and applicants."

> These candidates become members in a network at an early stage. Primarily this has been at a national level, but now it has also opened up to include the international research society to a greater extent. The candidates establish contacts with candidates from other institutions, which is very much appreciated.
>
> NAFOL invites top international lecturers. Our candidates emphasise that they are with them all of the time, and they have easy access to them. This means that the lecturers do not merely deliver their lectures and leave. The academic and social aspects are closely tied in a good way.

Council about Teacher Educator Identity

The status of teacher education and the role of teacher educators are vulnerable in many institutions, and it seems that NAFOL contributes to strengthening the identity of teacher education at a personal and institutional level:

> I have observed that NAFOL helps building teacher educator identity in candidates attending the programme. This pertains particularly to those coming from subjects that traditionally do not have a teacher education focus. These candidates are involved in a teacher education way of thinking in NAFOL. NAFOL's combination of research and teacher education is very positive.

We are a small teacher education department within an institution which could be called multidisciplinary, so is this an extremely important arena to help candidates build a teacher education identity. Our candidates have also pointed out this aspect.

NAFOL's Significance in the Face of a Graduate Level Teacher Education

The network institutions foresee challenges implementing the coming reform of introducing teacher education at a graduate level, especially since all teacher education candidates will be required to submit a research thesis. This means that teacher educators need to be able to supervise research projects.

"There is a challenge of the new five-year Master's teacher education. Therefore, we strongly encourage everyone who is admitted in a PhD programme to apply for NAFOL".

"We are very happy for the extension that NAFOL received. The need is increasingly urgent, and I hope that NAFOL may live even longer than 2021. NAFOL is important for a five-year Master's degree programme".

Interview with a Member of NAFOL's Founding Group

The founding member was in charge of NAFOL during the period under evaluation, from 2010–2015. She was also involved in planning the research school from the very beginning. She referred to the fundamental principle for the founders of NAFOL, which was that NAFOL would collect its empirical data from the practice field and serve as a broker between theory and practice. The theoretical and practical dimensions would therefore be fundamentally rooted in the educational research undertaken by the NAFOL candidates. Moreover, the founder emphasised that NAFOL is a research school for teacher education, and a major objective was to stop the human capital flight from teacher education to the disciplines upon completing a PhD degree which had been common in Norway. The NAFOL graduates were envisioned as continuing to work (teach and research) in teacher education upon completion, and thus make a change in teacher education locally with a national impact since the candidates represent the majority of teacher education institutions in Norway. Furthermore, the founder highlighted the importance of the networking in NAFOL: "The great strength of NAFOL is the community and the networking. It is the community that strengthens the individuals."

DISCUSSION

The objective of this study was to examine how the stakeholders of NAFOL perceive the impact of the national research school after the first six years. The findings suggest that NAFOL's main contribution centres around three areas: establishing networks and cooperation, developing a teacher educator identity, and research linking theory and practice in teacher education. Whereas, the main criticism relates to attention to early childhood education. In the discussion, each of these areas will be addressed.

Establishing Networks

Engaging in a doctoral education is often described as a long and isolated process. Taylor and Beasley (2010) argue that many doctoral students take a long time to complete their studies, or never complete them at all. In an extensive review study of journal articles on doctoral studies over 40 years, one of the conclusions Jones (2013) reached is that doctoral students feel isolated, alienated and lonely. Many doctoral students experience the socialization process as difficult. The findings in our study suggest that NAFOL contributes to the students' experience of belonging to a supportive network from the very beginning, and that their deans notice this. The main reason is probably that NAFOL accepts groups of students once a year, and they meet for two-day seminars four times per year over a period of four years – altogether 16 seminars. During this period, they develop professional and social relations with peers from all over Norway. Moreover, twice during their NAFOL period, they spend three/four days with doctoral students at a foreign university, sharing texts for feedback, discussing shared lectures and having joint dinners and cultural experiences. Hence, the established networks reach beyond the national context. This is specifically important for candidates coming from smaller teacher education institutions without their own doctoral programmes, since they are, perhaps, the only PhD candidates at that time. Social and peer support for doctoral students have been found to play a major role in successful completion of the dissertation (Jaraim & Kahl, 2012), and NAFOL intentionally aims at including all NAFOL students in supportive networks.

NAFOL is a network of teacher education institutions in Norway, and as such it contributes by organising meeting places across institutional and disciplinary

networks to crossing disciplinary and institutional boundaries. Institutions for early childhood education meet with institutions educating teachers for upper secondary school, the academy of music meets with the sports academy, and at the institutional level, smaller colleges in distant places develop working relations with large universities in the big cities. Such interdisciplinary thinking resembles the success of Finland's integration of theory, research and practice in their research-based teacher education programme where: "[e]ach student thereby builds an understanding of the systemic, interdisciplinary nature of educational practice." (Sahlberg, 2010, p. 4). The deans express appreciation of these networks, especially deans from smaller and discipline-specialized institutions. Shared meeting points serve as a means of preventing institutional isolation and moving out of the previously discussed seminar tradition of teacher education in Norway (Garm & Karlsen, 2004; Rasmussen, 2008). In the future this might change, as higher education institutions become involved in merging processes, and the need for a national network, such as NAFOL might be less urgent. The findings do not, however, suggest that this is the case, since most deans see a need for NAFOL as a national doctoral network also in the future.

Teacher Education Identity

The role as teacher educator is complex (Loughran, 2014; Smith, 2011), and teacher educators have a blurred identity as teachers and as researchers (Murray & Male, 2005). Many teacher educators come into teacher education as successful teachers; however, working in higher education entails conducting and publishing research. In smaller teacher education institutions in Norway, teaching has been more focused on than research (Alfdal & Nerland, 2014). However, due to recent developments and the 2017 reform of introducing a graduate level for teacher education in Norway, all institutions will be required to be active in research. Changing the identity from being a teacher and a teaching institution to developing a two-dimensional identity, i.e., being a researcher and research institution, is challenging at the individual as well as at the institutional level. NAFOL, with its focus on research, provides a supportive environment in the process of taking on a new and demanding identity. NAFOL graduates, as the deans report, express an emerging awareness of the role of research as part of their responsibilities. It is a question of developing a language and a culture of research in the institution

that includes all staff and is forward-looking. The more staff with research competence, the stronger the identity of being a researching teacher education institution. The status of teacher education in academia has been presented as weak in many countries, including Norway (Brennan & Willis, 2008; Furlong et al., 2008; Menter & Hulme, 2008; Simons & Kelchtermans, 2008; Smith, 2009). The deans in this study report that teacher education in the institution strengthens as it becomes more research active, and more teacher educators actively initiate research activities and invite colleagues to join. It seems that NAFOL graduates strengthen the research competence of their teacher education department/faculty.

Research Linking Theory and Practice

The notorious gap between theory and practice in teacher education is widely documented (Ord & Nuttall, 2016; Seidel, Blomberg & Renkl, 2013), and to a certain extent one could say that this has been one of the reasons why practice-oriented research – as a bridge between theory and practice – is increasingly gaining acknowledgement (e.g., Willemse et al., 2016). Practice-oriented research is defined by Bleijenbergh, Korzilius & Verschuren (2011) as: "[…] practice oriented research is that it involves all research that is performed with the primary aim to support a practical problem to be solved or a decision to be taken" (p. 146).

NAFOL is a national research school in teacher education, and all research in NAFOL relates to the practice of teaching or teacher education (Østern, 2016). Detecting and seeking solutions to practical problems in education is as of today 140 NAFOL dissertations document (Østern, 2016). This kind of research by nature creates links between theory and practice in teacher education, both in the process of working on the dissertations and also in the new knowledge that is being produced. The research activities of NAFOL candidates as a link between theory and practice came up in the interview with one NAFOL's founders as well as in the open responses from the deans and the graduates, and both groups reported on implementing their research into teaching and developing the programmes. It is an explicit aim of NAFOL (Smith & Østern, 2013), to promote practice-oriented research as a lever to improve teacher education in Norway, and thereby also indirectly impact the quality of teaching in schools and kindergartens.

Early Childhood Teacher Education

The main criticism of NAFOL's work was found to be a perceived weak focus on early childhood teacher education. Taking into consideration that about 25% of NAFOL candidates are engaged in early childhood education, this criticism is relevant. Mac Naughton, Rolfe & Siraj-Blatchford (2010) claimed that early childhood education is multi-disciplinary, and researchers cannot rely on a specific discipline in designing their research projects. Moreover, the same authors point out that most educational research is classroom based, whereas early childhood education takes place in multiple contexts from birth to school, which require a great variety of designs as well as instruments for data collection. Beginning early, childhood researchers need to be introduced to this specific research domain. Moreover, in Norway there is an increasing interest for research related to the youngest children. However, along with many other countries, Norway still needs to expand the research activities for this sector (Alvestad, Johansson, Moser & Søbstad, 2009).

This is specifically urgent since Norwegian early childhood education has been a politically central issue since from 2006 when, by law, all children have the right to attend preschool from year one. The responsibility of enforcing the law lies with the regional authorities (Norwegian Ministry of Education, 2005). The early childhood sector is therefore of significant social importance and teacher education for this sector is in high demand, at the same time as it is in a process of developing sectorial knowledge (Alvestad et al., 2009). Thus, NAFOL will have to revisit its activities in relation to early childhood education to cater to the increasing number of teacher educators seeking a doctorate in early childhood education and to become change agent for this sector.

CONCLUSIONS

The Norwegian Research School in Teacher Education (NAFOL) is a unique project internationally (European Commission, 2013). It represents a network of the large majority of teacher education institutions in Norway, which work together to create an infrastructure for a research-based teacher education at a graduate level and to develop teacher educators' research competence. Teacher educators with a doctorate become producers of knowledge about education, specifically teacher education, and they are empowered in educating teachers

with a disposition of inquiry to their own and others' knowledge and practice, which in this chapter is understood as a built-in component in research-based teacher education programmes (Krokfors et al., 2011). The question examined was the perceived impact of NAFOL on teacher education after six years. The findings suggest that NAFOL plays a central role in developing national and international networks in teacher education in that it reaches beyond disciplinary, institutional, and national boundaries. The findings also highlight NAFOL's contribution to strengthening a teacher education identity at an individual as well as at an institutional level. Teacher education is not only about consuming research, but also about producing research. Research in teacher education can serve as a bridge between theory and practice, contributing to a less fragmented teacher education. In spite of the positive impact NAFOL is perceived to have, the research school has to revisit its activities in relation to early childhood teacher education, which draws increased attention in discussions about education.

The significance of the study beyond Norway is that NAFOL can serve as an example for contexts that aim at integrating more research into teacher education. It has, however, to be taken into consideration that Norway is a small country of 5 million people with sufficient resources to establish a national research school in teacher education. A small country has several meeting points where leaders of teacher education interact and these then have opportunities to develop joint projects. The purpose of this chapter is not to claim that NAFOL is the only answer to developing an infrastructure for a research-based teacher education, but it can hopefully provide useful information for other contexts seeking to strengthen teacher education research.

Further longitudinal research is needed to examine the impact of NAFOL over time by following the professional careers of NAFOL graduates, by learning about changes in the institutional teacher education programmes, and not least, by looking at the impact, nationally and internationally of the dissertations submitted by NAFOL graduates.

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APPENDICES

Appendix A: Questionnaire 1 (for deans of NAFOL's network institutions)

1. What is your name?
2. What is your professional title?
3. What is the name of your institution?
4. In what way do you feel that your teacher education is strengthened by NAFOL?
5. In your opinion, how can NAFOL contribute to a stronger tie between education, research, and practice?
6. How do you experience the cooperation between your institution and NAFOL?
7. Do you have any thoughts or advice on how NAFOL can work throughout the end of 2021 (end of project period)?
8. How can NAFOL continue its work without project funding? In what way are the network institutions capable of continuing the work, both nationally and locally, in strengthening their research competence without the support of NAFOL?

Appendix B: Questionnaire 2 (graduates from group 1–3)

1. Do you work at a university or university college? Other: please specify.
2. Do you work in teacher education?
3. What is your professional title? What type of educational programme do you work in?
4. What are your responsibilities (e.g., leadership, research groups, supervising Master/PhD theses, other) that you have at your institution?
5. In what way has NAFOL affected you as a teacher educator?
6. How have you experienced the cooperation with NAFOL?
7. What type of learning outcome have you had through NAFOL?
8. Are you continuing your research activity? In what way? Have you had new publications after completion of your PhD?
9. What has NAFOL contributed to networking between your institution and other institutions?
10. Based on your experience, do you have any advice on how we can improve NAFOL?

Appendix C: Interview guide, one of NAFOL's founders

1. How has NAFOL followed up the recommendations from the midway evaluation?
2. In your opinion, how has NAFOL contributed to the development of closer ties between education, research, and practice?
3. How have the two thematic tracks of NAFOL worked? Is there a need to change these?
4. What challenges do you see facing NAFOL in relation to further activity?
5. How would you assess the quality of the applications?
6. Do you think that the applications have been in keeping with the profile of NAFOL?
7. How are the dissertations relevant to practice and the teacher education subjects?
8. How does the cooperation with the network institutions work? With the board, daily management and administration?
9. Beyond the network institutions, what other business relations does NAFOL have?
10. What significance will the changes that are happening in the sector (fusions, Master in Teacher Training) have for the development of NAFOL in the future?

CHAPTER 2

Wrestling with Complexity: The Work of Teacher Educators in Uncertain Times

Frances Rust, New York University

In the J. Paul Getty Museum in Malibu, California, there is an amphora on which a Greek artist in ancient times depicted Hercules' second labor, Slaying the Lernean Hydra. In the legend of Hercules, the hydra was depicted as an enormously complicated creature who, despite Hercules' best efforts at lopping them off, could continue regenerating its heads and at the same time, trap his assailant. Had Hercules not had help from Iolaus, there would be no story of Hercules and his many labors. The Hydra would have stopped him!

In many ways, the story of Hercules and the Hydra provides a relatively simple example of a complex system within the even more complex one of Hercules' Seven Labors, and, as such, it seems an apt analogy for the complex system of teacher education. However, systems thinking is relatively rare in the education field (Banathy, 1991; Betts, 1992; Senge, 2006) and virtually absent in considerations of the field of teacher education, except as applied to the teaching of preservice teachers to shape curriculum (Wiggins & McTighe, 1998). Why this may be could have something to do with the commonplace understandings of education and teacher education that have emerged with the rise of universal education in the United States and around the world. Old regimens seem not to be working. As Betts (1992) writes,

> The seeds of public education's current failures are found in its success in the past. From its inception, public education has been called on to transmit core knowledge

> and cultural values, provide custodial care, and prepare students for life after school, the most important aspect of which is critical and creative thinking for problem solving and decision-making. Public education has been very successful in its first function, generally successful in the second, and much less successful in the last. As a consequence, public education has emerged as one of the prime sources of stability, or pattern maintenance, in our society. Public education's overwhelming success as a pattern maintenance institution is at the heart of its failure to match changing societal expectations. (p. 38)

Given the increasingly extreme criticism of public education over the past twenty years and the concurrent critique of teacher education that has emerged along with it, now seems an appropriate moment to consider what systems theory as it relates to complexity might offer to those who are trying to imagine or are in the throes of implementing new approaches in these fields.

SYSTEMS THEORY AND COMPLEXITY

A *system* is a set of elements that function as a whole to achieve a common purpose (Betts, p. 31). For the purposes of this article, one might consider teacher education an element of the larger system of education but, as complexity theory would have us understand, teacher education is itself a system that exists in a dynamic relationship with the larger system of education. It is a part or element of the larger system, "a necessary but not self-sufficient component of a system. That is, the system cannot achieve its purpose without the element, and the element by itself cannot replicate the system's functions" (Betts, p. 39). The relationship between the two systems is continually changing as they seek equilibrium in their own spheres while avoiding entropy (Betts, p. 39). This is what Senge (2006) describes as "*dynamic complexity*. It is a situation where cause and effect are subtle and where the effects over time of interventions are not obvious" (p. 71).

Axelrod and Cohen (2010) suggest that complexity can be harnessed. By this they mean "deliberately changing the structure of a system in order to increase some measure of performance, and to do so by exploiting an understanding that the system itself is complex. To harness complexity typically means living with it, and even taking advantage of it, rather than trying to ignore or eliminate it" (p. 9). To harness complexity requires a shift in thinking:

– seeing interrelationships rather than linear cause-effect chains,
and
– seeing processes of change rather than snapshots (Senge, p. 73)

Applying systems thinking to the enterprise of teacher education could enable the field to emerge from stasis to being perceived and understood as a dynamic and complex system and could radically shift the ways in which we educate the young as well as their teachers. However, to do so means developing a new vision of teacher education – of its meaning, of its goals, of the process of educating teachers, of the roles of universities, schools, and communities in that process. Most importantly, it means understanding teacher education as a complex system in an intimate relationship with the complex system of education.

DEVELOPING A VISION OF TEACHER EDUCATION AS A COMPLEX SYSTEM

In 2014, my colleagues, initiators of the International Forum on Teacher Educator Development (InFo-TED), developed a new conceptual model to describe the work of teacher educators (see Figure 2.1). In every way, the model is the very picture of a complex system. The work of teacher education is visualized here as practice-based and "situated in the concrete context of the local teacher education institute" (Vanassche, et al., 2015, p. 348) as well as in broader national and international contexts: As Vanassche and her colleagues write, "teacher educators' practices are situated in a global level stressing their relation with supranational and societal change" (p. 348). However, the "starting point" for considering the work of teacher educators and teacher education itself "should lie in teacher educators' lived practice" (p. 349) – the serious professional commitment to support the work of teachers and to shape the next generation of teachers.

This is not an idealized conceptual framework. It represents the complex reality of the work of teacher educators. However, this complexity clouds perceptions of teacher education by policy-makers, the public, and other educators leading often to negative perceptions of the field.

The most common complaint about teacher education is that it is irrelevant and not connected to the real world of schools. As evidence, its detractors claim that schools continue to look as they did 100 or 150 years ago and that teaching

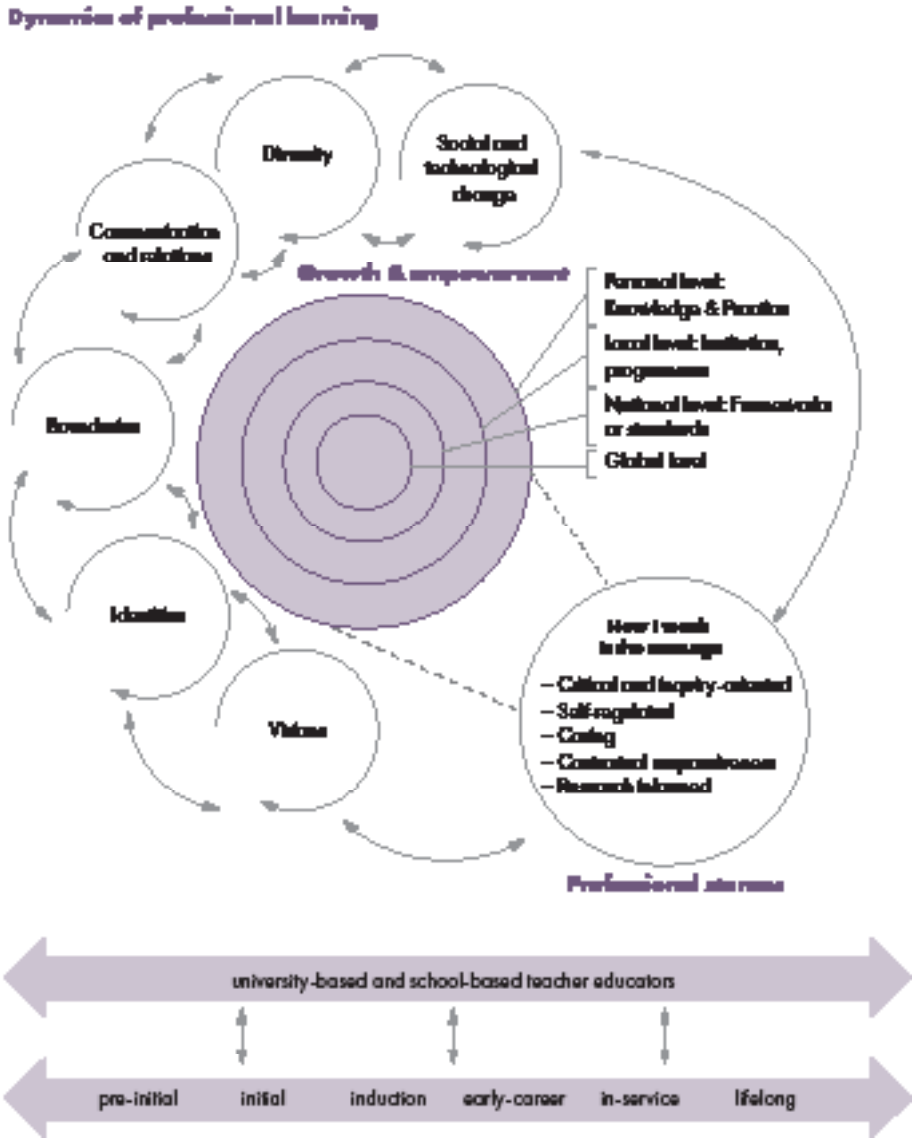

Figure 2.1 The InFo-TED conceptual model of teacher educator professional development.

has changed little despite remarkable advances in technology and new knowledge about how the brain works and how we learn. Further critique focuses on the relationship between universities and schools and paints university-based teacher education as bounded by routines and customs, such as courses that fit with university schedules not those of schools, and by both credit and grading systems that do not relate to the "real" world of teachers' daily practice. Claims are made that university-based teacher education prioritizes theory over practice, that these theories of learning and teaching do not transfer to teachers' practice, and that in what little practical experience they have, student teachers are rarely guided by mentors to develop an overview of the field and to see the connections among their courses and their experiences in the field (Levine, 2006). For their part, many teacher educators feel pressed by university systems that reward publication and grant winning over teaching, programme development, and field-related practice. They note, too, that most universities generally offer far fewer resources to teacher education than to other education programs and other programs across the university.

To date, the response to these critiques by teacher educators has been largely defensive and with good reason: There is little in the current structures of teacher education that recognizes it as a complex system so little in these structures that could enable and support systems thinking. Instead, "fixing" teacher education devolves to individuals and individual programs in a system that places emphasis on hierarchy rather than interrelationship and on "pattern maintenance" rather than experimentation and creativity. As Betts (1992) writes,

> We have attempted to treat education as a unitary system, but in reality, it is highly pluralistic with many conflicting goals. The compromises that we have reached by applying old paradigms in a new context are proving to be unsatisfactory, but paradigm paralysis prevents us from seeing what is really needed… The improvement of quality involves the design of an educational system that not only optimizes the relationship among the elements but also between the educational system and its environment. In general, this means designing a system that is more open, organic, pluralistic, and complex. (p. 39)

But how to move into an embrace of complexity?

If we go back to the conceptual model developed by InFo-TED that is intended as a framework for the preparation and ongoing professional learning of teacher educators and, instead, consider it as representative of the whole system of teacher education, then it serves to enable a systems perspective on the field. As Senge writes, "Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things… And systems thinking is a sensibility – for the subtle interconnectedness that gives living systems their unique character" (p. 68). Here, the relationships to be apprehended can be described in pursuit of the ideal of educating well – both new and experienced teachers, and teacher educators and ultimately all of those whom they teach.

A few examples of the interrelationships that can be read as implicit in the InFo-TED model might help to highlight the ways in which systems thinking could enhance research, practice, and policy regarding the professional learning of both teacher educators and teachers and could enable more cohesion and a stronger voice among educators in shaping both practice in and policy toward the field of teacher education. The most obvious areas of overlap relate to the "Dynamics of Professional Learning" and "Growth and Empowerment" (labels on either side of the fluid and interrelated core processes of teaching – see Figure 2.1) and to the entry points for professionals into teacher education (see bottom of Figure 2.1).

DYNAMICS OF PROFESSIONAL LEARNING AND GROWTH AND EMPOWERMENT IN A COMPLEX SYSTEM

Together, the labels, "Dynamics of Professional Learning" and "Growth and Empowerment," incorporate/enclose the interactive constants of teaching and learning to teach as much for teachers as they do for teacher educators. For example, there is inferred here the understanding that teaching identities are often formed before teachers come into teaching by individuals' educational experiences (Lortie, 1975) and that teachers' identities continue to evolve over time in the context not only of the preservice experience but also in the workplace as visions of good teaching are communicated, shared, and shaped (Little, 2006, 2007). We can no more expect of beginning teacher educators that they have a broad and deep understanding of professional learning and the whole dynamic of teacher education than we can expect beginning teachers to have

deep understandings of their content and of pedagogy appropriate to that content. Instead, for both, it is essential that professional learning for teaching is understood as an intellectually complex activity that, optimally, develops over time with practice to become a high-level, contextually sensitive, refined activity (Rust, 2010). Whether the key knowledge, skills and sensibilities for teaching develop at this high level is not a matter of rote learning or prescriptive activity. Rather, becoming a teacher or a teacher educator is conceived as a dynamic, evolving process that requires specialized knowledge (Murray & Male, 2005) as well as sustained and guided practice in appropriate contexts (Berliner, 2009; Darling-Hammond, 2006a, 2006b; Grossman, et al., 2009) that enable thoughtful engagement for learning.

Looking across three related fields – clergy, teaching, and clinical psychology – Grossman and her colleagues (2009) laid out a framework for professional learning that situates the specialized knowledge related to these fields. Across all three, they found that professional preparation includes *representations, decompositions, and approximations* of practice. Representations are those live examples that serve as models for professional practice. Decompositions are thoughtful examinations of those models that are often conducted in collaboration between experienced professionals and novices so as to enable analysis. Approximations represent the efforts of novices to implement core practices. Depending on the field and the learning context, approximations proceed with guidance that is informed by the discussion and analysis afforded during decomposition. More often than not, what happens in the education of teachers and teacher educators is the collapsing together of representations and approximations and the exclusion of decomposition. This leads to the type of surface learning about teaching that Lemov (2010) and others push as core techniques for teaching. It completely by-passes the experiential learning, the "apprenticeship of observation" that Lortie (1975) described as foundational to teacher knowledge, and it misses what Korthagen (2016) describes as an "inconvenient truth about teacher learning," that is, that students' "thinking, feeling and wanting (must be taken) into account" (p. 5), i.e., that knowing one's students is essential to teaching well. Such knowledge does not come to novices; it is developed over time and is a hallmark of expertise.

Gladwell's (2008) writing about the development of expertise in a variety of areas suggests that 10,000 hours of practice – alone and guided – are essential

and that expertise is developed over that time with desire for growth and improvement on the part of the learner and with encouragement to persevere from important others. Focusing specifically on teaching, Berliner (2009) writes that the development of expertise among teachers takes 10 years of practice and moves through five stages: novice, advanced beginner, competent, proficient, and expert. Berliner's discussion of the development of expertise among teachers, includes no call for a specific pathway to follow or set of experiences in which to engage in teachers' professional learning; there is no "blueprint" (Kelchtermans, Smith & Vanderlinde, 2015) to follow. As Korthagen (2016) points out, "It is impossible to promote change (in the field of teacher education) through a pre-planned, fixed curriculum" (p. 5). Instead, he writes that, "we need a shift in focus from the curriculum to the learner" (p. 5). In the long run, "Attempts at influencing teacher behaviour have to be adjusted to individual teachers in their specific circumstances and settings" (p. 5). That means that teacher education must reach beyond the preservice program.

We now know from research and experience over the past 30 years (Borko, 2004; Fullan, 2007; Hargreaves, 1998; Lieberman & Miller, 2001; Little, 2006, 2007; Zeichner, 2010) that professional development for teachers must be active, collaborative, embedded in a classroom context, and part of a school culture. It must enable inquiry that is relevant to practice. Systems thinking pulls us toward using such deep study of teachers' professional learning at all levels as a basis for conceptualizing teacher education broadly as preparation and professional development, and for drawing from the research the essential principles that could guide and support a radical reshaping of the field.

RETHINKING/RECONCEPTUALIZING TEACHER EDUCATION

For many teacher educators and teachers, initial preparation is essential for professional learning, but, as Darling-Hammond (2006), Korthagen (2016), Rust (2009) and others have written, it is only the beginning of the professional journey. If the very definition of teacher education were expanded to include teachers' and teacher educators' professional learning over the span of their professional lives, it is highly likely that a radical reconceptualization of the field would be in order: one that is inclusive of the diverse relationships implicit in the InFo-TED conceptual model.

In the first place, initial teacher education would be seen as part of a professional journey towards the development of expertise. With this understanding could come models or frameworks that would expand the definition of teacher educator to include university and school-based professionals. Such models would ultimately complicate current understandings of the field and in doing so could enable researchers and policy-makers to appreciate the breadth and depth of the field and its intricate relationship with the larger educational world of schools and schooling.

A second major move designed to make teacher education powerful in the personal and professional life of a teacher would require a blurring of the boundaries between traditional teacher education programs and the schools they serve by changing the ways in which teachers are prepared for the profession and supported over the course of their professional lives. These new ways should necessarily draw on what we currently understand about how adults and children learn. These new ways should draw on teachers' prior knowledge and should enable preservice teachers to test their ideas and construct new conceptual understandings in the context of practice.

Were such shifts to begin to happen, new relationships between schools and universities are likely to gradually emerge. Systems theory suggests that, as these new relationships emerge, there will inevitably be a balancing process. As Senge writes,

> Whenever there is resistance to change, you can count in there being one or more "hidden" balancing processes. Resistance to change is neither capricious nor mysterious. It almost always arises from threats to traditional norms and ways of doing things. Often these norms are woven into the fabric of established power relationships. The norm is entrenched because the distribution of authority and control is entrenched (p. 87).

In teacher education, it is likely, even necessary, that in the balancing of new relationships and approaches, communities of practice as described by Wenger and Snyder (2000) and called for by Borko (2004), Darling-Hammond (2006a), Fullan (2007), Korthagen (2016), and others will emerge to shape and sustain these emerging cells of activity. These are what Gorodetsky and Barak (2008) describe

as "edge environments." They incorporate parts of two or more environments, for example, a school and a teacher education program. They exist in a "tender" zone in that what happens in the small cell is affected by what happens in the larger surrounding zones, for example, changes in leadership in either the school or the university. Wonderfully, they offer opportunities for experimentation, creativity, and, most important, community. Wenger and Snyder (2000) describe these as *peripheral communities of practice* – small centers of experimentation within large business organizations such as the World Bank, which "can drive strategy, generate new lines of business, solve problems, promote the spread of best practices, develop people's professional skills, and help companies recruit and retain talent" (p. 140).

The nurturing of multiple "edge environments" working collaboratively with one another across space and time, as the InFo-TED experiment is beginning to demonstrate, could move the field toward what Darling Hammond (2006) argues for in her call for a 21st Century reconceptualization of the field:

> … teacher educators, as a professional collective, need to work more intently to build on what has been learned about developing stronger models of teacher preparation – including the much stronger relationships with schools that press for mutual transformations of teaching and learning to teach – while resisting the pressures and incentives that lead to the creation of weaker models that ultimately reinforce dissatisfaction with the outcomes of teacher education and undermine the educational system (pp. 3-4).

EMBRACING COMPLEXITY

But it is not enough to think about what a new system of teacher education could look like. At this moment in time, we need to actively attend to, learn from, and lift up for common understanding those exemplars that are already demonstrating what a robust field of teacher education could look like. There are examples everywhere and at all levels.

In early childhood, one has simply to think about Reggio Emilia in Italy (Edwards, et al., 1998) where a parental commitment at the end of World War II to educate their children against war sparked a model of teaching that puts the arts at the core of young children's experience and engages teachers in

powerful collaborative study aimed at picking up on, guiding, and supporting children's creativity.

There are excellent models of university-based teacher education programs (Grossman et al., 2009b; Darling-Hammond, 2006b; Korthagen & Kessels, 1999) that have been studied carefully. The essential characteristics of each of these exemplars map directly onto what Darling-Hammond (2006a) holds to be the "three critical components" of high quality teacher education programs:

> … tight coherence and integration among courses and between course work and clinical work in schools, extensive and intensely supervised clinical work integrated with course work using pedagogies linking theory and practice, and closer, proactive relationships with schools that serve diverse learners effectively and develop and model good teaching. (p.1)

New models are emerging that share these same characteristics and demonstrate the complexity of incorporating Darling-Hammond's second and third points. Two deserve scrutiny because they are developed as university-school partnerships wherein courses and field experience come together within the school setting so that there is opportunity across the school itself for professional learning. One is the Penn Residency Master's in Teaching (PRMT) – a collaboration between the University of Pennsylvania and nine East Coast boarding schools. The other is the Clark University (Worcester, MA) Undergraduate/MAT programme (Del Prete, 2010) that works collaboratively through its Adam Institute with local elementary and secondary public schools as partners. In both the Penn and Clark programs, the conversation about and around practice is such that students, preservice teachers, school faculty, and university-based educators are often heard using the same academic language with the same intent. In PRMT, one hears and reads about discussions of Dweck's (2010) concept of "growth mind set," the Csikszentmihalyis' (1998) concept of "flow," or Wiggins' and McTighe's (1998) "enduring understandings." One also hears and reads of preservice students and their mentors in the schools mining the current practice-related research of mathematics educators, social studies educators, dance educators, etc. Similarly, in the Clark program, where the focus of professional development around a content area is consistent across the school, one can hear

young children for whom English is a second language talk about "adjectives to give more atmosphere," "commas so that you can breathe between words," using "big" words by consulting the "word wall" – using such language with exactly the same intent and meaning as the adults around them. Both of these programs can be seen as centers for experimentation so as opportunities to learn and test new models; at the same time, both demonstrate the vulnerabilities that edge environments share in large centralized organizations (Wenger & Snyder, 2000).

In current research literature on professional learning, there are fascinating examples of approaches and programs wherein the quality of practice has shifted dramatically as teachers and teacher educators work together as a community of learners. See, for example, Lewis and Tsuchida's (1998) collaboration on Lesson Study, Hadar and Brody's (2013) work on developing a professional learning community in higher education, and Dickerson and her colleagues' (2016) study of using action, reflection and modeling to develop a teacher education program in a Malaysian school system. These studies and so many like them provide examples of the breadth, depth, and complexity of the field of teacher education.

In many ways, all of these are edge environments in that they break out of traditional norms. They offer the opportunity to test theories: about student-centered learning and teacher agency (Reggio Emilia, PRMT, Clark), about what collaboration between schools and universities could look like (PRMT, Clark, Dickerson et al), about professional learning not only in preservice but across the professional spectrum among teachers and teacher educators (PRMT, Clark, Dickerson et al), about the practical "business" side of teacher education (PRMT and Clark), and about professional learning (all and especially the three research studies).

At the same time, they are all highly vulnerable to the larger systems in which they are embedded. Reggio is vulnerable to at least two factors that intertwine: the city's ongoing willingness to support the creative model in the face of immigration from outsiders. PRMT and Clark are vulnerable on several counts that also intertwine: maintaining the model as principal faculties move to other projects and new faculties enter, as new deans and school heads enter their respective spheres of influence, as the "business" side of the models is reviewed and changed. The research-based models described by Lewis and Tsuschida (1998), Hadar and Brody (2013), and Dickerson et al. (2016) are vulnerable

in situ for many of the reasons cited above. As well, there is a dissemination problem that affects all of these models; they are likely only known to readers of academic literature, so they may be absent from most discussions outside of teacher education regarding reconceptualization in the field.

Lessons learned from these edge examples push toward an embrace of complexity. They suggest a radical broadening of the conversation about teaching and learning to teach that is at the same time acceptable to the academy and educative to the public. They suggest a willingness to collaborate and engage in serious conversation about practice, to learn from one another as is done in Japan around Lesson Study (Lewis & Tsuchida, 1998) and in a small way in the United States in UTEC (Urban Teacher Education Consortium) (see http://www2.clarku.edu/education/adam-institute/urban-teacher-education-consortium/position-statement.cfm). They suggest that there must be willingness on the part of universities and schools to support and learn from experiments like PRMT and the Clark Program recognizing that, "As communities of practice generate knowledge, they renew themselves. They give you both the golden eggs and the goose that lays them" (Wenger & Snyder, 2000, p. 143).

LOOKING TOWARD THE FUTURE

Systems theory does not offer definitive answers about reconceptualization of the field of teacher education. Rather, it suggests that the very complexity of the field requires a powerful shift in practice and in thinking – a shift that enables a commitment to experimentation at every level, a tolerance for multiple, even seemingly conflicting models, and the embrace of open communication that reaches beyond higher education and acknowledges and draws strength from the uncertainties that are inherent in a robust system. Systems theory embraces complexity. It does not allow for a single answer, a best system. Rather, it invites multiple visions of possibility, multiple enactments of theory, multiple perspectives on practice, multiple ways of learning, multiple forms of assessment – all in the service or toward the realization of the ideal of educating well both new and experienced teachers, teacher educators, and, ultimately, all of those whom they teach. Let's let the hydra live and learn from it.

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CHAPTER 3

Fostering Dialogic Teaching – The "Dialogic Video Cycle" as a video-based professional development programme to enhance classroom discourse

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ABSTRACT

Classroom discourse is often dominated by the Initiation-Response-Follow-up (IRF) interaction pattern, forcing students into the role of key-word providers. Changing the routine as well as students' learning perceptions is an imperative in the community of research on dialogic teaching (Mercer & Dawes, 2014). In the current paper, the project DIALOGUE is presented which aimed to conceptualize the Dialogic Video Cycle (DVC) as an effective evidence and video-based TPD program. One aim of the project was the investigation of its impact – in comparison to a control group – on the four columns of Desimone's TPD model (2009) showing the following findings: (1) teachers perceived the DVC as a satisfying learning environment with a professional facilitation, (2) watching both their own video and those of colleagues supported teachers in redefining their teaching practice regarding classroom discourse, (3) feedback – as a follow-up

move – was easier for teachers to change than questions as an initiation element, and (4) students benefited from their teachers' TPD participation with regard to their motivational and cognitive learning developments. Based on the given findings, indications for the second project phase were derived.

"TEACHER: WHAT'S THE SQUARE ROOT OF 25? STUDENT: 5. TEACHER: CORRECT."

This short piece of teacher/student interaction illustrates a wide-spread interaction pattern: *Initiation-Response-Follow-up* (I-R-F). The research strength of dialogic teaching – which reaches back to the 70s – (Howe & Abedin, 2013; Mercer & Dawes, 2014; Walshaw & Anthony, 2008) finds the pattern described to be dominant especially during whole-group discussions, which have been identified as the main interaction setting in classrooms (Hiebert et al., 2003; Seidel & Prenzel, 2006). According to the I-R-F, teachers initiate (I) classroom discourse typically by asking a question. This is followed by a student response (R), for which a concluding feedback (F) from the teacher is received. Kobarg and Seidel (2007) found that teacher questions are predominantly designed to obtain short student answers. In consequence, classroom discourse is often dominated by the teacher, and students commonly do not represent equal conversation partners. Thus, students' roles in classroom discourse are reduced to keyword givers (Seidel & Prenzel, 2006), who predominantly give short answers. Therefore, it is not surprising that students' verbal contribution in classroom discourse is much smaller compared to that of their teachers (Helmke et al., 2008; Mercer & Dawes, 2014). Based on the analysis of the frequency and duration of student statements Jurik, Gröschner, and Seidel (2013) additionally found that mostly students with high cognitive abilities and high motivation are the ones actively contributing in classroom discourse. Thus, these tight I-R-F patterns also favor a particular group of students and often fail to involve less-engaged students.

Even though this teaching mode described may be legitimized by its push for efficiency (e.g. Scott, Mortimer & Aguiar, 2006), it often fails to activate and challenge students sufficiently (Howe & Abedin, 2013). Therefore, it is important to rethink the potential of classroom discourse to foster student learning and support teachers in extending their repertoire of discursive interaction patterns (Alexander, 2005; Osborne, Simon, Christodoulou, Howell-Richardson

& Richardson, 2013). In this context, Scott, Mortimer, and Aguiar (2006) distinguished between authoritative discourse and dialogic discourse. In dialogic discourse, teachers aim to facilitate students' verbal engagement by encouraging different ways of thinking and by welcoming the ideas students bring to the conversation (Scott, et al., 2006). Thus, students' ideas and opinions are seen as a resource to be explored and expanded. In contrast, the main purpose of authoritative discourse is to focus students' attention on a specific meaning, instead of exploring different students' ideas (Scott et al., 2006). As a result, authoritative discourse leads towards a "closed" or rigid interaction pattern, where the teacher forces the students' attention to his/her intended direction (Scott, et al., 2006). As shown by previous research, (see Jurik et al., 2013; Kobarg & Seidel, 2007; Seidel & Prenzel, 2006), the I-R-F pattern is commonly found in such authoritative interactions. Even though authoritative approaches are often inevitable during classroom discourse, classroom discourse benefits highly from dialogic teaching, since it offers more opportunities for students' active engagement and more elaborate learning processes (Alexander, 2005; Lyle, 2008; Mercer & Littleton, 2007).

The level of interaction within the I-R-F differs clearly for dialogic teaching: Teachers' questions are designed to encourage students to share their ideas and discuss their views and opinions (Mercer & Littleton, 2007; Scott, et al., 2006). As opposed to the prevailing practice of posing closed questions (i.e., questions with only one specific answer), Oliveira (2010) highlighted the importance of questions being open-ended, since these allow students to give multiple answers. Challenging and connecting questions ensure that students carefully explore their ideas while embedding them in prior knowledge (Oliveira, 2010). Such questioning has the potential to initiate a dialogic conversation as it provides several opportunities for students to engage in classroom discourse and co-construct knowledge by exploring and justifying each other's ideas (Molinari, Mameli & Gnisci, 2013). In dialogic teaching, students' responses are understood as an important resource for learning opportunities (Mercer & Dawes, 2014). Teachers' subsequent feedback should therefore not solely include information about correctness. Instead, feedback is a powerful tool to facilitate students' thinking by helping students in restructuring ideas, pointing out alternative directions, or indicating relevant information needed in the process (Hattie & Timperley, 2007). Hattie and Timperley (2007) argued that this feedback about the processing of

the task has a much greater potential to enhance deep learning since it focuses on the underlying processes and applied strategies of students' thinking.

In this context, Alexander (2005) establishes five principles that define dialogic teaching as being *collective, reciprocal, supportive, cumulative,* and *purposeful* (p. 26). In line with these principles dialogic teaching comprises the following: Teachers and students address tasks together rather than in isolation (*collective*), listen to each other, and are open to different opinions (*reciprocal*). Opportunities are provided for students to state ideas freely without being afraid of saying anything "wrong" (*supportive*). Moreover, students benefit from different viewpoints and chain these into coherent lines of thinking (*cumulative*), whereby they are facilitated by the teacher who has a particular educational goal in view (*purposeful*). As a result, students and teachers build a learning community in which they work together as well as share and follow-up on each other's ideas. In order to meet these criteria, the question emerges of how teachers can be facilitated to improve their discursive practices towards a more dialogic discourse.

In their review on effective classroom discourse, Walshaw and Anthony (2008) provide a comprehensive framework about how to introduce dialogic teaching in classroom discourse. In line with the I-R-F pattern, the authors identified two decisive activities. The first activity concentrates on a successful initiation of students' engagement in classroom discourse. Verbally engaged students have the opportunity to elaborate their cognitive processes and deepen their understanding. The second activity includes feedback as a meaningful tool to facilitate students' thinking and structure students' ideas (Walshaw & Anthony, 2008). Both activities provide relevant implications for the implementation of dialogic teaching in classroom contexts.

TEACHER PROFESSIONAL DEVELOPMENT (TPD) AS A MEANS FOR DIALOGIC CLASSROOMS

Teacher professional development (TPD) programs have an indispensable drive for changing classroom routines (Kazemi & Hubbard, 2008). As highlighted above, educational research has identified classroom discourse as being stuck behind its potential, and this bothers both the TPD facilitators and the affiliated research community. In the following, we provide an overview of selected TPD programs fostering dialogic teaching.

Existing approaches

There are two approaches from the University of Cambridge – Lesson Study and CamTalk.

In the programme "CamTalk" the role of dialogic teaching and learning in successful classrooms is explored in secondary education (age 11–18) based on Alexander's principles (van de Pol, Brindley & Higham, 2017). The applied TPD programme was based on Alexander's principles of effective TPD and embodied face-to-face meetings, as well as online modules including chat sessions with other teachers and a supervisor. For History teachers, the TPD was highly effective, while for Mathematics teachers, the TPD was only effective to some extent. For explaining differences in implementing dialogic teaching, focusing on teachers' understanding and practice of dialogic teaching were the most promising (van de Pol et al., 2017).

The "Lesson Study Project" examines how and what teachers learn in the context of the development of a self-sustained Lesson Study community that involved collaborative lesson planning and the evaluation of student learning (Vrikki, Warwick, Vermunt, Mercer & van Halem, 2017). The extent to which the TPD programme affected teachers' learning and regulation activities was investigated. Findings showed that teachers used practical resources for modeling more targeted concepts. Furthermore, there was a change in lesson structure, so students were given more time to articulate their thinking and reasoning. In addition, there was a strong focus on developing the language of mathematics and challenging students to use mathematical terms appropriately. The tasks were more often presented as problem-solving challenges (Vrikki et al., 2017).

Another approach called "Accountable Talk" was established at the Institute for Learning at the University of Pittsburgh by Michaels and her colleagues (2008). Accountable talk is characterized by three broad dimensions: (1) *accountability to the learning community*, in which participants listen to and build their contributions in response to those of others, (2) *accountability to accepted standards* of reasoning, talk that emphasizes logical connections and the drawing of reasonable conclusions, and (3) *accountability to knowledge*, talk that is based explicitly on facts, written texts, or other public information" (Michaels et al., 2008, p. 283). In the treatment conditions "academically productive talk" (APT) taught how to stimulate the described key assumptions by concrete *talk moves* (strategic teacher moves

for opening the conversation and supporting student participation, explication, and reasoning (Michaels & O'Connor, 2012). The APT condition was compared to a "direct instruction" condition. Students, whose teachers participated in the APT condition, showed a significantly stronger performance regarding mathematical knowledge at the end. Furthermore, students in the APT condition classes talked more than those in the "direct instruction" condition. In either condition, findings showed no relationship between the degree of *individual* students' verbal contributions (measured by word count) during the lesson and student mathematical performance. The authors interpret that somewhat puzzling finding as a result of "active listening" and "repeating in your own words" being one emphasis of the program. Silent students might have had the chance to improve their knowledge through active listening and their chance to listen to many student answers using differentiated wording (O'Connor, Michaels, Chapin & Harbaugh, 2017).

Another dialogic teaching PD was developed by Reznitskaya and colleagues in New York and Ohio. The programme was designed to help elementary school teachers to support the development of students' argument literacy. Teachers were trained to use a specific type of talk, the so called "inquiry dialogue" (Wilkinson et al., 2016). Inquiry dialogue (Walton, 1998) aims to find the most reasonable answer to contestable, "big" questions (Wilkinson et al., 2016). The research group developed an observation tool (argumentation rating tool ART) to assess pre/post videotaped classroom discussions of participating teachers. ART rates the quality of teacher facilitation and student argumentation during group discussions on texts in elementary language arts classrooms (Reznitskaya, Wilkinson & Oyler, 2016; Reznitskaya, Wilkinson, Oyler, Bourdage-Reninger & Sykes, 2016). Findings showed fundamental improvement in teachers' facilitation of inquiry dialogue in line with students' enriched argumentation during classroom discussions (Wilkinson et al., 2016).

In this chapter, we introduce another TPD program, the "Dialogic Video Cycle" (DVC) developed in the project context "DIALOGUE" (Gröschner, Seidel, Kiemer & Pehmer, 2015). Concretely, the evidence-based conceptualization of the DVC is described since we consider sharing such knowledge can help both TPD facilitators und researchers to move the field of carefully designed TPD programs forward. Additionally, results of the first DIALOUGE phase regarding the impact and effectiveness of the DVC are presented in order to discuss the potential and

challenges of such a program. Finally, further development steps of the DVC and the affiliated research in the context of the second project phase are illuminated.

Effective TPD features

When conceptualizing an evidence-based programme such as the DVC – besides screening the research environment for other programs – the consideration of effective TPD key features identified is inevitable. In this regard, five core features have been identified including: content focus, active teacher learning, coherence, duration, and collective participation (Desimone, 2009; Wilson, 2013).

- *Content focus*: The TPD programme focuses on a specific subject or pedagogical content. In other words, teacher learning is directed towards a defined goal such as dialogic discourse that can be implemented in subject-specific teaching.
- *Active teacher learning*: Teachers engage actively in the learning process – e.g. reflecting on their own or other teachers' behavior – as opposed to being passive recipients.
- *Coherence*: Content topics of TPD programs are chosen and aligned with teachers' beliefs and previous knowledge.
- *Duration*: To achieve long-term and profound results, the training consists of multiple interventions spread out over a significant period of time.
- *Collective participation*: As teachers benefit from each other's professional experience, opportunities to interact, argue, and exchange opinions are provided for teacher learning.

Besides Desimone's (2009) highly acknowledged core features, *continuity* is of great importance to assure, maintain, and increase teachers' instructional quality throughout their professional career (Vermunt & Endedijk, 2011; Vigerske, 2017).

Besides the questions of: how long, in what kind of structure, and on which topic teachers should learn in a TPD setting, a challenge is the connection to teachers' daily routines. In this context, video excerpts of teaching have been introduced as an innovative supplement for effective TPD programs (Blomberg, Sherin, Renkl, Glogger & Seidel, 2014; Borko, Jacobs, Eiteljorg & Pittman, 2008; Seidel, Stürmer, Blomberg, Kobarg & Schwindt, 2011; Sherin & van Es, 2002). Video excerpts of teaching provide opportunities in TPD to illustrate content and daily classroom

routines in ways no other teaching artifact (student work, lesson plan, etc.) can currently do (Coles, 2013; Jacobs, Borko & Koellner, 2009). Furthermore, including video in teacher learning is powerful because it fosters active teacher reflection of their own teaching practices or those seen from colleagues (Borko et al., 2008; Kleinknecht & Schneider, 2013; Seidel et al., 2011; van Es & Sherin, 2006) and even activates teachers' modeling behavior (Moreno & Valdez, 2007). Using video for TPD allows capturing complex classroom discourse in an authentic, practice-oriented way for teacher learning (Gaudin & Chaliès, 2015; van Es, Tunney, Goldsmith & Seago, 2014; Zhang, Lundeberg, Koehler & Eberhardt, 2011). To ensure meaningful learning processes through video-based teacher reflection, the role of the facilitator is pivotal (Borko, Jacobs, Seago & Mangram, 2014; Gröschner, Seidel, Pehmer & Kiemer, 2014; van Es et al., 2014). The facilitator's task is the selection of video excerpts rich in content, focusing the reflection towards decisive goals, and supporting collective participation among the participants.

One TPD programme that integrates the potential of video in a teachers' "working cycle" (planning, teaching, reflecting) is the *Problem Solving Cycle (PSC)* from Borko and colleagues (Borko et al., 2008). The PSC is a series of three interrelated workshops (one planning workshop and two video-based reflection workshops) in which teachers' discussions are organized around a rich mathematical task. In the first workshop, teachers have to solve a mathematical problem and develop a lesson plan about how they could teach this problem to their students. The following workshops focus on the planned and videotaped lesson with regard to teachers' experience applying the problem in their classrooms. In the first reflection workshop, the focus is on the teachers' role, whereas the second reflection workshop centers on critical examination of students' mathematical reasoning.

THE DIALOGIC VIDEO CYCLE

Conceptualization of the "Dialogic Video Cycle" focusing on classroom discourse

The Dialogic Video Cycle (DVC) aims to fuse the described structure of the Problem Solving Cycle (Borko et al., 2008), Desimone's (2009) effective components of TPD, and the TPD content of dialogic teaching. Similar to the PSC, the DVC (see Figure 3.1) contains a lesson planning workshop, videotaping the planned lesson, and two reflection sessions. Just as Walshaw and Anthony's described activities,

(1) *student activation and clarifying discourse rights* and (2) *scaffolding student ideas and feedback* (Walshaw & Anthony, 2008) embed central quality features of classroom discourse in a concrete manner, these serve as the theoretical basis and structure of the DVC's reflection workshops. Throughout the whole cycle, teachers are monitored by a facilitator who moderates them and organizes the videotaping of the teachers' lessons and the selection of video clips, as seen in Figure 3.1 (Gröschner et al., 2015). In Workshop 1, teachers are introduced to Activities 1 and 2, are given ideas on the implementation of these activities in their classroom discourse, and how to support student learning processes. These activities aim to change the perspective of teachers towards engaging students in classroom discourse. Concretely, teachers are facilitated in planning the lesson to be videotaped. Together with the facilitator, and in collaborative practice, teachers adapt those plans by taking concrete activities of productive classroom discourse into account (Gröschner et al., 2014). In order to systemize the implementation options of productive classroom discourse, their knowledge on talk formats and talk moves become (or are) enriched and refreshed. Along with Michaels and O'Connor (2012), talk formats are understood as different student conversation settings such as whole-group or small-group discussions; talk moves are elements that teachers apply to open the conversation and to support student participation, explication, and reasoning.

After the first workshop, the lesson is taught and videotaped. For the second and third workshop, the facilitator systematically selects representative video clips (two or three minutes) from each teacher for reflection. Activities 1 and 2 serve as motivation for selection and reflection. Before watching, the facilitator establishes a policy on discussions about classroom videos. In line with the approved concept of teachers' professional vision (Stürmer & Seidel, 2015), teachers are asked to first *describe* their observations (without judging), *explain* their colleagues' decision making, and *predict* students' learning. Being familiar with the video-observation policy, the group watches the clip (of one of the group members) and the teacher on screen can give further explanations or contextual information. In the next step, the group watches the same clip again, this time with guiding questions regarding productive classroom discourse activities (e.g. "How does the teacher activate his/her students?"). The group exchange regarding the guiding question, give feedback (including solutions and alternatives), or ask more questions.

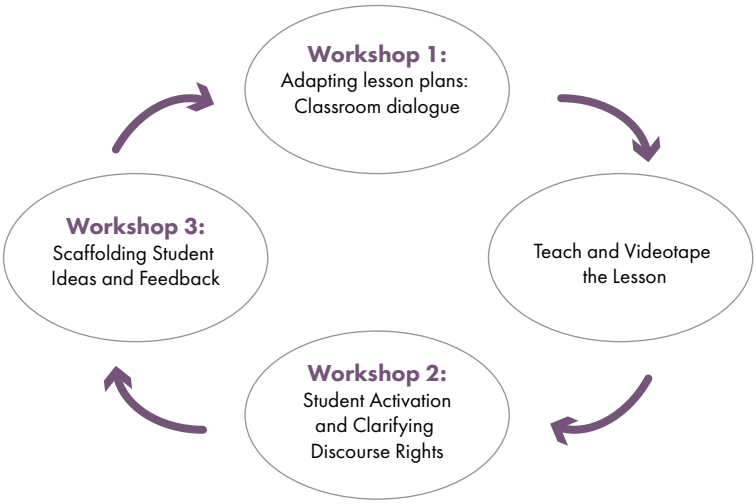

Figure 3.1 The Dialogic Video Cycle (Gröschner et al., 2015).

Implementation of the "Dialogic Video Cycle"

The teachers who participated in the first study implementing the DVC (IG: intervention group) took part in two iterations of the DVC including three workshops and one video recording each. With regard to effective components, the *duration* of the concept was 22 hours in total. Each workshop and the video recordings lasted two hours. The *content* was as described, classroom discourse by means of Activities 1 and 2. The aspect of *collective participation* was addressed by bringing teachers together in seven group meetings throughout the academic year and encouraging and facilitating them to exchange and discuss their own teaching experiences and develop new teaching strategies (transfer). Finally, *coherence* and *continuity* was implemented through regular meetings throughout one academic year, in a constant community working around teachers' routines regarding classroom discourse. A feasibility study approved all components to be successfully implemented in the programme (Gröschner et al., 2015).

Implementation of an advanced traditional programme serving as a control group

As research on TPD lacks systematic investigation of programs with regard to their effectiveness (Wayne, Yoon, Zhu, Cronen & Garet, 2008), the DVC was

systematically compared to a state-of-the art TPD in Germany. Teachers who participated in the so-called advanced traditional programme (ATP) chose a set of workshops in the area of classroom discourse and teacher/student interaction (pedagogical focus) that were pre-selected by the research team and provided by the local Pedagogical Institute (Gröschner et al., 2015). Teachers had the opportunity to choose two to three of these courses, which in total added up to the same duration as the DVC (22h duration). They additionally met as a group (as an indicator of collective participation) three times during the academic year: in an *opening session* and in two *roundtables*. At these roundtables, Walshaw and Anthony's Activities 1 and 2 were also introduced. Teachers were then encouraged by the same facilitator as in the DVC workshops to discuss their experience made at the local Pedagogical Institute. As these kinds of roundtables – as an option for reflecting TPD experience – are unusual in German TPD programs, we added the "advanced" term. The feasibility study showed that there were less options for active learning since video did not serve as the tool to illustrate teachers' daily routines (Gröschner et al., 2015).

Investigation of the DVC's impact and effectiveness

As stated above, after conceptualizing the DVC, its investigation regarding impact and effectiveness was one of the major aims of the project DIALOGUE, which was funded as a research project by the German Research Foundation (DFG). The core features presented of TPD provide a solid basis to design and plan effective environments for teacher learning, which influences teachers' practice and thus meets the challenges revealed by educational reforms (Desimone, 2009). To understand the pathway between implementation of TPD core features, teacher learning, and its effects on teachers' classrooms, Desimone (2009) proposed a conceptual framework (see Figure 3.2), differentiating four steps relevant for studying TPD. According to this model, teachers: (1) participate in an effective TPD program, (2) acquire knowledge and skills and/or change their attitudes and beliefs, followed by (3) changes in their teaching practice, and (4) consequently improved student learning. Desimone's model serves as the basis for the research agenda (overview see Figure 3.2) derived in the first phase of the project (DIALOGUE I).

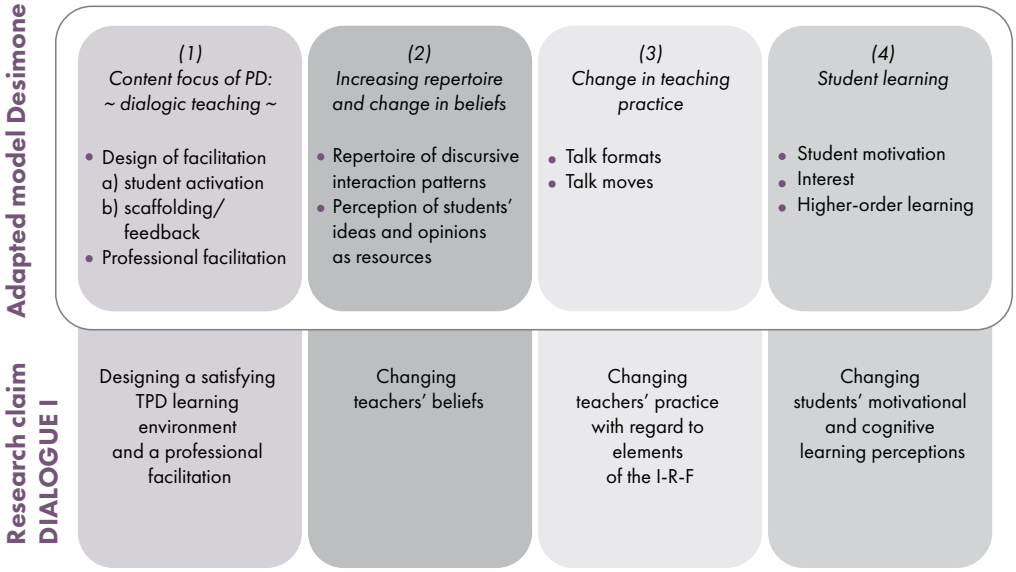

Figure 3.2 Study concept of the project Dialogue adapted model from Desimone (2009).

RESEARCH AGENDA DIALOGUE

As highlighted above, the project includes two phases. In the following, results are presented for the first phase concluded as well as "lessons learned" in the second phase are discussed.

First phase: DIALOGUE I

Design of the study

Data was obtained within a one-year longitudinal intervention design in the academic year 2011-2012 with two groups taking part either in the DVC or the ATP. A quasi-experimental design (DVC classes serving as the intervention group [IG], ATP classes serving as the control group [CG]) was chosen to investigate claims for the effectiveness of the TPD (Fishman, Marx, Best & Tal, 2003; Osborne et al., 2013). This systematic approach allowed direct comparison of a newly developed programme based on existing evidence on effective TPD (Desimone, 2009; Wilson, 2013) with the given state of the art protocol currently used in TPD in Germany.

In Figure 3.3, data collection throughout the academic year is presented, highlighting the theoretical connection to the adapted model presented in Figure 3.2.

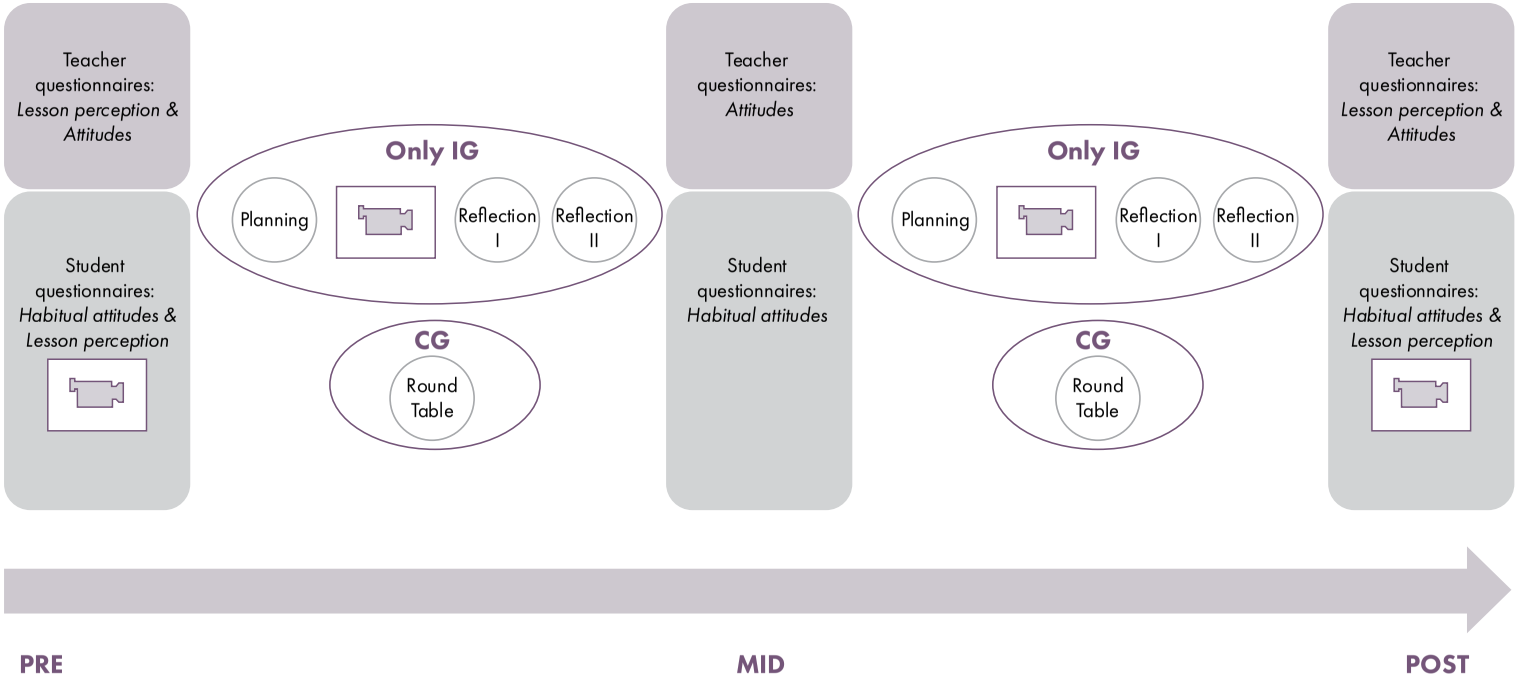

Figure 3.3 Date sources and instruments DIALOGUE I.

Sample

Full data sets from ten math and science teachers were analyzed within the first project phase. Teachers and their students (N = 226, 47.8% girls, 52.2% boys) were from German middle or high school tracks. Because of the high demand to train young people in STEM subjects, teachers were welcome to participate in either math or science lessons. Students had a mean age of 15.67 years (SD = .98) and were in 9th grade. To prevent any effects from systematic variation in teachers' characteristics, teachers in both the IG and CG were compared in the beginning. Teachers in both groups neither differed significantly in age (U = 7.50, z = –.97, p = .33), teaching experience (U = 6.00, z = –1.30, p = .20), gender (c = .08, df = 1, p = .78), nor subject (either math or science) (c = .63, df = 1, p = .43).

Results

Results are presented along the logic of the adapted Desimone model (Figure 3.2) and are outlined in the following table. For detailed information on instruments and statistical values of the presented results, see the primary published studies (sources see Table 1). Finally, Table 3.1 provides indications for the currently running second phase DIALOGUE II.

Summary of Main Results

(1) Designing a satisfying TPD learning environment and professional facilitation

The first task was designing a TPD programme that – in line with the implementation of effective TPD components – was perceived as satisfying for participating teachers. Results showed the DVC was perceived as highly satisfying throughout the program. Teachers participating in the ATP programme were slightly less satisfied regarding their participation in the middle of the academic year, but still on a high level. In comparison, their satisfaction dropped significantly for the post measurement point (for detailed findings, see Gröschner et al., 2015).

Besides satisfaction – a vital basis for a successful TPD programme – the examination of teachers' learning in the workshops was another research claim of the first project phase. High-inferent ratings of the videotaped TPD workshop revealed that learning processes could be encouraged by a productive learning support ("facilitation"). The facilitator created a positive learning environment and a loyal and valuable conversational culture, which follows discussion and

Table 3.1 Overview of instruments, results, publications of DIALOGUE I and indications for DIALOGUE II.

Research claim DIALOGUE I	Data sources	Instruments	Major findings DIALOGUE I	Publication	Indications DIALOGUE II
(1) Designing a satisfying TPD learning environment and professional facilitation	Teacher questionnaire	10-point Likert Scale on satisfaction	– DVC participants highly satisfied, ATP participants less satisfied	Gröschner et al., 2015	– Questionnaire for TPD satisfaction and perception – more comparability → both programs implemented by one institute
	Videotaped TPD sessions	High-inferent ratings of the TPD workshops	– positive learning environment important for successful learning, created by the facilitator	Alles, Seidel & Gröschner, in press	– Rating items for coding workshop contents
(2) Changing teachers' beliefs	Videotaped TPD sessions	Qualitative excerpts	– open questions were believed to be challenging – teachers' thinking and beliefs affected by the video excerpts	Pehmer, Gröschner & Seidel, 2015a; Alles, Seidel & Gröschner, submitted	– Questionnaire for teachers beliefs – Knowledge test on dialogic teaching
(3) Changing teachers' practice with regard to elements of the I-R-F	Videotaped classroom teaching	Coding scheme (Pehmer, Kiemer & Gröschner, 2015)	– IG: no change in quality of initiation – CG: drop regarding the I-R-F elements generally; positive changes regarding feedback and heterogeneous changes regarding questions from an individual perspective	Pehmer, Gröschner & Seidel, 2015a	– adapted video coding scheme for more efficient coding
(4) Changing students' motivational and cognitive learning perceptions	Student questionnaire	Scales on autonomy, competence and intrinsic learning motivation, interest, self-concept of ability	– IG: significantly increased perceived autonomy, competence and intrinsic learning motivation – especially students with a low self-concept of ability benefitted from DVC	Kiemer, Gröschner, Pehmer & Seidel, 2014, 2015; Pehmer, et al., 2015b;	– Subject-specific knowledge test – Questionnaire on students' perception of the videotaped lessons – analyzing student groups separated by high or low shaping of characteristics, e.g. self-concept

feedback rules. Additionally, the TPD setting offered opportunities for participants to reflect upon their own teaching routines and solutions transferable to the classroom (Alles, Seidel & Gröschner, in press).

(2) Changing teachers' beliefs

Qualitative excerpts extracted from the workshop videos illuminated teachers' beliefs. The illustrations chosen provided a hint that teachers identified open teacher questions – one criteria for productive classroom discourse – as partly difficult to control the teaching process (Pehmer, Gröschner & Seidel, 2015a).

Furthermore, our findings indicate that a change in teachers' thinking and beliefs were affected by the video excerpts of their own and other teachers' teaching, which encouraged teachers' reflection on teaching. Teachers saw their own teaching from a new perspective and could redefine their teaching practice. In addition, the video showed teachers' modeling behavior and fostered their intention to transfer, albeit to a lower extent. Especially, video excerpts of their own teaching supported teachers in redefining their teaching practice, whereas video of other teachers fostered teachers' intention of transfering strategies into their teaching practice (Alles, Seidel & Gröschner, submitted).

(3) Changing teachers' practice with regard to elements of the I-R-F

For examining teachers' changed practice, classroom videos were segmented in talking turns (teacher, student). Along the theoretical rational of the I-R-F, teacher talking turns were coded regarding the quality of questions and feedback and student talking turns regarding quality of responses. Results revealed that the IG teachers were able to change the follow-up element by giving more learning process-oriented feedback (Pehmer et al., 2015a) – meaning that instead of just evaluating their students' answers, they were providing hints for guiding them through the learning process.

Against the hypothesis, teachers in the IG group had trouble changing the quality of initiation and did not ask more questions that encouraged more student elaborations. As a consequence, student responses did not change significantly. CG teachers showed a drop regarding the I-R-F elements. Additional individual teacher analysis showed a homogeneous picture for feedback changes, where teachers' questions changed in a heterogeneous manner.

(4) Changing students' motivational and cognitive learning perceptions

Moving along Desimone's model, and pre/post-tests comparison of students' situational learning revealed that students in the IG significantly increased their perceived autonomy, competence, and intrinsic learning motivation as compared with those in the CG. Concerning the habitual motivational learning characteristics, IG students benefited regarding their subject interest, ability self-concept, and self-efficacy compared to CG students (Kiemer, Gröschner, Pehmer & Seidel, 2014). A similar picture could be shown for students' higher-order learning perceptions. In this context, additional differential analysis highlighted the DVC as especially beneficial for students with a low self-concept of ability (detailed findings see Pehmer, Gröschner & Seidel, 2015b).

Second phase: Summary of indications for DIALOGUE II

(1) Designing a satisfying TPD learning environment and professional facilitation

Regarding the first column of the adapted Desimone model, DIALOGUE I showed the DVC to be a satisfying learning environment including professional facilitation. Since the ATP was facilitated at the local Pedagogical Institute and provided an additional experience exchange (round tables), the question of causes for teachers' drop in satisfaction in this programme remains open. For reasons of stronger controllability, both programs are currently run by the same project team during DIALOGUE II. Additionally, teachers' perception of the TPD programme as a professional learning opportunity will be measured via questionnaire (Gröschner et al., 2016).

(2) Changing teachers' beliefs

The qualitative excerpts gathered during the first project phase served as a first fruitful approach to investigate teachers changing beliefs during the workshop sessions. In the second project phase, the feasibility study will be enriched by rating items investigating to what extent teachers and facilitators discuss concrete elements such as open teacher questions during the workshop sessions and in what way these discussions change throughout the TPD program. This allows for a more detailed picture on Desimone's causal TPD assumptions. Additionally, teacher beliefs regarding dialogic teaching will be measured via questionnaire (Gröschner et al., 2016). As Desimone (2009) claimed that not

only changing teacher beliefs but also teacher knowledge is a prerequisite for a changed teaching practice, the second project phase will employ a teacher knowledge test on dialogic teaching.

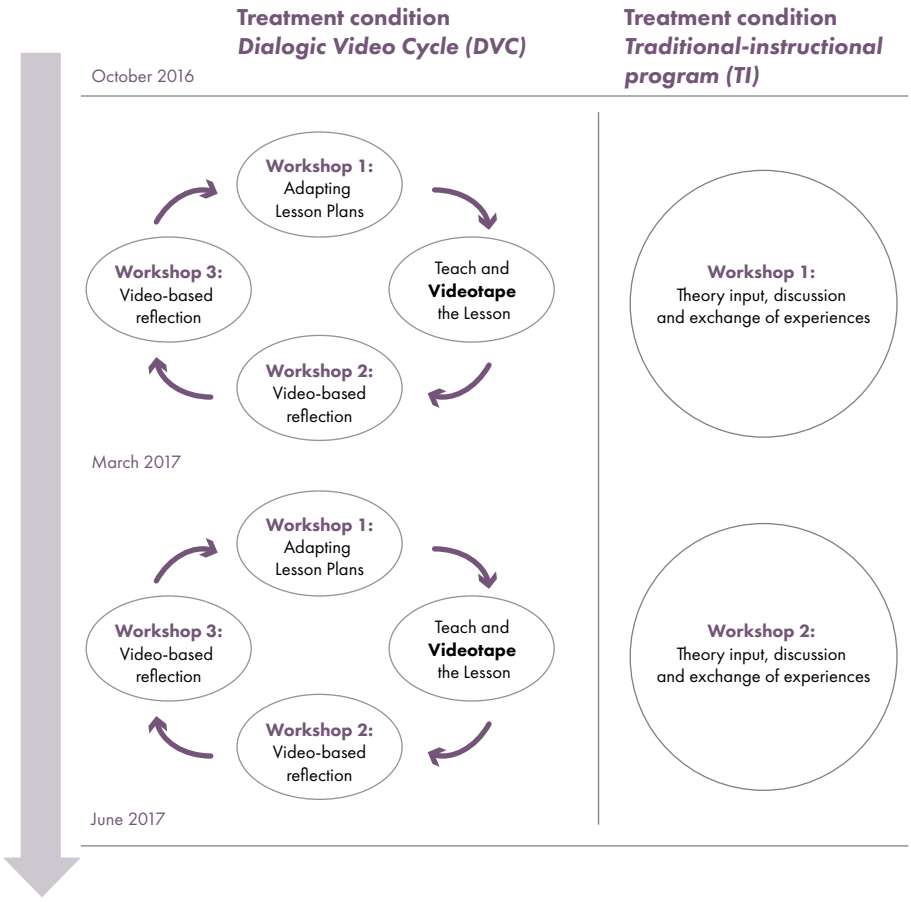

Figure 3.4 General Study design DIALOGUE II.

(3) Changing teachers' practice with regard to elements of the I-R-F

During the first project phase, teacher questions were especially part of the first reflection workshop, focusing on Walshaw & Anthony's Activity 1, and feedback included in the second reflection workshop, focusing on Activity 2. As presented, changing teacher questions seemed to be more challenging than

teacher feedback. In this context, one central question for DIALOGUE II is which of Walshaw and Anthony's activities are easier to implement into teachers' classroom discourse routines, where the DVC will be offered in different treatment conditions. Both DVC options share "dialogic teaching" as the common topic but focus on either Activity 1 or 2.

Measurement of changes in videotaped teaching routines will focus on changes in talking formats and moves – as the shared "toolbox" for teachers to implement ACTIVITIES 1 and 2. Rating procedures instead of segmenting talking turn will be applied based on the current understanding that classroom discourse is to be measured in an interconnected manner (Osborne et al., 2016; Reznitskaya, Wilkinson & Oyler, 2016; Wilkinson et al., 2016).

(4) Changing students' motivational and cognitive learning perceptions

Based on findings from the first phase, DIALOGUE II aims to replicate results on students' situational and habitual motivational learning with a bigger sample. Instruments regarding students' cognitive learning aspects will be expanded by a student knowledge test. As the differential investigation of the DVC's impact on student subgroups (e.g. either higher or lower-order learning) was identified as valuable, this research strength will be followed.

SUMMARY AND OUTLOOK

Teachers' professional development is one of the major leverages for changing classroom culture. Current research demonstrates that successful TPD programs have the power to initiate "chain reactions" put forward by recent models of effectiveness. These programs manage to facilitate change on different levels beginning with teachers' knowledge and beliefs, their classroom practices, and ultimately changing student behavior and learning. They are focused in content and revolve around a core theme such as classroom discourse with the goal of fostering a more interactive dialogic classroom discourse culture. In order to engage students more actively in verbal interactions, programs must effectively manage to stimulate and support teachers in overcoming rigid patterns of communication and adopting more open and engaging ways of talking *with* rather than merely *to* their students. Different tools and their combinations

have shown how teachers can learn and benefit from video-based and carefully facilitated discussions (e.g. Dialogic Video Cycle) or from using well-designed rating schemes (Argumentation Rating Tool) that help them diagnose and improve their students' argumentation skills. Research in the Dialogue project also has been able to further trace these changes in teaching practices and identify their relations to specific student outcomes. Critical outcomes such as student interest and self-concept seemed to benefit in relation to teachers more actively engaging students in classroom discourse.

Currently, more systematic and rigorous TPD research is underway. Dialogue II advances the agenda of Dialogue I and tackles the issue of experimental control by implementing a well-described traditional programme for comparison and random assignment to groups. It further adopts a more fine-grained test of effective features with interventions that focus on specific contents (student activation vs. scaffolding student ideas and feedback) and a more inclusive measurement of outcomes (teacher and student knowledge). Dialogue II will thus help to clarify more precisely which elements of the programme are effective. And it will highlight the challenges and show which outcomes are more or less difficult for TPD facilitators or teachers to change. Thus, this research will contribute to a growing knowledge base that more precisely models all the mediating process between facilitator moves on the one end, and student outcomes on the other, which can be harnessed to design effective programs.

ACKNOWLEDGEMENT

First, we thank all teachers and students who have participated in the project and were willing to participate in several workshop sessions and to open their classroom doors for video recordings and questionnaires. Furthermore, we thank the associated researchers, Dr. Katharina Kiemer and Dr. Christine Johannes, as well as our student assistants (Sarah Leopold, Carina Schiermeier, Sarah Schabert, Maximilian Heininger, Katharina Schnitzler, Andreas Schweigart, Patricia Zalud, Janina Häusler, Christina Knöß) for their engagement in facilitation, data collection and analysis. The projects DIALOGUE I and II are funded by grants from the German Research Foundation (DFG, SE 1397/7-1 and SE 1397/5-3).

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DEL 2

Innledning

Den andre delen av boken består av artikler fra NAFOL-studenter og internasjonale ph.d.-studenter som kommer fra ulike kontekster, et vidt spektrum av emner og temaer, og fra ulike land: Norge, Island og Seychellene. Svava Björg Mörk fra University of Iceland skriver om det tredje rommet, møtepunktet mellom praksis og teori, i den islandske barnehagelærerutdanningen fra et historisk perspektiv. Andre artikler om barnehagen og barnehagelærerutdanningen er Kathrin Olsen og Abigail Croydons artikkel om støtten til barn med autisme i barnehagen. Justin Zelime, sammen med Mats Deutschmann fra Umeå universitet, presenterer forskning på språkundervisningen på Seychellene, som har en sammensatt språksituasjon. Tilbake i Norge så skriver Gro Løken, Ratib Lekhal og Peder Haug om kjønnsforskjeller i spesialundervisningen i grunnskolen, og overraskende nok så fant de små eller ingen forskjeller. Fra spesialundervisning til kroppsøving, i sitt bidrag påpeker Svein Olav Ulstad at når elevene får økt støtte til å være selvstendige og ta egne valg, øker prestasjonene og motivasjonen for faget. Det to siste artiklene i del 2 handler om lærerstudenter og skoleledere. Øystein Kvinge omtaler det kjente praksis–teori-gapet fra en ny innfallsvinkel ved å undersøke hvordan lærerstudenter forstår lærerens profesjonskunnskap, og hvordan studentene opplever at den kommer til syne i lærerutdanningen. I den siste artikkelen i del 2 argumenterer Pia Hagerup for at kunstbaserte metoder kan styrke de praktiske læringsprosessene hos deltakerne på rektorutdanningen. Del 2 gir et bredt og internasjonalt bilde av aktuelle og spennende temaer i lærerutdanningsforskningen per i dag.

CHAPTER 4

Historical Perspective of the Third Space in Icelandic Preschool Teacher Education

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> "Education is simply the soul of a society as it passes from one generation to another." G. K. Chesterton

ABSTRACT

Preschool teacher education in Iceland began in 1946 with a focus on ensuring the welfare of children. Since that time, education has changed both in Iceland and around the world, as has collaboration between practitioners and universities. A close look at the relationship between this field and departments of education in universities reveals that a disconnection has occurred. This paper examines the development of preschool teacher education in Iceland since the mid-1940s. Understanding the history of that development serves to clarify the present situation regarding preschool teacher education in Iceland. This research study is concerned with theory and practice in education, especially the construction of a third space: a collaborative space shared by preschools and universities in which dialogue and partnership play key roles. The findings show that over the years, the gap between theory and practice in Icelandic preschool teacher education has expanded. This disconnection between theory and practice is a reality in preschool teacher education in Iceland that should be addressed.

INTRODUCTION

At their inception, preschools responded to a social need by providing a service to the community. Because preschools are constructed by society, they continue to meet social needs and evolve over time. Today, however, preschools are far more than a service; they are spaces designed to allow children to be social actors in their own lives (Dahlberg, Moss & Pence, 2007; Ministry of Education, Science and Culture, 2011).

Early childhood education and preschool teacher education in Iceland parallel their counterparts in other Nordic countries in that they follow a model based on humanistic and child-centred values. During the 1970s and 1980s, Nordic countries invested in childcare so that the parents of children could balance their work and family lives (Einarsdóttir, 2011; Karila, 2017). Now, that investment is more heavily focused on children and their education as future citizens. Consequently, based on evidence that well-trained, educated staff members are the key to successful childcare (Karila, 2017), well-educated preschool teachers are seen as crucial in Iceland and other countries. These well-educated preschool teachers benefit children by increasing their cognitive abilities and impacting their later academic performance (Bakken, Brown & Downing, 2017; Cochran-Smith & Fries, 2005). Moreover, because graduate teachers have referred to their practical training as the most valuable part of their education, practice in the field and effective guidance are critical components of teacher education (Mattsson, Eilertsen & Rorrison, 2011).

Examining teacher education and preparation for practice, it becomes apparent that there are concerns regarding the disconnection between theory and practice (Lohmander, 2015; Jónsdóttir, 2015; Zeichner, 2010). In terms of defining these two concepts, in this paper, "theory" refers to what is taught at a university, and "practice" is what occurs in the field. In teacher education, these two concepts are linked together, and they shape a student teacher and his or her ability to become a competent educator. Research regarding this disconnection has suggested creating a third space, indicating that interventions can have an impact on teacher education (Cuenca, Schmeichel, Butler, Dinkelman & Nichols Jr., 2011; Moje, Ciechanowski, Kramer, Ellis, Carrillo & Collazo, 2004; Zeichner, 2010).

The present study examines how the third space has been presented in preschool teacher education in Iceland during various time periods. In the third

space, the mentor's practical knowledge, the university teacher's academic knowledge, and the student teacher's learning unite to create new knowledge by allowing participants to share knowledge, understanding, and experience. In the third space, people become aware of their boundaries and find ways to cross them, and when all participants venture into one another's space, collaboration ensues (Akkerman & Bakker, 2011; Martin, Snow & Franklin Torrez, 2011; Zeichner, 2010).

The present study is a historical analysis (Wyche, Sengers & Grinter, 2006) aimed at obtaining a deeper understanding of the history of preschool teacher education in Iceland. The research question is as follows: How is theory and practice integrated in preschool teacher education in Iceland during different time periods? To examine the third space shared by theory and practice, this chapter focuses on the third space, boundary crossing, and ways of fostering strong collaboration among stakeholders in preschool teacher education in Iceland.

The next section provides a short introduction to the third space, as well as its definition and use in teaching and teacher education. It describes its connection with boundary crossings and the importance of crossing such lines to grasp the knowledge that flows between spaces. After that, the findings of the study will be presented and discussed in light of the literature regarding the third space and boundary crossing. Finally, conclusions will be drawn.

The third space in teacher education

Conceiving of the third space almost invariably requires a study of Bhabha's (1990) definition and views of the concept, which he calls *hybrid space*. In short, when two cultures merge and hybridity occurs, a third, or hybrid, space emerges. Bhabha's (1990) definition clarified how the third space can function and the ways in which social entities can develop hybrid spaces. He also discussed the meaning of communication and negotiation in hybrid spaces and encouraged participants to be open-minded while learning new ways of conceiving and perceiving the world while crossing boundaries. As participants gain a broader worldview, they become more likely to expand upon and rethink their principles. Bhabha (1990) has also emphasised that in such shared spaces, all participants should feel equal and resist engaging in power struggles. As an extension of Bhabha's (1990) ideas, Soja's (1996) theory of third space is also vital. It stresses

the importance of thinking differently about spaces, understanding the past and its surroundings, and questioning the way things are and how they have developed. In particular, Soja (1996) maintained that spaces develop via social and historical interactions; they are neither solely regional nor attached to spatial entities.

According to Moje et al. (2004), there are at least three ways of viewing the third space: as a bridge between dialogue and knowledge, as a navigational space that allows actors to cross into different communities, and as a space in which conversation can bring two cultures into synchronised dialogue.

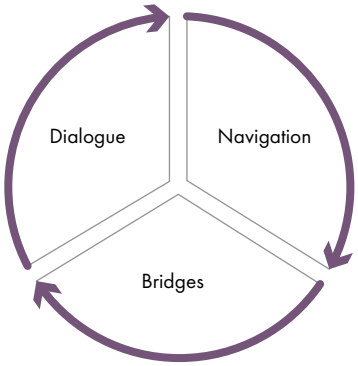

Figure 4.1 Components of the third space (Moje et al., 2004, pp. 43-44).

When uniting discourse and knowledge in the third space, preschool education students, university teachers, and mentors in the field or in preschools have the opportunity to scaffold their learning and expand their knowledge while building bridges between what they and others know to generate new knowledge. Building bridges is an important aspect of the third space; it helps participants understand how they and others experience the world. Critically, these various perspectives can be remodelled to form a third space (Moje et al., 2004). At the same time, as in many other fields, the disconnection between theory and practice in preschool teacher education is common because what individuals think, do, and read in textbooks does not always represent reality. In that sense, the disconnection between theory and practice is a mismatch rather than a gap, with the latter implying a complete separation (Kvernbekk, 2012).

According to Zeichner (2010) and Jónsdóttir (2015), it is necessary to realign the mismatch created when student teachers move from universities to field practice. Though they are separate spaces, universities and preschools both work toward the common goal of educating student teachers, and therein lies the disconnection from, or mismatch with, that student teachers experience between the university classroom and actual preschools (Lohmander, 2015). It is necessary to strengthen the relationship between schools and universities, and one way of doing so involves developing strong collaboration between them (Zeichner, 2010). By strengthening field practice in teacher education to create a less hierarchical or even non-hierarchical interplay among actors, the third space can become a powerful learning arena in preschool teacher education (Zeichner, 2010).

Focusing on the current situation in preschool teacher education in Iceland, Jónsdóttir (2015) investigated the third space in preschool teacher education by examining the University of Iceland's policies and its collaboration with preschools in light of the literature on the third space. She concluded that both field practice in preschool teacher education and collaboration between Icelandic preschools and universities must be strengthened to facilitate stakeholders' conversations about learning in the third space. Boundary crossing reinforces such collaboration by enabling stakeholders to challenge the status quo (Jónsdóttir, 2015; Zeichner, 2010).

In the third space, participants – in this case, university teachers, mentors, and students – can be innovative, think differently, exercise creativity, and create something new and distinct from what already exists (Bhabha, 1990). To create such an environment, it is important to consider the crucial role that dialogue and reflection play in preschool teacher education. There is a significant difference between professional learning as an individual and learning within a community. In a community, professional growth is more likely to occur as a result of dialogue that originates in collaboration (Fullan, 2016; Tsui & Law, 2007). The best learning happens in cultures that are collaborative; however, it takes time to foster such a culture, and it is important to create an environment of mutual trust so that dialogue can occur (Fullan, 2016).

Because all learning involves boundaries, participants who cross boundaries become representatives of their original spaces because they possess specific knowledge that they can introduce and be integrated into the third space (Akkerman & Bakker, 2011).

Zeichner (2010) presents various ways of strengthening the relationship between universities and the field experiences of student teachers, emphasising the importance of hybrid spaces in teacher education. One such suggestion is having hybrid positions, meaning that universities employ capable teachers from the field, who according to Zeichner (2010), become *boundary-crossers*. These teachers must have a good connection with the working arena; they must also be competent and skillful in collaborating with universities and preschools (Zeichner, 2010). In Iceland, as in other countries, there is political pressure to strengthen education by building a collaborative community that includes practice and the university.

THE STUDY

The present study uses historical analysis (Jupp, 2006; Wyche et al., 2006) to illuminate records and accounts of the past. In general, historical analysis makes sense of the past by finding the traces it leaves behind. Using this method, researchers examine various sources and ensure that the data represent the past, not the present. For the various sources to be reliable, they must be preserved in open archives and available for analysis. Historical analysis is useful in explaining the development of a phenomenon over time, for example, the development of preschool teacher education in a specific country. Although it is important not to judge the data retrospectively, it is equally important not to draw a straight line between the past and the present, and conducting a historical analysis helps researchers avoid this tendency (Jupp, 2006; Wyche et al., 2006). In this study, the research question is as follows: How is theory and practice integrated in preschool teacher education in Iceland during different time periods?

Searching for an answer to the above question, available literature pertaining to preschool teacher education was collected. The data were obtained from several places, including the library at the School of Education at the University of Iceland, where books and documents about preschool teacher education in Iceland were obtained from historical texts, including newspaper articles, interviews with pioneers in the field, and academic journals about the development of education. The researcher also consulted: the Internet (collecting articles and news about education and steering documents), field practice project managers at the University of Akureyri and the University of Iceland (obtaining reports about field practice), university homepages, and teachers in the field. Descriptive

coding (Saldana, 2016) was used to analyze the data. Thereafter, the data were categorised into themes. This process began by investigating preschool teacher education in general, and field practice in preschool teacher education more specifically by examining how their integration (the third space) was presented in the texts. Thus, the focus of the analysis was on field practice, the relationship between theory and practice, connections, and collaboration.

The third space in preschool teacher education in Iceland during various time periods

Preschool teacher education in Iceland began with pioneers who focused on the welfare and cognitive development of children in Reykjavik; they sought to create an organisation that would focus on nurturing those values (Guðmundsson, 1949). Sumargjöf, an alliance established in 1924, marked the beginning of the evolution of Icelandic preschools and would ultimately lead to the development of preschool teacher education in Iceland (Guðmundsson, 1949; Sigurðardóttir, 1998). In 1906, the first nursery school for children ages 3–18 months opened in Iceland. In 1924, a Fröbel kindergarten was established, and in 1932, Sumargjöf founded their first preschool (Guðmundsson, 1949).

The findings are divided into five chronological periods. This sharpened the focus of the research and raised a question that helped to guide the analysis: – namely, how are theory and practice integrated into preschool teacher education in Iceland during different time periods? The reason some periods are discussed more than others is that during the first decades, there were many changes in teacher education, while other periods were less influential. The first period (1946–1967) involved the inception and early development of preschool education in Iceland. The second period (1967–1979) involved changes due to the government's nationalisation of preschool teacher education. The third period (1990–1995) focused on distance learning. During the fourth period (1991–2000), preschool teacher education was first offered at the university level at the University of Akureyri in 1996 and at Iceland University of Education in 1998. Finally, during the fifth period (2000–2015), preschool teacher education at universities shifted from the undergraduate to the graduate level. Together, the five periods tell the story of the development of preschool teacher education in Iceland from diverse angles, especially in terms of singular approaches to collaboration.

THE BEGINNING: 1946–1967

Initially, educators who had received preschool teacher education had studied abroad. It was not until 1946 that the women-only preschool teacher college, Uppeldisskóli Sumargjafar (later Fósturskóli Sumargjafar), was founded in Iceland. During that year, there were only three educated preschool teachers working for Sumargjöf (Guðmundsson, 1949). The connection between the field and academia was intense because some of the young women worked, studied, and lived at the preschool (Guðmundsson, 1949; Jónsdóttir, 2004; Sigurðardóttir, 1998). Until 1964, Valborg Sigurðardóttir, the first principal involved in preschool teacher education (Jónsson & Helgadóttir, 2010), was the primary contact between the college and the preschools. She met with future teachers twice a week as they performed their field practice (Sigurðardóttir, 1998). Students were paid during field practice, partly due to the lack of educated teachers. It was not until 1977 that student teachers entered preschools as students, rather than as paid workers. The pedagogical and educational philosophy of the programme stemmed from Dewey's pragmatic approach, while Gesell's maturational theory of developmental physiology evolved as a progressive movement that strongly influenced both field practice and theoretical learning. The first year of formal education was actually 18 months long, including 9 months of theory and 9 months of field practice, but in 1957, this "year" was expanded to two years (Einarsdóttir, 2012; Sigurðardóttir, 1998).

Literature from and about the period clarifies that although the line between theory and practice was blurred, those who experienced this shift look back on it with appreciation (Guðmundsson, 1949; Jónsdóttir, 2004: Sigurðardóttir, 1998). The literature suggests that the third space was not obvious, because the stakeholders had merged. Many of the young women worked, lived, and studied at the preschool. However, the principal met with future teachers twice a week, and the literature underscores the students' opportunities to engage in dialogue about their experiences while studying. There does not seem to have been any clear hierarchy in the student–principal relationship, and the third space seems to have emerged as a directional space that allowed the participants to cross communities, build stronger dialogue, and achieve a better understanding (Moje et al., 2004; Zeichner, 2010).

New opportunities in education: 1967–1979

Before the second period, preschool teacher education was a two-year programme of study. However, beginning in 1968, a year in what was called preparatory school was included. This arrangement had a decisive impact on the structure and future of preschool teacher education in Iceland. It was intended to better prepare students for the further education and professional work. As preparation took place, both students and teachers could assess the students' abilities. Later, the structure of education changed; it came to be believed that focussing on practical education in preparation for the field was more fruitful than only providing them with theoretical concepts and could better prepare them by providing more knowledge before they started their paid practicum or field practice. The thinking of Gesell and Dewey continued to inspire the pedagogy and educational philosophy used (Sigurðardóttir, 1998).

In 1973, after 25 years of preschool teacher education in Iceland, the first law regarding the field (Lög um Fósturskóla Íslands, 1973) was passed (Sigurðardóttir, 1998). The name of the school changed from Fóstruskóli Sumargjafar to Fósturskóli Íslands, and the state took control of the education that occurred there. The name was changed because a new law was passed that ensured equal access to preschool teacher education for men and women (Sigurðardóttir, 1998). The law stipulated that education must be built on a theoretical basis that provided theoretical knowledge of pedagogy and psychology, which marked a significant step toward the development of preschool teacher education. In 1979, the Ministry of Education (Reglugerð, 1979) regulations stated that field practice should be no less than one-third of the total study time. While field practice semesters were shortened, they became more frequent and were spread across the educational programme (Sigurðardóttir, 1998).

During the first school year, the only full-time employee was the principal, who worked with a field practice teacher hired to fill a one-year, temporary position. In subsequent years, additional full-time teachers were hired, thereby allowing more students to gain admission into the programme (Sigurðardóttir, 1998). The college's teachers were interested in studying Dewey and practicing his philosophy of learning by doing through theme-focused work. In 1979, changes in the curriculum began to integrate that work into theory and practice (Sigurðardóttir, 1998). During those influential years for preschool teacher

education in Iceland, via adding more theory, education became more heavily focused on academic knowledge. This shift marked a drastic change from the idea that field practice was as important as theory.

Theme-focused work was a new approach the teacher training. As the school grew, more teachers were hired, and more students were accepted into the programme. In the second year, students met with the field practice teacher at least once a month to discuss their practice and learning. During this period, the third space took the form of building bridges via dialogue and knowledge; students had assignments, and they met to discuss their experiences (Moje et al., 2004). Thus, both students and teachers were visible, and the connection to the field remained strong.

Reaching further with distance learning: 1990–1995

In 1991, distance learning was established in Fósturskóli Íslands (Kristjánsdóttir, 1995; Sigurðardóttir, 1998). The need for educated preschool teachers grew, especially in rural areas. In 1990, the Minister of Education appointed a work group to prepare for distance learning education (Kristjánsdóttir, 1995; Sigurðardóttir, 1998). By adding distance learning, Fósturskóli Íslands was able to admit more students by making coursework available to everyone, regardless of location. The Internet and the use of email strengthened the communication between teachers and students (Sigurðardóttir, 1998).

The students' course of study was spread out over four years instead of three, and it was equally distributed between theory and field practice, as well as within local education (Sigurðardóttir, 1998). To ensure that distance learning was equal to school-based learning and to end rumours that it was merely discounted learning, the Ministry of Education carefully examined the programme and concluded that distance learning was as effective and professional as school-based education and that it prepared students for their future profession (Kristjánsdóttir, 1995; Sigurðardóttir, 1998). By adding distance learning to education and using the Internet, the collaboration between Fósturskóli Íslands and the field was strengthened. The opportunity for students to enrol and communicate with teachers regardless of their location became more realistic (Sigurðardóttir, 1998). In accordance with Moje et al. (2004), the third space was shaped by the Internet and email. These factors helped the cultures of the

field and college to construct a space for dialogue, with the students acting as the link between the field and the college (Moje et al., 2004).

Preschool teacher education at the university level: 1991–2000

In 1993, the Ministry of Education appointed a group to prepare a framework for legislation that would provide guidelines for all levels of teacher education in Iceland (Menntamálaráðuneytið, 1995; Sigurðardóttir, 1998). The act addressed economic and professional concerns. The education of elementary school teachers had been conducted at the university level for 20 years, and proponents of the legislation argued that the change would provide increased independence in the field of early childhood education (Einarsdóttir, 2011). Fósturskóli Íslands and the preschool teachers' union worked toward elevating preschool teacher education to the university level. In 1996, before they reached that goal, the University of Akureyri offered preschool teacher education at the university level, with teaching taking place for on-site and distance students at the same time. Distance students participated through videoconferencing centres, which were located in various municipalities and managed in collaboration with the university (Hug- og Félagsvísindasvið, Kennaradeild: Fjarnám, 2016; Jónsson & Helgadóttir, 2010; Sigurðardóttir, 1998).

In 1998, preschool teacher education at Fósturskóla Íslands was combined with the Iceland University of Education, and preschool teacher students graduated with a bachelor's degree that year (Sigurðardóttir, 1998). Consequently, preschool teacher education became more theoretical, and the connection between theory and practice become one of its salient characteristics (Jónsson & Helgadóttir, 2010). After preschool teacher education became a university education, fewer students applied, and the university offered a diploma in preschool teacher education for assistants working in preschools who had at least three years of experience. They could then add to that education, finish a B.Ed. in preschool teacher education, and become preschool teachers (Einarsdóttir, 2012).

Major changes occurred after preschool teacher education was shifted to the university level, especially regarding field practice. Specifically, field practice changed from comprising one-third of the programme to only comprising one-fifth of it (Sigurðardóttir, 1998). While a heavier focus on theory was apparent,

the connection between theory and practice became part of the educational programme (Jónsson & Helgadóttir, 2010). As the data show, the third space did not seem to be very apparent, and it is possible that a greater focus was placed on changes in education. Slowly, it seems as though theory and practice began to drift apart, and the disconnection between the two began.

Pre-school teacher education at a graduate level and changing times: 2000–2015

During the last several years, changes in preschool teacher education in Iceland have included students' graduating with a master's degree (Lög um menntun og ráðningu kennara og skólastjórnenda við leikskóla, grunnskóla og framhaldsskóla no. 87/2008) and the Iceland University of Education becoming part of the University of Iceland. Preschool teacher education is now available at both the University of Iceland and the University of Akureyri.

Preparation for the expansion of teacher education began around 2000 (Sigurðardóttir, 2014). In 2004, a report on the need to change preschool and primary teacher education was presented, including a five-year plan that called for education to be increased and brought in line with that in other European countries. With an emphasis on professional development for teachers, one drawback of the plan was the shortening of the field practice periods (Einarsdóttir, 2011; Kennaraháskóli Íslands, 2004). As seen in two reports from the University of Iceland (Pétursdóttir, 2011; Sigurðardóttir, 2014) and one from the University of Akureyri (Hreiðarsdóttir, Steingrímsdóttir & Þorsteinsson, 2011), field practice continues to be acknowledged as an important part of preschool teacher education, and theory is taught to prepare students for field practice. Another change at the University of Iceland was that field practice was no longer an independent course; instead, it became part of the programmatic coursework. According to the reports, field practice empowers students in the field and helps them become aware of and skilled at implementing the theoretical aspects of their work. During this period, the third space consisted of cooperation between preschools and universities, with an emphasis on field practice being an important part of preschool teacher education and theory being taught to prepare students for the field (Hug-og Félagsvísindasvið, Kennaradeild: Vettvangsnám, 2016; Menntavísindasvið, Vettvangsnám í Kennaradeild: Leikskólakennarafræði, 2016).

SUMMARY AND DISCUSSION

Regarding the integration of theory and practice in preschool teacher education in Iceland during various times, the findings indicate that many changes have occurred. In the beginning, the relationship between teachers and students was close, and the collaborative space, or the third space, is apparent in the data. Bhabha's (1990) definition of the third space, in which he discusses the importance of merging of cultures, as well as the importance of boundary crossing, obviously applies to the beginning of preschool teacher education in Iceland. According to Akkerman and Bakker (2011), all learning involves boundaries, and those who cross them becomes representatives of their original spaces. Throughout the history of education, it is clear that those who lead education strive to make it better, empower students with knowledge, and maintain a connection to practice. However, as the focus on theory increased and the focus on practice decreased, a gap seems to have been formed between the field and universities.

Today, theory comprises a larger part of teacher education than it did in 1946. Unsurprisingly, theoretical knowledge preparation has increased, and the length of education has expanded. Building a powerful third space might be a means to improve education and narrow the gap between theory and practice in preschool teacher education (Jónsdóttir, 2015). In a study on educational policy changes in Sweden and the implementation of changes regarding the relationship between theory and practice, Lohmander (2015) concluded that field practice was a critical part of preschool teacher education. This conclusion is in line with findings from 1991 to 2015 suggesting that in preschool teacher education, field practice continues to be acknowledged as important.

Progressively, the collaborative space occupied by preschool teacher students, their mentors, and university teachers has diminished, which has created the gap discussed in this paper. To empower field practice, the current study supports Jónsdóttir's (2015) recommendation to strengthen collaboration between Icelandic preschools and universities. Boundary crossers can bridge this gap by connecting universities and preschools while working in the third space (Jónsdóttir, 2015; Zeichner, 2010). Preschool teacher education should not be a matter of "them" versus "us"; rather, it should encompass the collective "we", which a third space can help create (Lohmander, 2015). It is crucial that the field

of practice and universities cooperate with one another. By connecting theory and practice to create a joint learning arena, teachers can become empowered to be more competent; in so doing, their professional understanding will become stronger, which will ultimately benefit their students (Kelchtermans, 2009).

Considering Soja's (1996) theory of the third space and the importance of thinking differently about educational spaces, as well as understanding the historical development, it seems that the current preschool teacher education programme in Iceland needs to be revisited. Attention should be given to how third spaces can be integrated in the preparation of preschool teachers. Soja (1990) argues that spaces develop via social and historical interactions. He said that they are neither solely regional nor attached to spatial entities. Therefore, the creation of the third space is not connected to regions or buildings, perhaps more to attitudes, and participants have the freedom to develop their own third space.

Ways of establishing a stronger, more vital connection to the field are worthy goals that should challenge and encourage all stakeholders in preschool teacher education. Creating spaces in which theory and practice meet will ensure that mentors, university-based teacher educators, and student teachers can cross boundaries. This will improve the quality of preschool education in Iceland and make the profession more vigorous. By strengthening the connection between theory and practice and between the field and universities, students may become more aware of the realities of the profession. All stakeholders are working toward the same goal: to prepare and educate preschool student teachers so they can become competent, caring, and effective educators. Therefore, it is crucial for preschool teacher education in Iceland to approach that goal with a shared vision if Iceland is to empower preschool teacher education and its preschools as a whole.

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CHAPTER 5

Practices of support for children with autism in kindergarten: Exploring the "sayings" of teachers

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ABSTRACT

Our study explores teachers' sayings about their practices of supporting participation for children with autism. We consider their sayings in the light of the theory of "practice architectures". In three focus group interviews, teachers in two Norwegian and one English kindergarten discussed videoed examples of their practice. Analysis disclosed overlapping and distinct aspects of their practice. Their sayings were interpreted as disclosing some features of the architecture of their practice that supported or undermined the "relatings" of children with autism, as they are conceived in the theory of practice architectures. Findings suggests that the participation of children with autism is promoted when the "practice architecture" allows teachers to support their "relatings" and to develop a common practice with shared priorities and mutual support.

INTRODUCTION TO THE STUDY

In this study, we aim to explore teachers' sayings in relation to their practices of supporting participation for children with autism. In three focus groups

interviews, teachers in two Norwegian and one English kindergarten discussed videoed examples of their practice. The goal of the research is to elucidate how their sayings might represent enabling or constraining conditions for their practice. To pursue this goal, the guiding question for the research is: What do the teachers' sayings disclose about their practices of support for children with autism? For this purpose, we draw upon the theory of "practice architectures" (Kemmis et al., 2014), within which professional educational practices unfold. We perceive a practice as a socially established cooperative human activity, where sayings, doings and relatings cohere in a distinctive project (Kemmis et al., 2014). The actions and activities taking place ("doings") are seen as relevant ideas arranged in characteristic discourses ('sayings'), where people and objects involved follow characteristic patterns of relationships ("relatings"). Supporting children with autism in kindergarten is thus a practice, with the perceptions of teachers understood as a consituent part of the practice. In line with the theory of Kemmis et al. (2014) we refer to teachers' perceptions as "sayings" in this chapter.

The context for kindergarten teachers' practices of support for children with autism

Teachers' practices of support for participation take place in the context of an international commitment to upholding children's rights to social participation. The kindergartens in this study are situated in Norway and England, countries that are committed to the Salamanca Declaration (UNESCO, 1994) and to the UN's convention on children's rights (United Nations, 1989). This specifies that all children with SEN are entitled to be included in a mainstream school that is pedagogically able to meet their needs. The school should focus on creating an environment where individuals experience wellbeing and receive opportunities to participate in kindergarten life, and influence aspects of their lives to the extent possible (Cohen, 2006; Jordan, 2008). In both countries, laws and curriculums regulate the content of kindergartens. The Norwegian curriculum "Framework Plan for Kindergartens" (2011) focuses on children's participation and requires that adults' attitudes, knowledge and abilities support children towards active participation (Wagner & Einarsdottir, 2006). The English statutory framework, the Early Years Foundation Stage (EYFS) (Department for Education, 2014) has a greater focus on children's learning of pre-academic skills (Moss, 2007), and assumes an increasing

focus on activities led by adults (Department for Education, 2014). However, how the educational rights of children with autism are put into practice in either framework will rest largely, according to previous research, upon how teachers perceive their role in supporting children's participation.

Children diagnosed with autism have pervasive challenges with language, communication and social interaction (World Health Organization, 1999). The other defining features of autism include repetitive behaviors, special interests and sensory sensitivities (Neil, Olsson & Pellicano, 2016). These features can make participation in relationships challenging, and impact upon the children's capacity to participate in everyday kindergarten life (Locke et al., 2015; Memari et al., 2015; WHO, 1999). Their participation seems to depend largely upon how teachers adapt environments to accommodate them (Humphrey & Symes, 2013). How teachers conceive of their interaction with the children influences how they form their supportive practices (Emam & Farrell, 2009; Robertson, Chamberlain & Kasari, 2003). According to previous research, teachers working with children with special educational needs (SEN), tend to focus on the difficulties children present, rather than on developing supportive practices to enable participation (Ainscow, 1997). In addition, children's autistic traits seem to challenge the teacher–child interaction (Emam & Farrell, 2009; Glashan, Mackay & Grieve, 2004). These factors might lead to uncertainty about how to adapt the environment (Barnard, Broach, Potter & Prior, 2002; Barnard, Harvey, Prior & Potter, 2000). Yet successful inclusion for children with SEN seems to require that teachers feel self-efficacy, that is, belief that their support can affect children's development positively (Hegarty, 1997; Ruble, Usher & McGrew, 2011). Research regarding teachers' experiences of supporting children with autism in kindergarten is not extensive (Scheuermann, Webber, Boutot & Goodwin, 2003; Simpson, 2003; Syriopoulou-Delli, Cassimos, Tripsianis & Polychronopoulou, 2012). We hope to shed further light on the conditions of these practice by using the theory of "practice architectures" to explore the teachers' sayings in relation to their support to children with autism.

THEORY OF "PRACTICE ARCHITECTURES"

In sociocultural theory, learning has as its central defining characteristic a process which Lave and Wenger (1991) call "legitimate peripheral participation". The theory draws attention to the point that learners participate in "communities

of practitioners" and that "the mastery of knowledge and skill requires newcomers to move toward full participation" in the sociocultural practice of a community (Lave & Wenger, 1991, p. 29). In this view, learning is necessarily interactional, involving the community as well as the person (Sjølie, 2014, p. 41). In the context of this chapter, the implication of this is that how far a child with autism becomes a participant depends largely on relationships with other people in the community.

Kemmis et al. (2014) claim that participants in communities encounter each other in intersubjective spaces, which are arranged in particular ways and structure social life. They conceptualized this as a "practice architecture", consisting of three kinds of interwoven arrangements. The *cultural-discursive arrangements* enable or constrain how sayings are used in the social medium of language, for example determining the kind of language teachers in a kindergarten community can use in relation to their practices of support to children with autism. The *material-economic arrangements* enable and constrain how we can do things, in the medium of work and activity. This might refer in our context to how the physical environment of the kindergarten influences practices of support. The *social-political arrangements* exist in the dimension of social space; they influence how we can connect to each other in the social medium of power and solidarity and deal with relations to political entities. In our context, they might refer, for example, to the nature of relationships between teachers or between teachers and children in a kindergarten, or with relations to national curriculums for kindergartens. The three arrangements are densely interwoven, with each informing the other (Kemmis, 2009), so that they emerge and develop in relation to one another and continuously change through the dynamic interplay between the "individual and the social and the practice and the arrangement" (Sjølie, 2014, p. 46). These patterns of saying, doings and relatings give practices a characteristic form, which shapes and prefigures practice, enabling or constraining new interaction (Kemmis, 2009). The theory of practice architectures offers a way of theorising education that resists the view of education as a technical process, concerned with the "production" of things like "learning outcomes" (Kemmis et al., 2014).

DATA COLLECTION AND ANALYSIS

Three kindergartens, each supporting a five-year-old child diagnosed with autism, were involved in the study. Two were based in Norway, one in England. The

cross-cultural aspect was not intended to compare across the countries but rather to access diverse practices and enable a broader discussion. This study is a part of a larger overarching collective case study[1] (Creswell, 2012), which aimed to explore kindergarten teachers' practices of inclusion and support to children with autism, using observational data. Three focus group interviews consisting of teachers and teaching assistants (all referred to as teachers) from each kindergarten were conducted following the observation period. Video observation clips was used to support focus group discussion. We aimed to access the shared understanding of practice rather than the perspectives of individuals, and the focus groups thus allowed us to elucidate the characteristic discourses ("sayings") of the teachers' practice (Bloor, Frankland, Thomas & Robson, 2001; Halkier, 2007).

In each focus group, participants included the person primarily responsible for the child with autism and the head of the kindergarten, with others selected by the head.

Participants watched video clips of their work with the child, selected from 6.5 hours of video observation data recorded in each kindergarten for the overarching study. Each focus group saw five video clips of observations made in their kindergarten. The video clips were selected because they showed interactions in three different scenarios: 1. a positive interaction between a teacher and the child, 2. a challenging interaction between a teacher and a child, and 3. the child with a peer, with a teacher present. Video clips lasted on average 4 minutes. Each clip was followed by the researcher asking: "What happened in this clip?" The researcher did not participate in the discussion, but asked questions for clarification if necessary. Each focus group lasted about 1½ hours. Interviews were recorded and transcribed verbatim. Transcripts of teachers' sayings in response to the three scenarios were analysed following Braun and Clarke's (2006) guide for thematic analysis. Data relating to teachers' sayings about the "sayings", "doings" and "relatings" of their practice were extracted. Next, episodes of sayings were triangulated with the arrangements in the theory of "practice architectures" and the research question: What do the teachers' sayings disclose about their practices

1 More information about the overarching study and descriptions of the participating children and kindergarten contexts can be found in the papers of Olsen, Croydon, Jacobsen, and Pellicano (Manuscript in preparation) and Olsen, Croydon, Olson, Jacobsen, and Pellicano (Manuscript in preparation). Some observational data from that study is used here.

of support to children with autism? In the light of the understanding in the theory of practice architectures that learning is essentially interactional, we paid particular attention to sayings that we judged to be informative about relationships and interactions. Each kindergarten was treated as one analytic unit in the analysis.

FINDINGS AND DISCUSSION

We will present findings from each kindergarten separately. First, in each case, we will briefly present details of the kindergarten contexts and the observed child with autism. Pseudonyms are used to preserve anonymity. A discussion of the teachers' sayings in response to the situations shown in the video clips follows.

Teachers' sayings in the focus group: Kindergarten 1

Kindergarten 1, located in Norway, had an explicit focus on "recognition of the child", and supporting children's play was the main target of their pedagogic action, in line with the Norwegian Framework Plan (2011). Teachers in Kindergarten 1 met regularly to discuss their practices of support. The observed child, Ole, had 13 hours of one-to-one teacher support based on eclectic methods. During the observation period, teachers gave support to Ole mostly during symbolic play, to facilitate his interactions with peers.

In Kindergarten 1, two teaching assistants, one special needs educator and two teachers participated in the focus group. The teachers' sayings focused on supporting play with peers, in line with their stated ethos. They talked about supporting Ole with minimal intrusion between him and his peers, for example, using questions to suggest to Ole how he might proceed with a game. This quotation is typical:

> I took a quite passive role, because I noticed that play with a peer was ahead. I did not want to interfere, but I suppose I did when I started to ask questions about the game […] when we notice that he is occupied in play, we don't disturb the game.

Teachers referred to Ole's need for supportive "signals" that might allow him to benefit from naturally occurring opportunities for play and interaction. The idea of support consisting of verbal interventions without physical intrusion was strongly supported by another teacher, who saw the "passive" role as "important",

"Your question perhaps initiated the game – and you continued to support his action with your comments." The second teacher validated the actions of her colleague: "If you hadn't asked these question, then perhaps he would have missed out on the invitation to join the game". Further, the teachers refer to a pre-existing agreement regarding intervening: "When we notice that he is occupied in play, we don't disturb the game". These sayings suggest a common understanding of how to relate to Ole in their support: the agenda is to orient Ole's attention toward the relationship with peers, rather than with themselves.

Teachers' sayings referred to their observations of Ole beyond the interactions under discussion. They noted that that when they followed his initiative and mood, and developed the interaction from this basis, he became more attentive towards their interaction. One teacher reflected on changes in Ole's independence in play: "Earlier he just did what the other children told him to do. Lately he has become more assertive and takes more initiatives; he decides more in the games". They show awareness of development and change in Ole and relate the changes to desirable outcomes from the perspective of children's rights to influence their environment: "It's important to allow him to decide. That he feels what it is like to be able to influence and use his own will". The teacher went on to relate this development to the intervention sessions:

> When he is allowed to influence at the training session, when he gets to decide what to do and when to finish the session, he develops skills to influence, which he eventually uses in other situations, outside the training sessions.

In this case, activities in the intervention setting are construed in the light of the children's rights agenda.

Teachers' sayings showed conscious adaptations for Ole's sensory sensitivities. They referred to arranging the physical environment to limit exposure to disturbing and distracting stimuli, mentioning for example, that the door to the room where Ole played had to be closed, and the number of playmates limited to allow him to be an active participant.

The sayings included references to collaborative work with other children and the importance of sharing information with them: "We have talked a lot about Ole in the group of children in his department, and especially the older

children know him well, and know that we all have to work together with him to teach him things". These sayings show their shared history of working on Ole's relationships with peers, which they assess as having contributed to building his status. Ole became easily distressed if many things happen simultaneously in the environment, and this could lead to situations where he became inflexible. To help him in these situations, they had agreed that if he got a bit distressed and had decided, for example, not to eat a sandwich with liver pate, he should be distracted rather than contradicted. One teacher said:

> Sometimes I just give him the sandwich and say: 'here you go, shouldn't you eat this?', and then he sometimes forgets that he had refused to eat it. If we are alone, I can start to read a book, and say that he has to eat while I read, and then he can also forget that he had said no […] It's important to move to focus on something else.

The sayings here imply an agreement not to try to exercise control, but to use other approaches to overcome barriers such as this example of refusal.

Summary of teachers' sayings in Kindergarten 1

The sayings of staff in kindergarten 1 reflect a practice of support characterized by following, observing the child closely and guiding his attention. They agree that minimally invasive support is important because peer play must be respected and promoted. They speak about exercising control over the conditions of play, rather than over the child and his behavior. These reflections could be characterized as responsive approaches, in line with children's rights (Bae, 2009; United Nations, 1989; UNESCO, 1994). The Norwegian Framework plan (2011) and its commitment to the human rights agenda was thus apparent in the kindergarten's strong ethos of supporting play and "recognizing the child". Teachers' sayings disclosed that this ethos permeated their practice, even within the intervention context. The consistency of teachers' purpose was evident, for example, in sayings disclosing a shared respect for interaction with peers ("when we notice that he is occupied in play, we don't disturb the game").

The social-political arrangement of teachers meeting regularly to reflect on practice was also apparent in references to agreed strategies for behavioural

incidents, that did not rely on controlling practices, and in the evidence of mutual support. Shared purpose and mutual support resulted in teachers' self-efficacy, which is known to affect children's development positively (Ruble et al., 2011).

Teachers' sayings in the focus group: Kindergarten 2

Kindergarten 2 was a "Forest kindergarten", a provision focusing on outdoor activity in which children spend several hours every day on tours of the wood.

The observed child, Lars, was granted 30 hours per week of special educational support. This consisted of approximately 2 hours every day following an EIBI program[2] (Eikeseth et al., 2007), delivered on a one-to-one basis by a teacher in the kindergarten. Teachers attended meetings with an autism specialist from a local hospital approximately twice a month to discuss the EIBI program. These meetings were attended only by the staff involved in the intervention. During the observation period, teachers were observed in interaction with Lars mostly during the tours of the wood, when they tried to engage him in different kinds of play.

For Kindergarten 2, two teachers participated in the focus group. They spoke about the difficulty of supporting Lars' engagement in play. Observing a clip where he was shown ignoring teachers' play initiatives, a teacher said: "we have tried to engage him in play in various ways, but he is unengaged in everything". By using the word "everything", the teachers seemed to dismiss the possibility of promoting his participation, and to have developed a shared understanding of Lars as a child "not able to be engaged". Their sayings implied that the child's characteristics, rather than particular conditions or contexts, determined his lack of engagement. In this way, they provided an example of how a practice might itself constrain the possibilities for a child's development (Gee, 2000).

They further perceived that interaction with Lars required the teacher to stay close to him and physically lead him. One teacher put it like this: "To achieve good contact with him, you have to hold him physically close – almost be physically around him", and, "if he wants to wriggle out, I can guide him physically back on the right track again". The teachers connected this practice to his autism, saying:

2 Early and Intensive Behavioral Intervention (EIBI), is a highly structured and prescriptive educational intervention based on applied behavioral analysis (ABA) for young children diagnosed with autism (Eikeseth, Smith, Jahr & Eldevik, 2007).

"he needs structure, for the environment to feel safe and predictable". Their reflections around physically directing him did not consider how far such a practice might be compatible with respecting the child's right to influence according to the UN convention on children's rights and the Norwegian Framework plan for Kindergartens (2011). Indeed, their sayings outlined what might be considered a controlling approach (Bae, 2009), where the child is given limited access to influence the interaction.

In fact, the ethos of the forest kindergarten – prioritising free outdoor play – might be seen as problematic. The arrangement made it difficult to provide structure and predictability to Lars, and it was observed that he was least engaged in interaction during the forest periods (Olsen, Croydon, Olson, Jacobsen & Pellicano, Manuscript in preparation). In the teachers' saying, no attention was given to the possibility of providing structure in these situations, and it seemed that this was not part of their practices of support.

Although the teachers' saying in Kindergarten 2 did not give priority to allowing the child to influence, one video clip was interpreted by a teacher as showing a successful example of following the child's initiative. The clip showed a sequence where Lars and a teacher played at scaring each other with toy animals. Lars was attentive and seemed to enjoy this game. A teacher commented that this resulted in more motivation to interact, because "he likes the action", she commented.

The teachers also discuss the question of Lars' status or reputation amongst peers. They mention that he has excellent drawing and letter skills as something they should show to the other children. However, their sayings revealed ambivalence about these skills, with an apparent focus on lack of ability:

> Because he's struggling with the things he's struggling with, it's important to have some trump card, things he is good at – to show the other children [...] It's important that we remember to show the other children his skills, so that he doesn't become the one who's not able to do anything.

The teachers showed further ambivalence in their discussion of Lars' behaviour when analysing how his preferences seemed to be unstable. They noted that if they pushed him to do or eat something, he could "totally freak out". They pointed out several times the challenge of finding the balance: knowing when

to push and when to let go. One of the teachers said: "you have to pick your fights", admitting that it was difficult to know which "fights" to pick.

The vocabulary in these sayings: "struggling", "freaking out" and "picking fights" is quite intemperate and might be considered stigmatizing (Goffman, 1972). Possibly, it might reflect frustration resulting from the apparent lack of strategies to promote the child's participation and agency in this practice. The allocation of significant resources to a specific time and place for intervention may also have operated to remove the focus of support away from events and opportunities occurring outside the EIBI context.

Summary of teachers' sayings in Kindergarten 2

The sayings of teachers in Kindergarten 2 also showed links to the Norwegian Framework plan (2011), as teachers mostly targeted their support on facilitating play for the child with autism. However, teachers' sayings featured a negative focus on autistic traits and an inclination towards controlling the child, which existed alongside their child-centered consideration of what might motivate the child to interact and how his reputation amongst peers might be safeguarded. Allocating significant teacher resources to the EIBI programme (Eikeseth et al., 2007), which occurred at a separate time and place, seems to have undermined teachers' focus on supporting the child in kindergarten life beyond the program. This allocation of resources may also reflect uncertainty about the process of supporting the child outside that context. This may have resulted in a narrow view of how to relate to the child, which under-recognised his agency and ability to learn through participation in the community (Bae, 2009; Broderick, 2009). An additional challenge for these teachers was the amount of time devoted to unstructured activity in the Forest Kindergarten ethos. This arrangement clearly prefigured the practices of support for Kindergarten 2, reducing possibilities for teachers to use the structure of an activity to support the child's participation (Guldberg, 2010). Teachers' sayings in Kindergarten 2 were interpreted as showing the tension between these influences, the "recognising the child" agenda, the Forest Kindergarten ethos and the primacy given to the times, places and modes of the EIBI intervention. Teachers sayings showed reduced self-efficacy by their focus on the difficulties presented by autistic traits (Barnard et al., 2000), and their acceptance of controlling practices (Bae, 2009).

Teachers' sayings in the focus group: Kindergarten 3

Kindergarten 3, in England, was rated "Outstanding" by Ofsted[3] (2015), a mark of their successful implementation of the EYFS curriculum (2014) and the documentation criteria set by Ofsted. The application of the observed child, Ben, for special needs provision was still pending, but a teacher had regular training sessions with him, based on eclectic methods. Teachers were planning to schedule meetings to discuss their support practices. In observation, teachers support to Ben was mostly observed in structured outdoor play and in table activities.

Three teachers participated in Focus Group 3, one of whom was male. Teachers' sayings clearly focused on what the child should learn, rather than focusing on how to support his participation. Teachers reviewed a clip showing teacher–child interaction during table activities. Ben had a strong interest in choosing pictures to print. Supporting him in this preference was questioned by teachers:

> I think children have little advantage of going around printing. I mean, why? Ben involves himself in an activity which he loves […] He needs to be stretched, but he is not stretched when he finds a picture on the computer and prints it out.

Their sayings were not directed toward discussing the quality of the teacher–child interactions that occur in relation to the activity, or the developmental function they might serve for Ben. The teachers' evaluated the activity as incompatible with achievement and progress in learning. The saying "He needs to be stretched" may derive from the EYFS focus on the attainment of early learning goals for children of this age (Moss, 2007). In other words, the concrete prescriptions of the EYFS create within the cultural-discursive arrangement a preoccupation with pursuing learning targets that tend to outweigh teachers' attention to "recognising the child".

The focus group then moved to discuss developments that they saw as important:

3 Office for Standards in Education (OFSTED) (Ofsted, 2015), inspects kindergartens for quality of provision within the EYFS framework and publishes the rankings of all educational providers.

> He was sitting at lunch time, and the adult served him whatever it was, and Ben looked at her and said: 'I'm so disappointed'. I mean, that kind of conversation, that's what I think is much more interesting. He is really expressing what he feels [...] He is sharing his thinking.

Although teachers' sayings include references to the significance of the child developing shared thinking and expressing emotions, they do not refer to practices or means of developing practices that might support or promote this development.

Teachers talked about the value of positive peer interaction, showing positive evaluations of the child in this connection:

> Tim actually seeks Ben's company. [Ben] is really lucky, he's got someone that he likes and who likes him [...]. [Ben] is usually moving around all the time. It was nice see him sat, relaxed [...] Did you hear what Tim said to Ben: 'You're here, so happy to see you' [...] They had a joint engagement, he was responding to Tim's interaction, he was giving eye contact [...] They were talking about different things but that didn't matter.

They then suggested that they should work to create more spaces for Ben to interact with peers, but their further discussion, detailed below, reveals why this might be difficult to achieve.

Speaking about that Ben's interaction with other children occasionally could be difficult for him to handle, teachers suggested that they should teach Ben skills and language to enable him to be more assertive in interaction with peers. However, their sayings reveal a focus on what they thought they should do, but not on how they might do it. They talked about the dynamics of these interactions, which were difficult to pick up because of the way that their attention was allocated. The kindergarten is organized so that most of the staff have responsibility for a specified activity (for example, for table activities or trampolining), and for children when they opt into that activity. This arrangement diverts teachers from following interactions happening between children not engaged in the planned activities. When Ben became angry or sad, teachers perceived the situation as difficult to handle, in part because they did not have an

overview of what had occurred: "You think that he is involved if he is occupied with others […] Sometimes it's quite difficult to see these children and make sure that they are included at all time. These things [negative interactions], kind of happen".

They acknowledged that such events had further negative consequences in influencing their perception of Ben: "We still somehow think of him as a difficult child […] We handle these situations based on what might have happened here […] We are acting on history […] he has moved on, but we still carry the old Ben with us". The teachers' identified constraints on their understanding arising from their limited attention to interactions. They also saw how "history" – their initial appraisal of the child – was continuing to shape their shared understanding of him, making them see his behavior in terms of "being difficult". A significant factor contributing to the persistence of "history" was the allocation of their attention to activities rather than the dynamics of interactions with peers. It was notable that the sayings of these teachers articulated issues that they felt needed to be changed. However, because they were not meeting to discuss their practices, they were not resolving these issues but acting on "history". This assumption was further confirmed by their sayings when reviewing a clip showing Ben with teachers. When other children arrived, the potential for interaction offered by their presence was ignored by the teachers: "We forget that there are other children, and that it is more important that he has interactions with other children". In this example, too, the teaching priorities of the kindergarten – the arrangement in which teachers were allocated to supervise activities – contributed to limiting teachers' ability to support peer-interaction for the child with autism.

Summary of teachers' sayings in Kindergarten 3

Overall in Kindergarten 3, teachers' sayings suggested tension between the technical and prescriptive priorities of the English pre-school system (Moss, 2007), which prevail in the arrangements of the kindergarten, and teachers' knowledge of the needs of the child with autism. Their sayings were related to the focus in the English context on pursuing early learning goals. Teachers' sayings indicated ways in which awareness of these goals diverted their attention from the significance of following the child's preferences, as conceived in

the discourse on children's rights, and from the importance of focusing on his interactions, as required for supporting a child with autism (Guldberg, 2010). It was perhaps significant that sayings in this kindergarten referred to what they thought they *should* do – for example, they should pay more attention to interactions with peers, but currently were not doing so. They also intended to schedule meetings for practice discussion, but these were not yet in place. A material-economic arrangement in this kindergarten in which staff were tied to the location of organised activities also had obvious disadvantages for the support of the child with autism. Teachers were less able to give attention to peer-to-peer interaction taking place beyond the range of their activity, although they were aware of the need to do so.

CONCLUSION

We have looked at what teachers said in relation to video clips showing their practices in relation to the child with autism in their care. The goal of the research was to elucidate how their sayings might represent enabling or constraining conditions for their practice. The guiding question for our exploration was: What do the teachers' sayings disclose about their practices of support for children with autism? We found that each kindergarten had a distinctive "sound of practice" (Sjølie, 2014, p. 100), with characteristic focuses and preferences, and we identified some of the ways that teachers' sayings were shaped by the architecture of their practice, and in turn how their sayings might shape and prefigure their practices of support.

The sayings of teachers in the three kindergartens disclosed that the "architecture" of their supportive practices was influenced by local social-political arrangements. We identified both enabling and constraining conditions for their practices in these areas. In Kindergarten 1, the kindergarten ethos; "recognition of the child", informed by the Norwegian Framework Plan, acted as an enabling condition for their practice. The kindergarten ethos shaped the way they talked about their practices, and constituted a positive context for their practice of support and "relatings" to the child. Another facilitating social-political arrangement was the practice of regular meetings to discuss support for the child. In Kindergarten 2 the sayings gave evidence of conflicting priorities in the Norwegian Framework Plan, the EIBI programme and the ethos of the

"Forest Kindergarten", which constrained their practices. The tension between competing priorities was evident in their sayings in the negative focus on the child's autistic traits. This focus contributed to limiting supportive practices and "relatings" to the child. In their sayings, the practice seemed not to be developed by their regularly meetings perhaps on account of the EIBI agenda. The meetings solely focused on adaptations of the EIBI program, and only staff involved in the intervention attended the meeting. We therefore assume that these meetings could contribute to further substantiate the revealed tension, and serve as a limiting condition for their practice of support. In Kindergarten 3, the focus on learning pre-academic skills, following the priorities in the EYFS (2014), seemed to influence strongly the discourse of the teachers, undermining their practice of support and "relatings" to the child. This social-political arrangement also seemed to influence a material-economic arrangement; the way that staff held responsibility for discrete activities, seemed to constitute a constraining condition for their supportive practice. A distinctive finding in the teachers' sayings here, which gave their sayings a "sound of practice" quite different from the Norwegian examples, was the focus on what they should do, which they seemed not to be able to achieve. This focus might itself serve as a constraining condition, and could possibly relate to the lack of meetings to discuss ways to support the child.

There are limitations of this study. The small sample size is suited to theoretical discussion (Yin, 1994), but does not allow generalization. We have not focused on individual differences between the children with autism, which may have influenced teachers' sayings. The selection of children and teachers is not gender balanced, and we do not provide details of the teachers' educational background, nor their levels of experience with children with autism. Finally, the fact that participants were selected by the head may have biased our sample. However, we consider the presence of both the head and the teacher directly responsible for the child to be a strength, as their sayings are most likely to represent existing discourses in the kindergarten (Kemmis et al., 2014).

Our analysis of teachers' sayings suggests that the participation of children with autism is promoted when the practice architecture allows teachers to support their "relatings" and to develop a common practice with shared priorities and mutual support. The findings substantiate the proposal that the concept of

"communities of practices" can be adapted to develop organizations that are more able to support children with autism (Ainscow, Booth & Dyson, 2006; Ainscow & Sandill, 2010). The concept directs attention towards developing kindergarten communities where teachers engage in shared and collaborative endeavors. Our analysis of sayings, suggests that a practice architecture that supports a unified and common focus may offer the best support for the "relatings" of children with autism. Further research exploring the sayings of greater numbers of teachers might reveal whether our findings can be generalized beyond this small sample.

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CHAPTER 6

Conflicting Ideologies: When the Ideological Meets the Perceived and Operational

– A study of primary teachers' attitudes, perceptions and practice of Seychelles Creole (Kreol Seselwa) and English as mediums of instruction in the Seychelles Primary Schools.

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ABSTRACT

This paper builds on Zelime & Deutschmann, 2016, where we examined language ideologies/directives in the Ideological and Formal domains of the curriculum in a multilingual postcolonial context – the Seychelles. Our overall conclusion from this work was that there was a clear mismatch between the roles that different languages were ascribed in these two domains. In this paper, we look at manifestations of the Ideological and Formal curricula in the Perceived and Operational domains of the curriculum, more specifically, the language beliefs, attitudes and classroom practices of primary school teachers. We base our findings on questionnaire answers from 142 respondents in 22 primary schools, coupled with classroom observations and teacher interviews. The Seychelles has

a fairly typical postcolonial language-in-education system and follows a transitional model of medium of instruction (hereafter MoI). In this system children are taught in Kreol Seselwa (hereafter K.S.), the mother tongue of the vast majority, during the first two years of schooling after which it is replaced by English. Officially, K.S. retains its role as a "support language", but in reality, controversies surround this practice. Our results indicate that while K.S. plays a central role in the everyday lives of the teachers, they are surprisingly negative to its role in education. The majority want to see it removed altogether and replaced by an English-only model. At the same time, most teachers also acknowledge the importance of K.S. as a support language. Using a framework of postcolonial theory, we try to explain this inconsistency.

INTRODUCTION

In the wake of post-colonialism, policy makers in many former Sub-Saharan African colonies have grappled with language education issues, one of which is the choice of medium of instruction (hereafter MoI) in schools. According to Kamwangamalu (2013:325) these policy makers have historically been informed by "conflicting ideologies including decolonization, development, internalization, [and] globalization". On the one side, there have been those who have felt that education should be available to all through the vernacular or the mother tongue (UNESCO Model, 1953 and 1995; Hornberger, 2009; Hanna, 2011). On the other side, there were those who argue that the colonial languages, such as English and French, should remain MoIs because they guaranty educational and economic success nationally and internationally (Dewey 2007; Ferguson 2009; Jenkins, 2006).

In effect, the language-in-education issue is not limited to the African continent alone. The question of which language(s) to use in education has been a point of contention in most multilingual contexts around the world where minority or native languages are often marginalized in favor of a more powerful foreign language. For instance, in India the Three Language Formula (TLF) of 1968 has meant that English has been used to educate many Indian children whose mother tongue isn't English (see Hornberger & Vaish 2009). In Singapore, the bilingual education policy, which prefers English as the MoI, has led to learners' mother tongues taking a second language (hereafter L2) position (see Hornberger & Vaish 2009). Also in Brazil, Peru, Ecuador and Bolivia (see

Hornberger & Skilton-Sylvester, 2000), research has pointed out the necessity "to pay attention to and grant agency and voice to oral, bilingual interaction at a micro level" (Hornberger & Skilton-Sylvester, 2000:102). Some other examples include the case of bilingual schooling models in Bolivia (Benson, 2005), investigation of hegemonic literacy practices of schools in Indigenous settings of Quechua rural community in the Peruvian Andes (see de la Piedra, 2006), multilingual literacy among young learners of North Såmi (Outakoski 2015), and the investigation of literacy in multilingual classrooms of Haiti (Jean-Pierre 2013). Another recent study of interest was done in the New Zealand Maori context (see Lourie, 2016), in which the role of Maori in the school curriculum is debated. All of these contexts have felt the impact of globalization processes, which have led to "the spread of English as a medium of instruction in national school systems" (Hornberger and Vaish 2009:305), and which have also lead to local languages oftentimes being increasingly marginalized in education.

The practice of strict implementation of L2 MoI teaching has been widely questioned in academic and educational circles, where it has been shown to be linked to low school achievement (see Cummins, 2000; Prophet and Badede, 2006; Brock-Utne, 2007; Tibategeza & du Plessis, 2012); teacher malpractice (see Clegg 2005, Mohamad 2013, Abd-Kadir and Hardman 2007, Mwinsheikhe 2009); and educational inequity (see Clegg & Afitska, 2011; Nkwe & Marungudzi, 2015; Hornberger & Vaish 2009). In spite of such evidence, the majority of African countries have chosen to keep English as the sole MoI, or to combine it with the local languages, but using the latter only for the first few years of education (Hamid, Nguyen & Kamwangamalu 2014:1). Using extensive data from primary school teachers in the Seychelles, a small African island state where English is the MoI from a very early stage of formal education, this paper investigates the relationship between the prescribed *Ideological* and *Formal* domains of the curricula (Goodlad et al., 1979:61) and the *Perceived* and *Operational* domains of the curricula in post-colonial situations in order to examine how "conflicting ideologies" translate into teachers' attitudes and beliefs and thereby impact every-day teaching in such contexts.

BACKGROUND

The Seychelles, a former British and French colony, has a transitory system of MoI. The language situation in schools has gone through many phases. Initially,

schooling was organized by the Catholic Church and conducted in French until 1947, when the state took over this responsibility and English was introduced as MoI. Seychelles then went from a situation where *Kreol Seselwa* (hereafter K.S.), the mother tongue of the vast majority, was banned from school altogether (pre-independence and early independence 1947–81), through a phase when K.S. was introduced into schools and given a very prominent role in the system (1981–1996), to the current situation (1996–ff.), where many scholars agree that K.S.'s role in education is gradually diminishing again (see Laversuch, 2008 and Fleischmann, 2008). In the current system, children are taught in K.S, during the first two years of primary school. From primary three onwards, the MoI changes and children are instructed and examined in English in virtually all school subjects. Officially, all languages included in the nation's trilingual policy (K.S., English and French) have equal status, and the role of K.S. as a "support language" is emphasized in the overarching language policy documents. However, many previous studies have indicated that K.S. has a lower status than English in the system (see Deutschmann & Zelime, 2015; Laversuch, 2008; Fleischmann, 2008).

The idea of "conflicting ideologies" (Kamwangamalu, 2013:325) is very much in evidence in the Seychelles educational system. In previous research (Zelime & Deutschmann 2016), we investigated how the *Ideological domain* (Goodlad et al., 1979) of the curriculum, i.e. the general principles relating to language issues in the Seychelles National Curriculum Framework (hereafter NCF), match/mismatch the *Formal domain* of the curriculum, i.e. the part of the curriculum that forms the starting point for practical implementation such as subject curricula, implementation directives etc. Our overall conclusion from this work was that there was a clear mismatch between these two domains: While all languages in the trilingual system were said to have an equal status in the Ideological domain, instead the Formal domain suggested that K.S.'s role in education is transitional, a means of acquiring literacy in English. We also found that K.S.'s role as a support language was heavily questioned in government practice directives: "[…] the prescribed medium of instruction has to be respected by teachers and greater emphasis has to be placed on more effective curriculum implementation." This statement was motivated by inspectorate reports revealing "a high degree of code-mixing during the delivery of lessons" (Ministry of Education, 2014). These conflicting components in the documents, which are meant to act as road

maps for teachers, risk confusion, especially since there is little recognition of the challenges involved in L2MoI teaching in the curriculum, which lacks clear directives on language practice in the classroom. Also, this issue is not approached in current teacher training. In this study, we explore language-in-education issues in the *Perceived* and *Operational* domains of Goodlad et al.'s model (1979).

AIMS

The study builds on Zelime & Deutschmann's 2016 study and explores how the *Ideological* and *Formal* domains of the Seychelles NCF and other policy documents interplay with, and translate/relate to the *Perceived* and *Operational* domains of the curriculum. More specifically, we examine primary teachers' perceptions, attitudes, beliefs (*Perceived domain*) and practice (*Operational domain*) surrounding language issues and compare these with previous findings with the aim of shedding more light on how aspects such as unequal power balances between languages, globalization, national ideologies, a nation's sociolinguistic situation, etc. interplay in the complex language-in-education situation that exists in many post-colonial contexts. In short, we want to explore the idea of "conflicting ideologies" in relation to teacher attitudes and language practice.

THEORETICAL FRAMEWORK

Any analysis of the language situation in schools in post-colonial nations has to take the legacy of colonialism into account. Postcolonial theory thus forms the overall backdrop of our theoretical framework. While difficult to define, a central object of interest in this framework is the development of cohesive national identities since the end of colonial rule, including the role of language in this process. An overarching idea here is that the end of colonial rule was not the end of unequal power relations – the colonial past is still present (Gregory, 2004). On the same theme Young (2003:18) maintained that the existing systems of knowledge in postcolonial contexts have been produced, sanctioned and cemented by the Western countries' academies.

With specific reference to language, the "colonial present" in postcolonial societies often manifests itself in the continued stigma attached to local, low status vernaculars. In this study, we use Hornberger's Continua of Biliteracy framework as a tool to describe the unequal balance of power between K.S. and English in the

classroom. According to Hornberger, biliteracy refers to "any and all instances in which communication occurs in two (or more) languages in or around writing" (1990: 213); of particular interest to our study is the attention paid to the power variable in the continua model, whereby one end is constructed as the norm (powerful) while the other end is the deviant (powerless). Hornberger (2003) identified four sets of continua: *context*, *development*, *content* and *media* of biliteracy, and described the roles of the languages in relation to these. For example, the powerless language is often confined to the "oral" domain and micro contexts, while the powerful language occupies the written domain and macro contexts (see Figure 6.1 below). Deleon (2014:12) maintained that Hornberger's framework has the "ability to analyze more complex relationships and interdependencies, and to empower diverse actors".

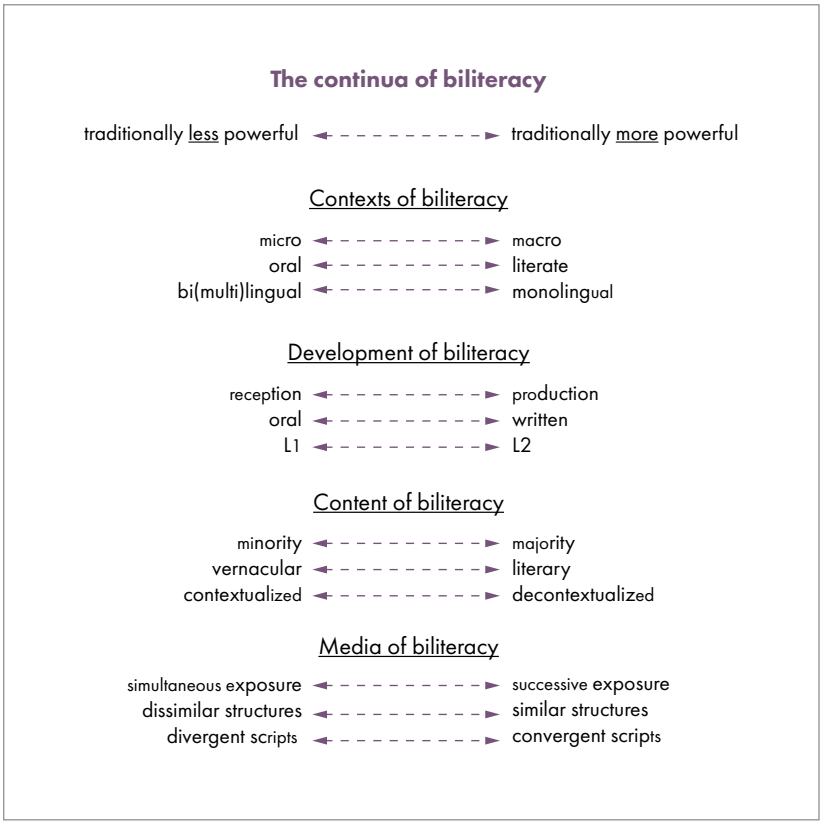

Figure 6.1 Continua of Biliteracy Framework (Hornberger, 2004:158).

In our analysis, we also include teachers' general attitudes that surround K.S. and English in Seychelles society. Many studies have shown that teachers' beliefs play a crucial role to our understanding of educational processes such as teacher practice, their coping strategies and professional development, as well as learners' attitude, motivation, etc. (see Mohamed, 2006). Similarly, Spolsky (2009) maintained that teachers' interpretation of educational policy and their teaching practice are greatly influenced by their own personal ideologies and beliefs about languages, their functions and how they should be taught. From this vantage point, we have used Spolsky's trilogy of language practices (2004, 2012) as an analytic framework. Spolsky (2004) provided a framework to approach the oftentimes complex language-in-education circumstances that surround post-colonial educational contexts. He proposed that there are several co-existing but often conflicting factors that motivate a country's language-in-education policies. These include national ideology, the role of English as a global language, a nation's sociolinguistic situation, and an increasing interest in the rights of linguistic minorities. According to Spolsky (2004:133), the language policy of any independent nation state will reveal the complex interplay of these "interdependent but often conflicting factors". Using the trilogy of considerations suggested by Spolsky as starting point: 1. language practices, 2. language beliefs and values, and 3. language planning and/or management, we thus hope to shed more light on the "interrelated but independent" factors that shape the language situation in schools in the Seychelles and elsewhere in the post-colonial world.

METHOD AND MATERIALS

In this study, the subject Social Studies was chosen as object of particular interest. Although taught in English, the subject deals with many local aspects of life in the Seychelles. The content of Social Studies, probably more than many other subjects taught at school, thus has the potential to be "contextualized" (c.f. Hornberger's model in Figure 6.1 above) in the local micro setting, at least hypothetically motivating the use of K.S. to explain and clarify curriculum content. We applied a triangulation of different methods to collect our data. Our primary data were based on responses in questionnaire surveys, but we complemented these data with classroom observations and teacher interviews of a limited number of teachers (six).

Survey questionnaires

A survey questionnaire was distributed to every primary teacher who teaches Social Studies from primary 3 to 6 (Cycles 2 and 3) from 22 primary schools in the Seychelles. This constitutes over 95 per cent of all state schools, and although some teachers were absent when the surveys were handed out, our study captures the majority of the targeted population: teachers teaching Social Studies in state primary schools. The survey questionnaire included personal data, respondents' teaching experience, concerns and perceptions of teaching their subjects through English, among other relevant questions. The aim was to collect quantitative and qualitative data on the teaching and classroom context as well as out of school factors relating to the teachers' use of English, K.S. and French. In all 142 teachers responded to the survey questionnaires and this data was subsequently analyzed.

Population

Of the 142 respondents that were included in the survey 94 per cent were female. The vast majority (108) taught both English and Social Studies. The spread between the different levels at which teachers taught English and Social Studies (Primary 3–6) was quite even. On average, the teachers teaching Cycle 2 (Primary 3 and 4) were less experienced than those teaching Cycle 3 (Primary 4 and 5). Figures 6.2, 6.3 and Table 6.1 below summarize some additional key characteristics of the sampled population.

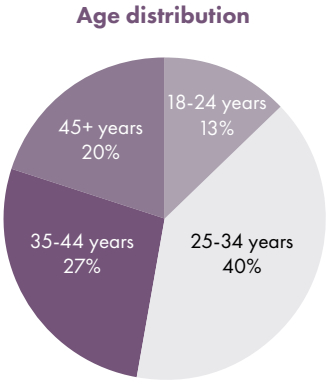

Figure 6.2 Age distribution of respondents.

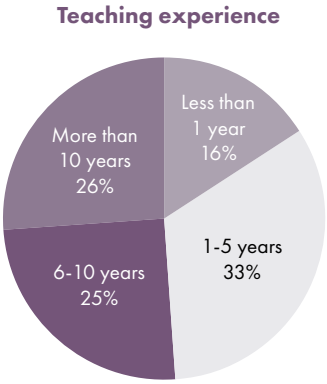

Figure 6.3 Teaching experience.

Table 6.1 Levels of formal qualifications.

No formal training	Certificate level (limited)	Diploma level	Bachelor level	Master's level
23%	5%	63%	8%	>1%

Classroom observations

Classroom observations were carried out with a smaller focus group of teachers (six altogether) in order to collate the data from the questionnaire with what really goes on in the classroom. During the observations, the researchers targeted the teachers' use of English or K.S. or both and the frequency of such usage. The teachers' teaching strategies were of interest here too. We wanted to observe how and to what extent the teachers were using English or K.S. during their lessons and in what kind of communication they were engaging the pupils.

Interviews with teachers

We also carried out semi-structured interviews with all the six teachers observed to give them an opportunity to talk more about their challenges in the classroom and their views on language.

RESULTS

Summary of findings from the survey questionnaires.
Everyday Language Practice

Note that while the questions in this section implied one answer only, respondents could actually choose more than one response. In response to the question "What language do you speak most often?", 75 percent answered K.S. while 54 percent chose English. While this result implies that many respondents have answered both K.S. and English, the answers to the questions "In what language do you communicate with your family members?"; "What language do you use to communicate with your colleagues at work?"; and "What language do you use to communicate with your friends outside school?" clearly illustrate that K.S. is the preferred language in every-day oral communication outside the classroom. About 98 percent answered K.S. in response to all of the above questions, while approximately only 20 percent also included English.

When it comes to the written medium the picture is quite different. In response to the question "In what language do you write most often, 96 per cent answered English". Only 20 percent mentioned K.S. Similarly, in response to the question "In what language do you read most often?", 97 percent answered English, while a mere 16 percent chose K.S. French was a marginal option to all of the above questions with scores around 3–5 percent in the oral domain and 10 per cent in the written domain. In summary, K.S. has an important role as an oral "vernacular" in the continuum of biliteracy (see Figure 6.1), but holds a very weak position in the literary/literate/written domains.

General Attitudes towards English and K.S.

We also tried to capture general attitudes towards the languages in society. In this questionnaire, high values represent agreement with the statements (5 = strongly agree) and low values disagreement (strongly disagree). The value 3 represents "neutral" opinions.

Table 6.2 General attitudes towards English and K.S. among the teacher population.

Statements	English	K.S.
English/K.S. is a superior language than K.S./English in society as a whole.	3.42* (1.20)**	2.75 (1.12)
English/K.S. is a very rich language.	4.36 (0.76)	3.65 (0.98)
Good knowledge of English/K.S. is a mark of prestige in society.	3.93 (0.81)	3.09 (0.95)
Good knowledge of English/K.S. can help students get a good job.	4.14 (0.86)	2.32 (0.98)

*Values greater than 3 indicate agreement with the statement and vice versa
**Values in brackets indicate standard deviation.

K.S. is generally viewed as less prestigious among teachers. The largest differences are observed in the answers referring to "instrumental aspects" of the languages, i.e. the professional advantages that are embedded therein. Particularly conspicuous is the fact that relatively few of the teachers thought that a good knowledge of K.S. was advantageous on the job market. They did however recognize K.S. as a "rich" language.

General Attitudes to languages in teaching contexts

In spite of K.S. having such a strong position in the everyday lives of the teacher population, it is clear that its use in the classroom is highly questioned. A striking 96.5 percent of the teachers asked wanted to introduce English as medium of instruction even earlier in the system. In response to the question "At which level in Primary school should English be introduced as the medium of instruction," 32.5 percent answered, "At the Crèche level", i.e. even prior to compulsory school. Fifty-seven percent thought that it should be introduced from Primary 1, while 7 percent thought it could wait until Primary 2. A mere 3.5 percent thought that the system should remain as it is. No respondents thought that English should be introduced later in the system. The responses to the question, "At which level in Primary school should K.S. stop being the medium of instruction?" show that even K.S.'s role as a co-medium of instruction is questioned: 51 percent of the respondents answered Primary 1, and 13 percent Primary 2, mirroring the answers in the previous section. The answers in the other large group – "Other", are in many cases qualified with statements to the effect that K.S. should never be used in education, or that K.S. should be taught as a separate subject but that it should not be used as MoI. In summary, the attitudes of the teachers were very negative towards the use of K.S. in the classroom where English is seen as the norm.

More Specific Aspects of the Languages' Roles in Education

In this section, we looked at opinions regarding more specific aspects of language-in-school issues. Again, high values represent agreement with the statements (5 = strongly agree) and low values disagreement (strongly disagree). The value 3 represents "neutral" opinions.

Table 6.3 Teachers' language confidence/suitability of the languages as MoIs.

Statements	Response (av.)
1. I am not proficient enough to teach Social Studies entirely in English.	2.09 (0.87)
2. I don't think I have enough knowledge of K.S. to use it as the medium of instruction for Social Studies.	2.23 (1.01)
3. I feel more confident teaching my subject of Social Studies in English.	3.84 (0.80)
4. I would feel more confident teaching my subject of Social Studies in K.S.	2.41 (0.85)
5. K.S. has too limited vocabulary to be used in the Social Studies lessons.	2.95 (0.99)

From the responses above, it is evident that teachers feel that they are proficient enough to teach Social Studies in English. Similarly, they also acknowledge that they have enough knowledge of K.S. to allow them to teach the subject in the mother tongue if that had been the case. In spite of this, there seems to be a clear preference for English as MoI and the reasons for this are uncertain. There is no clear indication that they believe the language is deficient in any way (see neutral answer to Question 5).

Table 6.4 K.S. role as independent language in the school system.

Statements	Response (av.)
1. Using Seychelles Kreol as a medium of instruction promotes Seychellois culture.	3.36 (1.09)*
2. Learning K.S. as a subject should be compulsory at all levels of schooling	2.61 (1.27)

From the responses to the questions in Table 6.4 it is evident that teachers recognize the role of K.S. in the transmission of local culture but few want to see the subject being given a place in the curriculum in secondary school (today it is a compulsory subject until Primary 6). This is, at first sight, somewhat contradictory.

Table 6.5 Teaching and learning in English / and K.S.

Statements	Response (av.)
1. Teachers should be using only English during the English lesson.	3.76 (1.13)
2. Teachers should be using only English during their Social Studies lesson.	3.26 (1.13)
3. I believe that pupils would perform better if they were taught Social Studies entirely in English.	3.18 (1.08)
4. I believe that pupils would perform better if they were taught social Studies entirely in K.S.	2.31 (0.82)
5. I think the advantages of learning through the medium of English outweigh the disadvantages	3.63 (0.95)
6. I think that using English as a medium of instruction reduces the participation levels of my students in my Social Studies classes	3.07 (0.96)
7. Most of my students have difficulties explaining Social Studies concepts in English.	3.08 (1.03)
8. Most of my students have difficulty understanding Social Studies concepts explained entirely in English.	3.09 (1.02)

Based on the above responses it is evident that teachers are more positive towards English as a MoI than K.S. Very few teachers think that pupils would perform better in Social Studies, a subject which is very locally contextualized, if taught in K.S. (their mother tongue), and a clear majority think that the advantages of teaching in English outweigh the disadvantages. A substantial number of the teachers also believe that only English should be used when teaching. With special reference to the subject Social Studies, the answers in this section thus indirectly contradict the acknowledgement of K.S. as important for Seychelles culture. On the other hand, in the second part of this section (Questions 6–8), teachers at least partly acknowledge the fact that many students have difficulties learning/communicating their knowledge through English. The overall impression is that teachers are rather uncertain of their attitudes towards the role of S.K. in the subject.

Table 6.6 K.S as support language.

Statements	Response (av.)
1. Teachers should be allowed to use K.S. to explain difficult terms during Social Studies lessons.	3.61 (1.01)
2. I believe that my pupils would be more motivated if I explain concepts of social studies in K.S.	3.15 (0.92)
3. My students should be allowed to do their group work in K.S. if it facilitates their explanation in English later.	3.08 (1.0)
4. I think that students should be allowed to provide oral answers in K.S. during the Social Studies lesson.	3.11 (0.94)
5. I believe that if my students could sit their written exams for social Studies in K.S. they would perform better.	2.98 (1.1)

In spite of the rather negative attitudes towards K.S. expressed in previous sections, teachers acknowledge a limited role of K.S as support language (see responses to Questions 1 and 2) and also show some acceptance for learners to use it as an oral medium in the classroom. Although less positive, teachers are not entirely negative towards students using K.S as a written medium in exams. Again, these answers do not really match opinions expressed in other sections of the questionnaire and we are left with a rather blurred picture of how teachers view the role of K.S in the subject of Social Studies.

In summary, teachers' attitudes towards more specific aspects of the languages' roles in education are rather unclear. There is a clear preference for English, and the answers to some questions indicate that many teachers want to see K.S. disappear entirely from the classroom. At the same time, the difficulties of the students are acknowledged and the merits of K.S. as an oral medium in the classroom are acknowledged.

Findings from the classroom observation

Purposive sampling based on the school managers' willingness to participate in the study and availability of the teachers was used in the selection of respondents. Six teachers volunteered, five females and one male, and one lesson from each teacher was observed. Among the teachers selected, two were "experienced" (more than 10 years of teaching), and the rest had less than five years teaching experience. Five of the six teachers taught both English and Social Studies. Three of them taught at Primary 5–6 level, and the other three taught at Primary 4 level. They were all generalist teachers, which means they taught all the academic subjects at their level. The lessons were 45 minutes each. The main aim of the observations was to obtain additional information on the use of English as a medium of instruction and what pedagogical role, if any, K.S. played during the Social Studies lessons. One of the researchers was present in the classroom for the entire duration of all the six lessons, which he recorded digitally and in writing.

In our observations, K.S. was used very frequently by the majority of students, but hardly ever by the teachers. For instance, it was used extensively during group work when the teacher was out of earshot. About 70% of students used K.S. when answering questions posed by the teacher and when they encountered difficult English vocabulary during the lessons, but this was not encouraged by the teachers (see below). There were several examples of pupils struggling to express themselves in English, to explain terminology for example, and eventually resorting K.S. to do so. All the six teachers showed a reluctance to accept answers in K.S. They insisted that the pupils should answer in English. Arguably, many students chose not to participate orally due to fear of errors in English. This hypothesis is supported by observations of lessons where one or two students did almost all the talking because they were clearly proficient in oral English. Further, over 90% of the teacher–student discourse was made up of teacher

centered instructions in English of different kinds: *Plenary Talk* (Hardman, 2008), whereby the teacher did all the talking and learners took notes or copied text from the blackboard, *Safe-Talk* (Hornberger & Chick, 2001), low-challenge questions and prompts to which students responded briefly and sometimes in chorus without further elaboration, and *IRF-Talk* (Sinclair & Coulthard, 1975), where the focus lay on transmission rather than construction of knowledge, with turns characterized by long initiations by the teacher followed by short prompted responses by the pupil and finalized by short feedback from the teacher. Only minimal amounts of *Exploratory Talk* (Barnes 1976, 2008), less formal and more dialogic in nature and where the teacher and students interact to explore new concepts, took place. Similar patterns have been observed in other post-colonial classroom contexts (see Clegg & Afitiska, 2011; Brock-Utne & Alidou, 2006; Setati et al., 2002; Bunyi, 2005; Hardman, 2008).

Findings from the interviews

Of special interest here was the fact that five of the six teachers chose to conduct the interview in K.S. A central theme in the interviews was the challenges involved with meeting the individual needs of pupils in classes where the pupils displayed a range of abilities. When describing the nature of their classroom, all respondents talked of a system of "mixed ability grouping", whereby the class was divided into three ability groups: Group 1 (high performers), Group 2 (average performers) and Group 3 (low performers). The fact that the class was composed of three groups of pupils with different ability levels meant that the teachers had to use so-called "differentiated teaching" strategies. In effect, they had to devise activities according the groups' abilities. For example, each group would be assigned a different set of writing tasks. According to the teachers, Group 1 would usually complete their assignments on their own without much help. Group 2 usually needed help with appropriate vocabulary, and were also given template sentences and text structures (guided writing). In addition to this, Group 3 pupils would receive most instructions in K.S. According to all the six teachers, the majority of their pupils (Groups 2 and 3) had limited mastery of written English, and therefore they could not read instructions and proceed to complete writing tasks on their own. In the low ability group, most of them had problems formulating single words, let alone sentences when writing.

The teachers however maintained that this group had good ideas, which were expressed orally in K.S., but that they failed to do so in English and in writing. On those occasions when low ability learners did write, they would mix English words with K.S. or they would translate K.S. words and structures directly into English. This matches the observations of the pupils' language behavior in the classroom, i.e. the pupils using K.S. in the absence of the teachers, and the frequent but "unacceptable" use of K.S. to explain concepts that they were unfamiliar with, which suggests that pupils are far more comfortable with K.S. According to the teachers interviewed, the language strategies used in Social Science classes to help the low ability pupils understand and participate in the lessons included translation of concepts, new vocabulary and instructions from English to K.S. and vice versa, but there was no evidence of more comprehensive use of K.S. in teaching.

Overall Summary of Findings

Our results are not clear-cut, but rather incongruous and at times even contradictory. On the one hand, it is evident that K.S. has an important role in the daily lives of teachers; all appear to use it in their everyday oral communication (five out of six teachers chose to conduct the interviews in K.S), they recognize its value for the local culture (the main topic of the subject Social Studies), and few question its functionality – most respondents acknowledge that it has the vocabulary needed to be used as a MoI for the subject of Social Studies. Almost all teachers asked maintained that they are proficient enough in K.S. to teach Social Studies if needed, but a substantial majority claim that they are more confident doing so in English (we can only speculate why this should be the case). Secondly, the challenges surrounding the use of English as MoI are evidently also recognized in the latter sections of the questionnaire. In the interviews and questionnaires, many respondents acknowledged that pupils have difficulties in understanding and communicating concepts in English, and a majority of teachers believed that they should be allowed to use K.S. for this purpose (i.e. to explain concepts). On the whole, these findings match the essence of the Ideological Domain of the curriculum (see Zelime & Deutschmann, 2016), where the importance of K.S. for the local identity and its given role as support language are emphasized.

Paradoxically, it is also evident that teachers are very negative to the use of K.S. in education on a macro-level. All teachers asked want to see its role as MoI during the first two years of schooling reduced, and a majority want to see it removed as MoI altogether. It is clear that English is seen as a "superior", "rich" language, which opens up job opportunities, and a majority think that the advantages of learning through the medium of English outweigh the disadvantages. Similarly, a majority believe that students would perform better if they were taught Social Studies entirely in English, although the classroom observations provided a different picture, and in some sections of the questionnaire, there is reluctance to acknowledge the difficulties students encounter when taught in English. From the classroom observations, it was also evident that teachers discouraged the use of K.S., although pupils used it frequently. These results match the general message of the Operational Domain of the curriculum (see Zelime & Deutschmann, 2016), where K.S.'s role in education is downplayed and at times even condemned. In our discussion in the section below, we try to make sense of these contradictory results.

ANALYSIS AND DISCUSSION

Just as in our previous study of various steering documents (Zelime & Deutschmann, 2016), we meet collisions of ideologies in the Perceived and Operational domains of the Seychelles curriculum. This can be interpreted as a direct result of the unclear, and sometimes contradictory, directives that are provided for teachers in the NCF and other documents dealing with language-in-education issues. Teachers are actually left with little guidance, and it is perhaps understandable that the Perceived and Operational curricula are incoherent. We would, however, like to venture further here and explore the findings in the light of other explanative models.

English in the Seychelles, and elsewhere in the post-colonial world, is more than just a language among equals. In the Seychelles English subject curriculum, the language is actually described as one that "encodes major cultural understanding and traditions", "enhances cognitive skills" and "broadens awareness and appreciation" (see Zelime & Deutschmann, 2016). These articulations, also mirrored in the attitudes of the teachers in this study, can be seen as manifestations of a "colonial present" (Gregory, 2004), an inherited left-over from colonial

times that not only inform the curricula and teachers, but post-colonial societies in general (see also Baldauf, 2006). According to Jourdan (2013: 271), investigating the language situation in another Creole speaking country, the Solomon Islands, this line of thinking stems from colonial language ideologies, which were "appropriated by the elite and middle class" and subsequently embraced by all social classes, even those that were seriously undermined by such ideologies. In this model, local vernaculars are denigrated to the position of non-languages, inferior and incomplete, at best fit as oral mediums. English, on the other hand, is seen as the carrier of knowledge and culture. Knowledge is somehow seen as embedded in the language itself as the descriptions from the curriculum text above illustrate. According to Spolsky's model, such language beliefs and values will affect language planning and management, and there is clear evidence from around the world that they do. In nations that have never been colonized, such as many parts of Europe, the national languages are unquestioned as media of instruction. This includes very "small" national languages such as Icelandic (see Albury 2016). Note, however, that the same status has not been afforded to minority languages in the European national states. Historically languages such as Sami in Scandinavia, for example, were long seen as unacceptable as media of instruction, and there are clear parallels here to the post-colonial parts of the world, where it is still regarded as "radical" or even "controversial" for *national/local* languages to hold a central role in education (see Outakoski 2015).

However, this historical colonial language ideology has not gone unchallenged. In the Seychelles, as in many other parts of the post-colonial world, post-independent movements have tried to raise the status of local languages as part of the nation-building process. Spolsky listed such factors (national ideology and increasing interests in the rights of linguistic minorities) as also contributing to the post-colonial society's language beliefs and values, but whether such ideas gain popularity or not obviously depend on active *Prestige and image* planning, as well as *Status* planning (see Liddicoat, 2013: 2). In the Seychelles, prestige planning was very active during the early eighties. K.S. became a symbol of national identity and the bearer of local culture. These efforts obviously made an impact and the results are particularly salient in the *Ideological* domain of the curriculum, where K.S. is given the same status as English and French. We also see effects of these efforts in the opinions of the teachers, who in spite of their

generally negative attitudes towards K.S., recognize it as an important part of Seychellois culture. Status planning, i.e. the selection of languages to perform particular functions in a society, was arguably less successful. In spite of great efforts to establish K.S.'s role in education during the eighties, we are now seeing a return to former structures where English, and English only, seems to be the answer to the majority of challenges facing the education system. Also in society at large, K.S. has failed to make a lasting impact in the official domains: English has always been, and still is, the written medium in domains such as public written media, finance and law. Arguably in the era of globalization, the efforts of the post-independent era are being undermined. Colonial ideologies have been replaced by market logic – the global market, international success – in short what Spolsky refers to as "globalization". The message may be slightly different, but the end result is the same: English equals success. This is clearly reflected in the attitudes of the teachers, and a realistic reflection of how things are.

But there is another reality that we have to take into account as well – the micro-reality of the classroom. According to Spolsky (2009) teachers have a powerful role to play in planning /managing language at the micro level, especially in multilingual contexts like the Seychelles. However, as our results have shown, this role becomes problematic when teachers are informed by conflicting ideologies concerning which language to value more and to use in the classroom. For instance, the same teachers who want to see the realization of the English-only classroom are forced to acknowledge the role of K.S. in everyday communication. Many children simply do not understand English. Clearly visions and reality contradict each other here, creating an interesting dilemma. Teachers recognize the power and value that English has for the students, in both the short-term (passing exams) and in their futures (getting jobs). However, they also acknowledge that use of K.S., the students' mother tongue, will facilitate learning in the short run and solve practical dilemmas in the classroom. Jones (2014) described a similar situation in Kenyan schools, where teachers gave priority to English as MoI and yet recognized the importance of other languages in the learners' language repertoire. The explanation here was that this was a result of teachers being pragmatic, using the learners' first language in order to move them towards English. According to Jones, these teachers would ideally prefer to see an English-only classroom, but the reality of everyday teaching forced

them to use practical strategies that included using other languages. There are many similarities here with our study. Similar classroom practices to get over language hurdles are also evident from the two studies: these include safe talk, choral teaching, teacher dominated and formulaic discourse, and minimal student contribution, but also translation of concepts into local languages etc. Further, according to Jones (2014), language planning also has other practical concerns to deal with such as a restricted teacher supply and limited teaching experience, poor qualifications, low availability of resources and materials as well as very varied student needs. These concerns represent the daily reality of teachers and often mean that language ideologies have to be compromised.

So where does all this leave us, and more importantly where does it leave the students? We would argue that the English-only classroom is a Utopian fantasy based on old colonial ideals. Classroom reality in the postcolonial world clearly tells a different story. Until such a time that English has totally taken over in the postcolonial world (let's hope this never happens), teachers will have to continue to grapple with the "language question", and will need informed guidance to do so. This guidance cannot be based on Utopian visions, but has to acknowledge the language reality of the postcolonial classroom and recognize the importance of the mother tongue in learning. There are also good arguments for questioning the monopoly of English as a bearer of knowledge. While we are the first to recognize the global importance of English and the benefits it brings, we also recognize that you actually can acquire knowledge through other languages. These two facts are not in conflict.

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KAPITTEL 7

Observasjon av kjønnsforskjeller og forskjeller mellom spesialundervisning og ordinær opplæring i det tilrettelagte klasserommet

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ABSTRAKT

Denne artikkelen handler om kjønnsforskjeller og forskjeller mellom spesialundervisning og ordinær opplæring i grunnskolen, og er en observasjonsstudie av elever med vedtak om spesialundervisning. Det er foretatt klasseromsobservasjoner av 165 elever i 6., 7., 9. og 10. klasse fra 29 skoler i to mellomstore kommuner, 69 % gutter og 31 % jenter, både når elevene har spesialundervisning og når de har ordinær opplæring. Dataene er hentet fra Speed-prosjektet, som er et forskningsprosjekt om spesialundervisningens innhold og funksjon. Observasjonene er knyttet til elevenes aktiviteter i klasserommet, elevenes væremåte og lærernes tilrettelegging. Resultatene viser at forskjellen mellom gutter og jenter som har vedtak om spesialundervisning, er liten eller nærmest fraværende på de observerte områdene, enten de har spesialundervisning eller ordinær opplæring. Ser vi på forskjeller bare blant gutter eller bare blant jenter, avhengig av om de mottar spesialundervisning eller har ordinær opplæring, er forskjellene betydelige på noen områder for begge kjønn.

INTRODUKSJON

I løpet av de siste 20–30 årene har det skjedd en stor endring i kjønnsforskjellene i skolen. På 1970- og 80-tallet gjorde guttene det best faglig. Siden har de tapt terreng (Nielsen, 2000). Dagens situasjon er at jentene presterer jevnt over bedre enn guttene bortsett fra i kroppsøving (Backe-Hansen, Walhovd & Huang, 2014, s. 263). Ifølge GSI (Grunnskolens informasjonssystem) fikk 7,8 % av elevene i grunnskolen vedtak om spesialundervisning skoleåret 2016/17, og 68 % av disse er gutter (Utdanningsdirektoratet, 2017). Selv om det har vært en svak nedgang i antall elever som får spesialundervisning de senere år, så er fordelingen mellom gutter og jenter om lag den samme, det er fortsatt dobbelt så mange gutter som jenter som får spesialundervisning. Spørsmål som stilles her, er om den undervisningen som elever med vedtak om spesialundervisning får også er kjønnsavhengig og om det er forskjeller mellom spesialundervisning og ordinær opplæring. Vi har sett på elevenes aktiviteter og væremåte i klasserommet og hvilken tilrettelegging de får i spesialundervisning og i ordinær opplæring. Aktivitetene i klasserommet handler her om hvorvidt elevene får støtte fra en voksen, om de er muntlig aktive og om elevene lytter til lærer eller løser oppgaver sammen. Elevens væremåte sier noe om i hvilken grad eleven er uvirksom, ukonsentrert eller har forstyrrende oppførsel, mens tilrettelegging handler om hvorvidt eleven utfører oppgaver som er spesielt tilrettelagt, bruker spesielt tilrettelagte hjelpemidler eller datamaskin/lesebrett.

Det kan diskuteres om en generell drøfting av kjønn og forskjeller i opplæringen er relevant i en studie av aktivitet og atferd i klasserommet for elever som har vedtak om spesialundervisning. Vi gir to argumenter for at det er en viktig bakgrunn i denne sammenhengen. For det første vil det som her studeres, kunne forstås med henvisning til de overordnede perspektivene på kjønn og skole. For det andre vil en studie av virksomheten i klasserommet for elever med vedtak om spesialundervisning også kunne gi et bidrag til den allmenne kunnskapen på området.

Denne studien vil gjennom å observere det som foregår i praksis, drøfte kjønnsforskjellene i klasserommet og forskjeller mellom spesialundervisning og ordinær opplæring knyttet til elever med vedtak om spesialundervisning.

FORSKNING OM KJØNNSFORSKJELLER OG SPESIALUNDERVISNING

Det er forsket mye på kjønnsforskjeller og opplæring (Nielsen, 2000). Forskningen om kjønn og spesialundervisning er mindre omfattende. De gjennomgangene av norsk forskning om spesialundervisning og spesialpedagogikk som er gjort de siste 20 årene, omtaler i liten grad kjønn som egen kategori (Befring & Tangen, 2012; Dalen & Skårbrevik, 1999; Haug, 2003; Solli, 2005). Et unntak er Fyllings rapport om kjønnsforskjeller i spesialundervisningen, kunnskapsstatus og kunnskapsbehov (2000). Når kjønn er tema i forskningen om spesialundervisning, er det nesten alltid for å forklare hvorfor langt flere gutter enn jenter får slik undervisning.

Vinteren 2017 var det en heftig debatt i norske medier om kjønnsforskjeller der skolen var et sentralt tema.[1] Ett spørsmål var om de dokumenterte kjønnsforskjellene er alvorlige eller ikke, og i så fall hvilken gruppe som kommer dårligst ut. Debatten ga ingen egentlig avklaring, som i tidligere debatter. Ingrid Fylling forklarer dette resultatet med at partene i diskusjonen representerer to tradisjoner som ikke forholder seg til hverandre (2000). Den ene tradisjonen har fokus på gutter og deres bråkete atferd, som gir dem oppmerksomhet. Den andre tradisjonen er opptatt av de stille og tilpasningsdyktige jentene, som tilpasser seg guttene. Elisabet Öhrn har sett på kjønnsforskjeller i et nordisk perspektiv og ser at forskningen om kjønnsforskjellene i de nordiske land er mye i samsvar med hverandre, men at det også er store variasjoner både i gruppen gutter og jenter (Öhrn, 2002). Forskning fra PISA i 2009 om kjønnsforskjeller i skolen i 65 land konkluderte med at det finnes flere likheter enn forskjeller mellom kjønnene, men at forskjellene er betydelige i lesing, matte og naturfag og at dette kan være relatert til kontekstuelle faktorer (Reilly, 2012).

Vi skiller ofte mellom et individ- og et systemperspektiv i spesialundervisningen. Individperspektivet legger først og fremst vekt på elevenes vansker og utfordringer, mens et systemperspektiv ser på helheten og samspillet med omgivelsene og legger vekt på at det er systemet rundt eleven som må endre

1 Noen av innleggene finnes omtalt på slutten av dette innlegget: http://www.aftenposten.no/meninger/debatt/Guttedebatten-Enkeltfaktorer-kan-sjelden-forklare-komplekse-sammenhenger--Harriet-Bjerrum-Nielsen-617812b.html

seg for å møte elevens behov (Nordahl, 2005). Spesialundervisningen har tradisjonelt hatt et sterkt individperspektiv, der fokuset har vært vanskene som eleven har. Dette har endret seg noe de senere årene, men fortsatt blir elever diagnostisert og tiltak iverksatt uten at systemet rundt eleven er tatt med i diskusjonen, men fokuset er mer på begge perspektiver enn tidligere (Fylling & Handegård, 2009).

Den individorienterte forskingen tar utgangspunkt i at gutter og jenter er forskjellige og derfor når de ulike resultater: Jentene er faglig ledende, guttene tar det mer med ro (Nielsen, 2014, s. 303). Norske studier hevder at gutter og jenters ulike modning kan være en forklaring på at jentene gjør det best i grunnskolen (Grøgaard & Arnesen, 2016; Solli, 2017). Flere internasjonale studier har også sett på denne kognitive modningshypotesen og viser til at ulik modning gir ulikheter i gutter og jenters skolefaglige prestasjoner (Crawford, Dearden & Greaves, 2011; Morrow et al., 2012; Schwandt & Wuppermann, 2015). Det er forventet at forskning som ser på hjernen i utvikling og nevrovitenskapene skal kunne gi svar. Foreløpig har ikke dette gitt noen entydige konklusjoner (Backe-Hansen et al., 2014).

I et systemorientert forskningsperspektiv ser en på den konteksten elevene står i, og særlig i hvilken grad den undervisningen som gis fungerer godt for alle elevene. Undervisningen skal være tilpasset elevene og elevenes forutsetninger. Det innebærer at en også må se etter andre løsninger for elever som mislykkes i skolen i tillegg til eller i stedet for bare individuell støtte. Forbedringer forutsetter økt undervisningskvalitet, en positiv klasseromskultur og gode relasjoner mellom lærere og elever (Ogden, 2004). Noen elever trenger ekstra individuell oppfølging, men den store utfordringen ligger i å skape et læringsmiljø med god nok kvalitet for alle.

Systematiske forskjeller mellom grupper av elever kan da forstås som en konsekvens av at undervisningen ikke yter alle rettferdighet. Jenter og gutter er ulike, men det skal undervisningen ta hensyn til og kompensere for. Likebehandlingsprinsippet står sterkt, og retten til ikke å bli diskriminert på grunn av kjønn er presisert i formålsbestemmelsene i opplæringsloven (1998, § 1-1). Elever med vedtak om spesialundervisning har et lavere karaktersnitt enn andre elever, og med bakgrunn i den skjeve kjønnsfordelingen i spesialundervisningen er det grunn til å stille spørsmål ved om alle er sikret like muligheter til

pedagogisk utbytte uavhengig av kjønn. Gutter har systematisk lavere karaktergjennomsnitt etter grunnskolen, noe som gir et dårligere grunnlag for videre utdanningsvalg. Den rettslige standarden om lik rett til utdanning uavhengig av kjønn skal tolkes og anvendes av ikke-jurister og er avhengig av et profesjonelt skjønn (Aune, 2012). Det samme profesjonelle skjønnet som er nødvendig for å kunne gjennomføre likebehandling i de ulike fags utfordringer.

Av det og fordi jentene presterer høyest følger en påstand om at skolen er best tilrettelagt for jenter og at undervisningen gir jentene bedre muligheter for utvikling og læring. Det gjør det vanskelig for guttene å hevde seg fordi den undervisningen, de arbeidsformene og det innholdet som benyttes mest i skolen, ikke passer deres væremåte (DiPrete & Jennings, 2012; Nordahl, 2012; Skårbrevik, 2002). Samtidig er det store variasjoner innenfor og mellom gruppene jenter og gutter både når det gjelder faglige prestasjoner og deres opplevelse av eget forhold til skolen. Haug (2017a) viser for eksempel at jenter med problematferd opplever seg selv mindre engasjert i opplæringen enn gutter med problematferd, og forskjellene er relativt store. Relasjonene deres til kontaktlærer er også mindre positive enn for guttene. Jenter med spesifikke lærevansker, derimot, opplever sin situasjon mer positiv enn guttene med spesifikke lærevansker.

Det hevdes at økt kvinnelig lærerandel kan ha ført til en feminisering av skolekulturen og en arbeidsform som passer jentene bedre (Bakken, 2008; Dee, 2007; Jones & Dindia, 2004). Det er imidlertid lite forskning som støtter at lærerens kjønn har direkte betydning for kjønnsforskjeller (Backe-Hansen et al., 2014; Bakken, 2009; Burusic, Babarovic & Seric, 2012). Dees studie (2007), derimot, er en av de få som viser at lærernes kjønn kan ha en viss betydning for klasseromdynamikken for gutter og jenter. Studien viste at det å ha lærer av samme kjønn økte læringsutbyttet, læreren hadde en bedre oppfatning av elevene og elevenes engasjement økte. Lærere tenderer til å ha mindre tålmodighet med gutter og deres oppførsel, og spesialundervisning kan bli en måte å løse utfordringene på når den ordinære opplæringen ikke takler stor variasjon i elevmassen (Francis, 2000; Haggerty, 2009). Det kan bety at gutter lettere henvises til pedagogisk-psykologisk tjeneste (PPT) enn det jenter gjør (Oswald, Best, Coutinho & Nagle, 2003). Samtidig viser forskning at guttene får mest oppmerksomhet i klassen. Den såkalte 2/3-regelen er illustrerende. Det er 2/3

sjanse for at det blir snakket i klasserommet. Læreren benytter 2/3 av denne tiden. Elevenes omfang av ytringer i klasserommet er 1/3 av tiden, guttene står for to tredjedeler av disse, jentene for én tredjedel (Lindblad & Sahlström, 2000, s. 270). Dette er i tidlige studier blitt tolket som et uttrykk for at jentene systematisk blir oppdratt til rollen som mindreverdige i skolen (Nielsen, 2000), noe som har vært vanskelig å få bekreftet gjennom senere studier (Lindblad & Sahlström, 2000, s. 263–264). Nyere forskning tyder på at elevenes andel av tale i klasserommene er betydelig større, og at elevene har en nærmest kontinuerlig samtale seg imellom også når læreren snakker (Sahlström, 2008). Forskningen som konkluderer med at guttene dominerer i klasserommene, blir dermed problematisert. Resultatene om 2/3-regelen knyttes til særpreg ved den metodologiske og teoretiske tilnærmingen i forskningen (Sahlström, 2008).

Det blir også kritisert at trekk ved noen individer blir generalisert til alle, at gutter er på én måte i undervisningen og jenter er på en annen måte (Nielsen, 2014). Det er skapt forestillinger om at guttene er «bråkete» og jentene er «snille» (Backe-Hansen et al., 2014; Jones & Myhill, 2004), mens både kategoriseringen og karakteriseringen av kjønn er mer kompleks. Bjerrum Nielsen peker i sine studier på at det også innenfor gruppen gutter og gruppen jenter er store individuelle forskjeller elevene imellom som en også må ta hensyn til (2014). Dette støttes av Borg i hennes doktorgradsavhandling om kjønnsforskjeller, der hun peker på at for sterk fokus på gjennomsnittlige kjønnsforskjeller kan skjule at det finnes store variasjoner i alle grupper (Borg, 2014).

Samtidig kan lærerens tidlige oppfattelse av elever lett føre til stereotyper der både sosioøkonomisk bakgrunn, kjønn, spesialundervisning, etnisitet og språk kan føre til en lavere vurdering av eleven (Campbell, 2015). Campbell viser i sine undersøkelser til at i for eksempel lesing blir gutter og elever med spesialundervisning, uansett vanske, vurdert lavere enn de reelle leseferdighetene skulle tilsi. Det finnes også studier som nesten helt avviser at det er store forskjeller mellom gutter og jenter i skolen. De forskjellene som rapporteres, er først og fremst en konsekvens av læreres og andres forestillinger om forskjeller, og de er igjen grunnlag for ulike forventninger til kjønnene (Aasen, Drugli, Lekhal & Nordahl, 2015).

Forskningen om spesialundervisning har aldri vært særlig omfattende, i særdeleshet er det få observasjonsstudier som belyser temaet. Mye av klasseromsforskningen handler om graden av inkludering og om tilpasset opplæring

(Arnesen, 2004; Haug, 2006) Det henger mye sammen med at Salamancaerklæringen fra 1994 har hatt stor betydning i arbeidet med en inkluderende skole (UNESCO, 1994). Den gir alle barn rett til utdanning uavhengig av hvilken funksjonsevne barnet har. Djupedal-utvalget mener en nå bør se enda bredere på inkludering og enda nøyere på hvordan dette praktiseres (Kunnskapsdepartementet, 2015). Flere studier kombinerer intervju og observasjoner rundt spørsmål om tilpasset opplæring (Fylling, 2003; Imsen, 2003). Bjerrum Nielsen har forsket på kjønn og hun har blant annet observert en klasse i en uke hvert skoleår fra 1. til 10.klasse, også kombinert med intervjuer (2014). Hun konkluderer blant annet med at skolen har potensial for å bedre læringssituasjonen for begge kjønn.

Samtidig ser det ut til at potensialet for læring er større når det er spesialundervisning enn når det er ordinær opplæring (Haug, 2015). Det forklares med at i spesialundervisningen er elevene mer aktive, undervisningen er mer tilpasset, de får mer oppmerksomhet fra læreren og de er mindre engasjert i læringshemmende aktiviteter enn i den ordinære opplæringen. Med referanse til Lee Shulman (2005) omtales fagsignaturen til spesialundervisningen på denne måten:

> Spesialundervisninga går mest føre seg fysisk segregert frå den ordinære opplæringa. Læraraktiviteten der har eit tydeleg individuelt fokus, elevane får omfattande fagleg støtte, og dei er mest engasjerte med særleg tilrettelagde aktivitetar. Aktivitetsnivået er høgt. Omfanget av individuell oppgåveløysing er stort. Innhaldet er spesialisert, mest og orientert om reiskapsfaga norsk, matematikk og engelsk (Haug, 2015, s. 11).

KVALITET I OPPLÆRINGEN

For å forstå forholdene knyttet til kjønn og spesialundervisning vil det være av stor verdi å se dem i relasjon til den ordinære opplæringen. Dette kommer dels av at vilkåret for å få spesialundervisning i grunnskolen er entydig knyttet til at eleven ikke har eller kan forventes å få utbytte av den ordinære opplæringen (opplæringsloven, 1998, § 5.1). Dels er dette viktig fordi det er det samlede opplæringstilbudet som skal gi et forsvarlig utbytte for eleven, altså kombinasjonen av spesialundervisning og ordinær opplæring. For de aller fleste elevene er omfanget av ordinær opplæring langt større enn omfanget av spesialundervisning. Derfor er kvaliteten på den ordinære opplæringen avgjørende for utbyttet

av skolen, også for elever som får spesialundervisning. Siden problemstillingen her er hva jenter og gutter med vedtak om spesialundervisning gjør i ordinær opplæring og spesialundervisning, vil det være interessant å se dette i forhold til hva som gir gode forutsetninger for læring. God kvalitet i den ordinære opplæringen kan bety at en elev med spesialpedagogiske behov kan fungere godt, mens dårlig kvalitet kan bety at resultatet av opplæringen blir dårlig. En undersøkelse gjort i Sør-Finland viser at kjønnsforskjellene i faglige resultater er fraværende i skoler med gode resultater, mens gutter gjør det klart dårligst i skoler med svake faglige resultater (Jakku-Sihvonen & Kuusela, 2002).

I kvalitet i opplæringen er tilpasset opplæring et sentralt begrep. Begrepet er politisk konstruert og kan handle om arbeidsformer, faglig innhold og elevsyn (Klafki, 2011). Det favner mye, det er vagt og samtidig vanskelig å praktisere. Det handler om å skulle tilrettelegge for alle elever og gi den enkelte elev størst mulig utbytte av undervisningen. Det betyr at kvaliteten på undervisningen må være god for at læring skal skje. Kvalitet kan defineres ut fra struktur, rammebetingelser og organisering, men også ut fra undervisning, læringsmiljø og læringsaktiviteter (Ogden, 2004), noe som gir rom for ulike oppfatninger av hva som er viktig. Det som skjer i klasserommet er grunnleggende for den læringen som foregår, der støtte fra lærer, medelever og andre voksne på skolen er viktig for elevenes motivasjon og læring (Hattie, 2009; Skinner, Furrer, Marchand & Kindermann, 2008). Den optimale voksen–elev-relasjonen i skolen må være preget av både faglig og sosial støtte. Det er viktig både å bli anerkjent for den en er og for det en gjør. Er støtten fra læreren bare på det sosiale planet, kan det for noen elever oppleves som en støtte til manglende faglig innsats (Federici & Skaalvik, 2013). Læreren skal legge til rette for læreraktiv undervisning og elevaktiv deltagelse. Dialogen mellom lærer og elev står sentralt, og det er den faglige aktiviteten som til enhver tid foregår i klasserommet som gir læring. Den relasjonen læreren eller andre voksne har til elevene, vil kunne være et forbilde for relasjonen elevene får til hverandre. For elever som av ulike årsaker strever i skolen, kan relasjonen til medelever være av avgjørende betydning for om de trives på skolen eller ikke (Hughes, Cavell & Willson, 2001). Et godt læringsmiljø gir mestring og trivsel, og elevenes atferd henger gjerne sammen med hvordan skolen oppleves og mestres for den enkelte. Både manglende konsentrasjon og utagerende atferd har gjerne en mer sammensatt bakgrunn enn det som kommer til uttrykk

(Greene & Goveia, 2011). Det sier likevel noe om hvordan eleven finner seg til rette og tilpasser seg de normer og regler som skolen til enhver tid fastsetter.

Det tilrettelagte klasserommet innebærer at alle har rett til tilpasset opplæring, og lærerens evne til å tilrettelegge for den enkelte elev kan være avgjørende for videre motivasjon og mestring. Læringsaktiviteter som er tilpasset elevenes mestringsnivå og samtidig gir utfordringer nok, gir lyst til å lære. Motivasjonen svekkes når oppgavene blir for enkle eller for vanskelige (Ryan & Deci, 2000). For lave forventninger gir dårlig læring, mens altfor høye forventninger også kan føre til mangel på mestring og læring. Det ligger til spesialundervisningens oppgaver å tilrettelegge for den enkelte og tilpasse læringsaktivitetene slik at de har riktig vanskenivå (Utdanningsdirektoratet, 2014).

I denne studien observerer vi kjønnsforskjeller knyttet til elever som har vedtak om spesialundervisning og det som foregår i spesialundervisning og ordinær opplæring. Observasjon kan gi et mer objektivt bilde enn når lærere selv vurderer kjønnsforskjeller, og kan gjerne stemme bedre med elevenes synspunkter enn lærernes oppfatninger (Solli, 2005).

PROBLEMSTILLING

Hvilke observerte forskjeller finner vi knyttet til gutter og jenters aktiviteter og væremåte i klasserommet og lærerens tilrettelegging for elever med vedtak om spesialundervisning, i spesialundervisning og ordinær opplæring?

Dette gir to innfallsvinkler. For det første har vi sett på kjønnsforskjeller for elever med vedtak om spesialundervisning når de mottar spesialundervisning, og kjønnsforskjeller når de samme elevene har ordinær opplæring. Deretter har vi sett på forskjeller mellom spesialundervisning og ordinær opplæring for jenter og gutter hver for seg.

METODE

Observasjonene som er brukt i denne studien er hentet fra et forskningsprosjekt om spesialundervisning, Speed-prosjektet (The function of special education), som har til hensikt å undersøke innholdet i spesialundervisningen og hvilken funksjon denne undervisningen har (Haug, 2017b; Topphol, Haug & Nordahl, 2017). Prosjektet er et samarbeid mellom Høgskulen i Volda og Høgskolen i Innlandet og er finansiert av høyskolene og av Norges forskningsråd, PRAKUT-programmet.

Denne studien bygger på observasjoner av i alt 165 elever som hadde vedtak om spesialundervisning. Observasjonene ble innhentet fra 29 skoler av ulik størrelse i to middelstore kommuner og ble foretatt høsten 2014. Vi valgte kommuner ut fra en vurdering om at vi ville ha behov for ca. 200 elever som fikk spesialundervisning på grunn av vansker med matematikk, norsk og atferd, i tillegg til elever med andre typer vansker. Kommunene skulle ligge nær Høgskolen i Innlandet og Høgskulen i Volda fordi masterstudenter, i tillegg til forskere, skulle brukes som observatører. 7,5 % av elevene i disse kommunene fikk spesialundervisning, noe som ligger nær det nasjonale snittet. Av alle elevene som hadde vedtak om spesialundervisning på disse skolene, leverte 47 % samtykke til å bli observert, 69 % gutter og 31 % jenter, noe som samsvarer godt med den nasjonale kjønnsfordelingen i spesialundervisningen. Hver elev ble fulgt en hel dag da de hadde både spesialundervisning og ordinær opplæring. Videre ble 18 % av observasjonene gjort mens elevene hadde spesialundervisning, mens de resterende 82 % av observasjonene ble gjort under elevenes ordinære opplæring.

Skjemaet er bygget opp om den didaktiske trekanten, og gjør det mulig å registrere aktiviteter til en enkelt elev, klassen, læreren og innholdet i undervisningen. Observatørene fulgte en utvalgt elev en hel dag og gjorde registreringer hvert femte minutt. I denne studien er det kun observasjoner av enkeltelevene som analyseres. Skjemaet hadde til sammen 66 kategorier og er et modifisert kategoriseringsskjema utviklet av Klette (2003) og senere brukt i andre undersøkelser (Haug, 2012, 2006). Metoden er kalt «momentary time sampling» (Powell, Martindale og Kulp, 1975). Det er gjort 7673 enkeltregistreringer, som utgjør undervisning i 639 timer. Observasjonene er kvantifisert og lagt inn i analyseprogrammet SPSS (IBM, 2017).

Observasjonene av elevene er delt inn i tre områder – aktiviteter i klasserommet, elevenes væremåte og tilrettelagte oppgaver (tabell 7.1 og 7.2, 1. kolonne). Aktiviteter i klasserommet handler om observasjon av hva eleven gjør i klasserommet, som for eksempel om de får støtte av en voksen, om det er muntlig aktivitet, om eleven lytter til lærer eller om eleven løser oppgaver felles. Elevens væremåte indikerer om eleven er uvirksom, ukonsentrert eller har forstyrrende oppførsel. Tilrettelagte oppgaver er observasjon av om eleven utfører oppgaver spesielt tilrettelagt, bruker spesielt tilrettelagte hjelpemidler eller datamaskin/lesebrett.

Det er benyttet variansanalyser og forskjeller målt i Cohens d for å se på kjønnsforskjeller på de ulike områdene. En forskjell på 0,20 regnes som en liten forskjell, 0,50 som middels og 0,80 som en stor forskjell (Cohen, 1988). Disse målene er likevel relative, og en liten forskjell kan bety mye for noen elever eller innenfor enkelte områder. Vi har her kontrollert for at antall observasjoner er ulikt for gutter og jenter og for spesialundervisning og ordinær opplæring. Resultatene er framstilt som prosent av kategoriene funnet i materialet.

ANALYSER

For å se på kjønnsforskjeller og forskjeller mellom spesialundervisning og ordinær opplæring for elever med vedtak om spesialundervisning, gjennomførte vi to analyser. Den første er gjort for å se på kjønnsforskjellene i aktiviteter i klasserommet, væremåte og tilrettelagte oppgaver når elevene hadde ordinær opplæring og når de samme elevene hadde spesialundervisning (tabell 7.1). Den neste analysen ser på forskjeller mellom spesialundervisning og ordinær opplæring innad i gruppen jenter og innad i gruppen gutter på de samme områdene, aktiviteter i klasserommet, væremåte og tilrettelegging (tabell 7.2). Cohens d i tabell 7.1 viser at et negativt fortegn betyr at jenter har mindre av denne aktiviteten, væremåten eller tilretteleggingen, og motsatt viser Cohens d uten negativt fortegn at det er jentene som får eller har mest av de samme kategoriene. På samme måte viser Cohens d med negativt fortegn i tabell 7.2 at det er mindre av aktiviteten, væremåten eller tilretteleggingen i ordinær opplæring, og Cohens d uten negativt fortegn viser at det er mest av denne virksomheten i ordinær opplæring.

FUNN

Den første analysen (tabell 7.1) viser at det er fra ingen til små forskjeller mellom gutter og jenter når de får ordinær opplæring eller når de får spesialundervisning. De største forskjellen finner vi i områdene urolig/forstyrrer både i ordinær undervisning og spesialundervisning. Guttene er litt mer urolige og litt mer uvirksomme enn jentene, både når de har spesialundervisning og ordinær opplæring, men forskjellene i Cohens d er her under 0,20, og det er en liten forskjell. I spesialundervisningen bruker guttene data/lesebrett mer enn jentene, Cohens d = –0,20, noe som også er en liten forskjell. Alle de resterende faktorene viser liten eller ingen forskjell mellom gutter og jenter.

Tabell 7.1 Elevenes aktiviteter, væremåte og tilrettelegging av oppgaver avhengig av kjønn og om de har ordinær opplæring eller spesialundervisning.

	Ordinær opplæring					Spesialundervisning				
	Jente		Gutt			Jente		Gutt		
Kategorier	%	std.	%	std.	**Cohens d**	%	std.	%	std.	**Cohens d**
Aktiviteter i klasserommet:										
Støtte fra voksen	11 %	30,8	12 %	32,8	**–0,08**	1 %	46,3	36 %	47,9	**–0,11**
Lytter aktivt til lærer	30 %	45,9	27 %	44,3	**0,08**	41 %	49,2	43 %	49,5	**–0,05**
Lytter aktivt til medelev	8 %	27,4	7 %	24,9	**0,04**	7 %	26,1	9 %	27,9	**–0,06**
Muntlig faglig aktivitet	4 %	18,9	4 %	20,0	**0**	22 %	41,1	24 %	43,0	**–0,05**
Samhandler med medelever	9 %	28,5	9 %	29,2	**0**	4 %	20,6	6 %	23,4	**–0,09**
Venter på hjelp	2 %	13,2	2 %	13,0	**0**	1 %	9,4	1 %	10,7	**0**
Løser oppgaver felles	34 %	47,4	1 %	46,2	**0,08**	25 %	43,1	19 %	39,6	**0,18**
Væremåte:										
Er ukonsentrert/uvirksom	13 %	33,8	20 %	40,2	**–0,19**	4 %	20,1	6 %	24,5	**–0,09**
Er urolig/forstyrrer	1 %	9,4	4 %	19,4	**–0,18**	0 %	4,7	2 %	13,6	**–0,17**
Tilrettelagte oppgaver:										
Spesielt tilrettelagte oppgaver	9 %	28,4	5 %	21,3	**0,13**	40 %	0,490	35 %	47,8	**0,10**
Spesielt tilrettelagte læremidler	1 %	8,5	1 %	9,5	**0**	7 %	0,249	9 %	27,9	**–0,05**
Bruker datamaskin/lesebrett	3 %	16,0	4 %	19,3	**–0,06**	6 %	0,238	0,12 %	32,0	**–0,20**
N (observasjoner)	1938		4321			463		950		

Tabell 7.2 Elevenes aktiviteter, væremåte og tilrettelegging av oppgaver. Forskjeller mellom ordinær opplæring og spesialundervisning innad i gruppen jenter og innad i gruppen gutter.

	Jente					**Gutt**				
	Ordinær opplæring		Spesial-undervisning			Ordinær opplæring		Spesial-undervisning		
Kategorier	%	std.	%	std.	**Cohens d**	%	std.	%	std.	**Cohens d**
Aktiviteter i klasserommet:										
Støtte fra voksen	11 %	30,8	31 %	46,3	**–0,58**	12 %	32,8	36 %	47,9	**–0,67**
Lytter aktivt til lærer	30 %	45,9	41 %	49,2	**–0,24**	27 %	44,3	43 %	49,5	**–0,39**
Lytter aktivt til medelev	8 %	27,4	7 %	26,1	**0,04**	7 %	24,9	9 %	27,9	**–0.03**
Muntlig faglig aktivitet	4 %	18,9	22 %	41,1	**–0,88**	4 %	20.0	24 %	43,0	**–0,92**
Samhandler med medelever	9 %	28,5	4 %	20,6	**0,26**	9 %	29,2	6 %	23,4	**0,09**
Venter på hjelp	2 %	13,2	1 %	9,4	**0,08**	2 %	13,0	1 %	10,7	**0,08**
Løser oppgaver felles	34 %	47,4	25 %	43,1	**0,21**	31 %	46,2	19 %	39,6	**0,29**
Væremåte:										
Er ukonsentrert/uvirksom	13 %	33,8	4 %	20,1	**0,28**	20 %	40,2	6 %	24,5	**0,37**
Er urolig/forstyrrer	1 %	9,4	2 %	4,7	**–0,11**	4 %	19,4	2 %	13,6	**0,11**
Tilrettelagte oppgaver:										
Spesielt tilrettelagte oppgaver	9 %	28,4	40 %	49,0	**–0,98**	5 %	21,3	35 %	47,8	**–1,17**
Spesielt tilrettelagte læremidler	1 %	8,5	7 %	24,9	**–0,26**	1 %	9,5	9 %	27,9	**–0,36**
Bruker data/lesebrett	3 %	16,0	6 %	23,8	**–0,23**	4 %	19,3	12 %	32,0	**–0,24**
N (observasjoner)	1938		463			4321		950		

I den andre analysen (tabell 7.2) så vi på forskjeller innad i gruppen jenter og innad i gruppen gutter på områdene aktiviteter i klasserommet, væremåte og tilrettelegging, og sammenlignet ordinær opplæring og spesialundervisning. I denne analysen finner vi at det er betydelige forskjeller på flere av de observerte områdene. Forskjellene har hovedsakelig samme retning for begge kjønn, men med litt større forskjell for guttene. Både jenter og gutter i denne analysen får mer støtte fra en voksen, de lytter mer til lærer, de er mer muntlig aktive og de er mer konsentrerte når de har spesialundervisning enn når de har ordinær opplæring. Elevene får også langt mer tilrettelegging i form av spesielt tilpassede oppgaver, de har større bruk av tilrettelagte hjelpemidler og de benytter seg mer av data/lesebrett når de har spesialundervisning. Her er forskjellene store på noen av områdene. Det gjelder til en viss grad støtte fra voksen der forskjellen er mellom middels og store, –0,58 for jenter og –0,67 for gutter. De største forskjellene handler om muntlig faglig aktivitet og tilrettelagte oppgaver. I muntlig faglig aktivitet er forskjellene –0,88 for jenter og –0,92 for gutter, som her betyr at det er mindre muntlig faglig aktivitet for disse elevene når de har ordinær opplæring. Den største forskjellen finner vi i bruk av spesielt tilrettelagte oppgaver, der forskjellen er –0,98 for jenter og –1,17 for gutter. Det betyr at det er langt mindre bruk av spesielt tilrettelagte oppgaver når elevene har ordinær opplæring enn når elevene har spesialundervisning, og forskjellen er størst for gutter.

DRØFTING

I denne studien har hensikten vært å observere kjønnsforskjeller og forskjeller mellom spesialundervisning og ordinær opplæring for elever som har vedtak om spesialundervisning. Vi har hatt fokus på enkeltelever i det tilrettelagte klasserommet og sett på om elevenes aktiviteter, væremåte og tilrettelegging av oppgaver er ulikt for jenter og gutter, og ulikt i ordinær opplæring og i spesialundervisning.

Overordnet er det to hovedfunn i denne studien. Det første er at det er små forskjeller mellom gutter og jenter med vedtak om spesialundervisning i aktiviteter i klasserommet, væremåte og tilrettelegging når de har spesialundervisning, og det samme når de har ordinær opplæring. Det andre funnet er at det er store forskjeller på noen av de samme områdene når vi ser på jenter

og gutter hver for seg, og sammenligner spesialundervisning og ordinær opplæring. Ut fra de store forskjellene, der både aktiviteten og tilretteleggingen er størst i spesialundervisningen, konkluderer vi med at potensialet for læring er langt større i spesialundervisningen enn i den ordinære opplæringen. Det er disse to funnene vi vil drøfte nærmere.

Kjønnsforskjeller

Vi finner liten forskjell mellom gutter og jenter med vedtak om spesialundervisning i aktiviteter i klasserommet, væremåte og tilrettelegging av oppgaver i denne studien, enten de har ordinær opplæring eller når de har spesialundervisning. Når det ikke ser ut til å være kjønnsforskjeller på de områdene vi har sett på, kan det bety at gutter og jenter som mottar spesialundervisning i denne studien behandles likt og har like vilkår for læring. Lærere ser ikke ut til å forskjellsbehandle gutter og jenter med vedtak om spesialundervisning, hverken i spesialundervisning eller i ordinær opplæring ut fra hva elevene gjør i timene. Vi ser tre forklaringer på dette, med referanse til den innledende teksten om kjønnsforskjeller i skolen.

Den første er at det har skjedd endringer i selve kjønnsrolleforståelsen. Det kan bety at det er en økt bevissthet rundt kjønn og at de senere års oppmerksomhet rundt temaet har gjort lærere bevisste på å behandle alle elever likt. En beslektet forklaring kan kombineres med den ovenfor og kan være at kjønnsforskjellene, slik jenter og gutter opplever dem, er i endring ved at en finner større variasjoner innad i hver gruppe og at hva som er typisk gutt eller typisk jente er mer utydelig enn tidligere (Nielsen, 2014), og at det preger deres atferd.

Den andre forklaringen er at forventningene er mindre kjønnsdelt for elever som får spesialundervisning enn for elever som ikke får slik undervisning. Det er en interessant påstand, som vi vet lite om, men som bør undersøkes nærmere. Vi vet at det er lavere forventninger generelt til elever som har vedtak om spesialundervisning (Dale, 2007).

Den tredje forklaringen er forskningsmetodisk. Våre funn baserer seg på mer nøytrale registreringer i kategorier gjennom observasjoner, mens henvisninger til kjønnsforskjeller i undervisning og særlig spesialundervisning oftest baserer seg på læreres vurderinger av hvem skolen ikke klarer å tilrettelegge for i ordinær opplæring. Det er grunn til å stille spørsmålet om hvorvidt kjønnsforskjellene

i antall elever som får vedtak om spesialundervisning, er konstruert. Det er kanskje ikke forskjellen mellom gutter og jenter som er problemet, men forventningene om at de er forskjellige. Våre data viser for eksempel ikke at guttene er særlig mer ukonsentrerte og bråkete enn jentene, eller at guttene får mer oppmerksomhet i form av faglig støtte fra en voksen enn jentene.

Selv om aktivitetsnivået er det samme, vet vi ingenting om kvaliteten på den virksomheten gutter og jenter med vedtak om spesialundervisning er involvert i. Vår studie sier ingen ting om kvaliteten, men om omfang og forskjeller i aktivitet. Selv om det ikke er forskjell mellom gutter og jenter med vedtak om spesialundervisning, enten de har spesialundervisning eller ordinær opplæring, så behøver ikke det å bety at opplæringen er av god kvalitet. Den kan potensielt være god eller dårlig for begge kjønn. Vi vet for eksempel at det er mange elever med vedtak om spesialundervisning som har dårligere læringsutbytte og dårligere opplevelse av skolen enn elever som ikke har vedtak om spesialundervisning og at undervisningen ikke gir de resultater en kunne ønske. Ifølge Barneombudets rapport om spesialundervisningen «Uten mål og mening» ligger mange av spesialundervisningens muligheter for å lykkes uutnyttet, og dagens spesialundervisning sikrer ikke et forsvarlig og likeverdig tilbud (2017). Studier viser at elever med vedtak om spesialundervisning opplever blant annet et mindre positivt læringsmiljø, de mangler erfaring i medvirkning og mange trives dårligere på skolen (McCoy & Banks, 2012; Messiou, 2006). Det er ikke nødvendigvis når de har timene sine med spesialundervisning at læringsutbyttet er lavt eller at de trives dårlig, det kan like gjerne være når de er en del av den ordinære opplæringen.

Forskjeller mellom ordinær opplæring og spesialundervisning for henholdsvis gutter og jenter

Observasjonene viser at støtten fra voksne, den muntlige aktiviteten og arbeid med spesielt tilrettelagte oppgaver er langt høyere for begge kjønn når elevene mottar spesialundervisning enn når de har ordinær opplæring. De observerte forskjellene kan ha flere forklaringer. Først og fremst handler det om at elever har spesialundervisning i liten gruppe eller alene. Det blir mer tid til at hver enkelt elev kan få støtte fra en voksen, enten det er lærer eller assistent. Elevene er mer muntlig aktive fordi de gjerne er mer komfortable og trygge med å snakke

i liten gruppe. Samtidig snakker læreren noe mer, og det kan bli mindre tid for elevene til samhandling med medelever. Har eleven spesialundervisning alene, utelukkes eleven fra muligheten til å samarbeide med andre. Dette kan bety at elever som har mange timer individuell spesialundervisning, mister de muntlige treningssituasjonene i full klasse som resten av klassen får. På den andre siden er disse elevenes muntlige aktivitet i ordinær klasse meget liten. Det kan bety at de får muntlig trening på riktig nivå i spesialundervisningen, men at dette ikke overføres til den ordinære opplæringen.

Elevene er mer ukonsentrerte og uvirksomme når de har ordinær opplæring enn når de har spesialundervisning. Forskjellene er fra små til nesten middels. Forskjellen er størst mellom gutter, og særlig når de ikke mottar spesialundervisning, men også jentene blir litt mer uvirksomme og mer ukonsentrerte når de ikke har spesialundervisning. Det kan bety at læreren ikke godt nok evner å fange konsentrasjonen til disse elevene. Det kan være at de kjeder seg eller ikke får oppgaver tilpasset sitt nivå, men blir sittende uvirksomme og ikke får utnyttet sitt potensial for læring. For eksempel viser studier om bruk av arbeidsplan at de elevene som trenger mest hjelp og støtte, kan bli sittende uvirksomme i lang tid (Helgevold, 2012; Klette, 2007). Det gjelder særlig fordi de kan oppleve at det er oppgaver de ikke mestrer, eller at det er en arbeidsform som krever stor grad av selvregulert læring, noe mange elever med vedtak om spesialundervisning ikke har oppøvd i stor nok grad. Det kan se ut til at spesialundervisning ikke er kraftfull nok til at eleven også tar det positive ved spesialundervisningen med seg inn i den ordinære opplæringen. Vi vet ikke hvilke vansker elevene i denne studien har, men ser vi på elever som får spesialundervisning generelt, så er det særlig mange gutter med atferdsvansker. Vi vet at evnen til konsentrasjon og til å jobbe selvstendig over tid kan være vanskelig for elever med atferdsvansker. Samtidig er hverken gutter eller jenter i denne studien noe mer eller mindre urolige og forstyrrer, enten de har spesialundervisning eller har ordinær opplæring, men de er mer uvirksomme og ukonsentrerte.

Forskjellen mellom organiseringen av ordinær opplæring kontra spesialundervisning handler i mange tilfeller om helklasseundervisning i motsetning til gruppe- eller eneundervisning. En tradisjonell helklasseundervisning, der læreren foreleser eller instruerer, gir stor sjanse for at motivasjon for læring hindres for lavt presterende elever (Kelly & Turner, 2009). Kelly og Turner

argumenterer for en helklasseundervisning med alternativ bruk av aktivitetsstrukturer som engasjerer alle. De fordelene som gruppeundervisning har, kan med letthet innlemmes i helklasseundervisning, slik at en får det beste fra begge og at alle elever motiveres. Mangel på alternative aktivitetsstrukturer kan gjøre at forskjellen mellom spesialundervisning og ordinær opplæring blir stor.

Det er svært stor forskjell mellom graden av tilrettelegging i spesialundervisningen sammenlignet med ordinær opplæring. Det ligger i spesialundervisningens funksjon at oppgaver skal spesielt tilrettelegges for elever med spesielle behov, men hovedtyngden av opplæring har de fleste elever med vedtak om spesialundervisning i den ordinære opplæringen. Det er sannsynlig at elever med spesialundervisning også trenger en viss tilrettelegging i den ordinære opplæringen. Det kan godt hende at de får tilstrekkelig tilrettelegging, og det kan også hende at de ikke trenger det. Forskning tyder på at det er en svikt i samarbeidet mellom spesialundervisning og ordinær opplæring, og at de to sidene ved opplæringen er for lite samstemt og sammenhengende (Festøy & Haug, 2017; Gillespie, 2016). Det er bekymringsfullt at det både er lite tilrettelegging av oppgaver når elever med vedtak om spesialundervisning har ordinær opplæring, samtidig som det er større grad av uvirksomhet og mangel på konsentrasjon. Det gjelder både gutter og jenter, men det er størst forskjell for gutter når de ikke har spesialundervisning. Dette kan ha en sammenheng, men det kan også bety at disse variablene henger sammen med helt andre faktorer som vi ikke observerer i denne studien.

Kompetansen til de som har ansvaret for opplæringen kan være en av disse andre faktorene. Et godt tilrettelagt klasserom krever en kompetanse i å tilrettelegge også for elever med særskilte behov. Det kan handle om den som utfører opplæringen eller om samarbeidet med en kompetent veileder. Spesialpedagogisk kompetanse kan være avgjørende for om eleven får den hjelp og støtte som trengs og om skolen er reelt inkluderende.

Det er et positivt funn at spesialundervisning ser ut til å ha et større potensial for læring enn ordinær undervisning (Haug, 2015), og at dette gjelder i like stor grad for jenter som gutter. Forskjellene mellom de to formene for opplæring synes å ha lite med kjønn å gjøre. Selv om forskjellen mellom spesialundervisning og ordinær opplæring er størst for gutter, er de betydelige for begge kjønn. Det ser ut til at mye av aktiviteten i spesialundervisningen er positivt forskjellig

fra ordinær opplæring. Samtidig er det bekymringsfullt at potensialet for læring er langt lavere når de samme elevene har ordinær opplæring. Data vi presenterer er tydelige indikasjoner på at elevenes aktiviteter er uttrykk for en positiv elevtilpasning i spesialundervisningen. Konklusjonen baseres på at faglig støtte, faglig aktivitet og arbeid med godt tilpasset lærestoff fremmer læringen.

IMPLIKASJONER

Vi har vist at de observerte forskjellene mellom gutter og jenter som har vedtak om spesialundervisning er svært liten på de områdene som er observert i denne studien, både når de har spesialundervisning og når de har ordinær opplæring. Dette blir støttet av annen forskning som også viser at forskjellene er langt mer nyanserte. Forskjellen mellom ordinær opplæring og spesialundervisning er derimot betydelig på flere områder, og størst er forskjellen for gutter.

Dette gir noen implikasjoner for videre undersøkelser og forskning. Først og fremst vil det være interessant å se nøyere på kjønnsforskjellene i skolen for å undersøke om det er slik at gutter og jenter generelt opplever å få like mye støtte fra voksen, er like aktive i klasserommet og får like god tilrettelegging, slik elevene med vedtak om spesialundervisning i vår studie ser ut til å få. Samtidig framstår det fortsatt stabilt og tydelig at det er dobbelt så mange gutter som jenter som mottar spesialundervisning, og det gjør at gutter blir en større gruppe i risiko for nederlag. Det er langt fra klart hva dette skyldes, men det er et problem at en gruppe elever systematisk står i større fare for å mislykkes i skolen, og det krever handling. Vi har reist spørsmålet om det er slik at skolesystemet og støtteapparatet rundt elevene konstruerer kategorier som gjør at gutter lettere henvises til spesialundervisning. Dette er komplisert og sammensatt og krever en større gjennomgang av både hvordan undervisning gjennomføres og oppleves for begge kjønn og hvordan henvisningssystemet fungerer.

Med tanke på den store forskjellen det ser ut til å være mellom spesialundervisning og ordinær opplæring i denne studien, kan det se ut til at elever med vedtak om spesialundervisning har et urealisert prestasjonspotensial som de ikke får tatt ut i ordinær opplæring. Her må den spesialpedagogiske profesjonaliteten styrkes, både i form av bedre samarbeid mellom spesialundervisning og ordinær opplæring samt endrede metoder som gir bedre vilkår for læring for elever med vedtak om spesialundervisning.

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CHAPTER 8

The development of performance for secondary school students in PE, in association with autonomy support, need satisfaction, motivation, and learning strategies

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ABSTRACT

How does students' motivation change throughout secondary school and influence outcomes like performance, participation, and exertion in PE? This question is answered by: (1) looking at the correlations between change scores for motivation variables, learning strategies, and performance, participation, and exertion outcomes in physical education (PE) throughout three years of secondary school, (2) analyzing mean changes in motivation regulations, learning strategies, and outcome variables over the three years, and (3) applying a person-centered approach to look at different sub groups in the development of performance, exertion, and participation. In the study, 86 Grade 8 students participated at Time 1 and 65 of these students completed the study in Grade 10. Quantitative measurements were conducted at three time points using questionnaires. Correlations between changes in autonomy support and need satisfaction measured early in secondary school and changes in autonomous motivation measured later in secondary school were significantly positively associated. In turn, changes in autonomous motivation were significantly positively related to changes in learning strategies,

which were significantly positively related to changes in exertion and performance in PE. A one-way repeated measured analysis of variance (ANOVA) indicated that a significant decrease was found for external regulation, whereas increases were found for absorption, effort regulation, help seeking, and exertion over time. A latent class growth analysis (LCGA) identified two different trajectories of performance among students – one in which performance was improved and one in which performance was stable. Covariates associated with performance class membership at Time 1 and Time 3 indicate that the probability of being in Trajectory 1 ("increase/improvement") rather than Trajectory 2 ("stable"), increases when the students are higher in autonomy support, autonomous motivation, need satisfaction, perceived competence, absorption, and effort regulation.

INTRODUCTION

Physical education (PE) aims to develop students' knowledge and skills for lifelong participation in physical activity (PA), yet many PE teachers report that motivating students is a significant challenge. Research on motivation is central for understanding why some students lack interest, show little effort, and display boredom in school, and why others exhibit high levels of engagement. Secondary students go through much change. It is of importance to look at how different motivational drives develop, change, and influence each other in this phase – the more time students spend in school, the less they become intrinsically motivated. PE teachers' motivational styles and practices have a huge impact on students and their engagement in learning, and can encourage students to adopt an active lifestyle (Wright, Patterson & Cardinal, 2000). Ideally, PE fosters learning about exercise and training, lifestyle, and health, and motivates students to adopt an active life in adulthood (Utdanningsdirektoratet, 2015).

This study uses Self-Determination Theory (SDT) as a theoretical framework to examine the importance of motivational factors and learning strategies in influencing performance, participation, and exertion throughout secondary school in PE. Deci and Ryan (2017) state that the central principles of SDT are important for PE, and that research based on the different mini theories of SDT may help educators and teachers to meet the goals of PE. In the following section, the self-determination theory and the concept learning strategies with some examples of previous research are presented.

Self-Determination Theory (SDT)

Over the last 40 years, Self-Determination Theory (SDT) has become a main theory of human behavior (Gagne & Deci, 2014). SDT is an empirically based theory of human motivation, development, and wellness (Ryan & Deci, 2002). The theory is focused on how social, biological, and cultural conditions either enhance or undermine inherent human capacities for engagement, wellness, and psychological growth in specific domains, and is concerned with the social conditions that facilitate or hinder human flourishing (Ryan & Deci, 2017). The organismic perspective of SDT is based on the assumption that humans have evolved to be physically active, inherently curious, and social beings. The theory is concerned with how social-contextual factors support or thwart peoples' ability to thrive through the satisfaction of their basic psychological needs for autonomy, relatedness, and competence (Ryan & Deci, 2017).

AUTONOMY SUPPORT AND NEED SATISFACTION

Teachers' autonomy support includes offering choice, minimization controlling language, and provision of a meaningful rationale for being active (Deci, Eghrari, Patrick & Leone, 1994; Reeve & Jang 2006). Teachers who are supportive of autonomy rather than controlling have students who are higher in need satisfaction and who are more autonomously motivated (Cheon, Reeve & Moon, 2012). In SDT, three universal and inherent psychological needs are identified that are required for optimal development and psychological health (Deci & Vansteenkiste, 2004). These needs are the need for competence, autonomy, and relatedness, (Deci & Ryan, 2008a). The need for autonomy is not the same as individualism, detachment, or independence. It is about volition and endorsement of one`s behavior (Deci & Ryan, 1985; Deci & Ryan, 2000). The need for competence refers to experiencing opportunities to express and exercise one`s capacities, and the feeling of being effective when interacting with the environment (White, 1959). The need for relatedness concerns the feeling of caring for, and being cared for by others, both individuals and groups (Baumeister & Leary, 1995). These three needs are considered sufficient and necessary to promote human growth and functioning (Deci & Ryan, 2000). Perception of autonomy, competence, and relatedness, together with self-determined motivation, enjoyment, and physical activity in PE also predict leisure time physical activity (Cox, Smith & Williams, 2008).

Soccer players, aged 11 to 18, in a study by Adie, Duda, and Ntoumanis (2012), perceived their coaches to be high and stable in both autonomy support and need satisfaction throughout two seasons. Perceived autonomy support also predicted changes between mean differences and changes within the basic psychological needs for relatedness, autonomy, and competence. In this study, players who perceived the highest degree of autonomy support displayed the highest change in basic need satisfaction. This also indicates that autonomy support has the potential to satisfy all three needs. In a longitudinal study in PE by Cheon et al. (2012), students were followed over one semester. The students' autonomy support first decreased and then leveled out. The need for autonomy remained unchanged, the need for competence increased, and the need for relatedness decreased and then leveled out. In a study of Greek junior high school students in PE, there was a significant decrease over time for the relatedness need (Ntoumanis, Barkoukis & Thøgersen, 2009).

Motivational Regulations

Within the self-determination continuum described in Deci and Ryan (1985), organismic integration theory represents differences in the ways in which behavior can be regulated and how these differences are experienced. SDT views the quality of motivation as more important than the amount of motivation for predicting outcomes, and a central point in SDT is the degree to which motivation is autonomous versus controlled. Autonomous motivation is when people have internalized the value of certain things and activities (Deci & Ryan, 2008). Autonomous motivation leads to many positive outcomes such as long-term persistence, healthy behavior, and effective performance (Deci & Ryan, 2008). Controlled motivation consists of external regulation and introjected regulation, and the behavior is motivated by external rewards and avoidance of punishments, or by shame and ego-involvement. People with controlled motivation feel pressured to behave or think in particular ways (Deci & Ryan, 2008).

Intrinsic and extrinsic motivation plays a huge role in predicting educational outcomes. Intrinsic motivation has been found to correlate with test scores at different levels at school (Lepper, Corpus & Iyengar, 2005), while extrinsic motivation has been found to negatively correlate with academic outcomes (Lepper, Corpus & Iyengar, 2005). Gillet, Vallerand, and Lafreniere (2012) investigated

intrinsic and extrinsic school motivation in 1600 students aged 9-17. They found a decrease in intrinsic motivation and self-determined extrinsic motivation from 9-12 years, stabilization up to 15 years, and then an increase up to 17 years. Non-self-determined extrinsic motivation decreased up to 12 years and then stabilized. Otis, Grouzet, and Pelletier (2005) found that intrinsic motivation and extrinsic motivation gradually decreases between Grades 8-10. In Greek junior high school, teachers observed a decrease in intrinsic and identified motivation and found that introjected and external regulation was stable over time (Ntoumanis, Barkoukis & Thøgersen, 2009). Corpus, McClintic-Gilbert, and Hayenga (2009) found that intrinsic motivation was higher among Grade 3 students than in Grade 8 students, with changes occurring in a single year. The same trends were reported by Lepper, Corpus, and Iyengar (2005), who found a linear decrease in intrinsic motivation from Grades 3-8, but not a significant decrease for extrinsic motivation. A three-year investigation at junior high in Greece showed a decrease in intrinsic and identified regulation, an increase in external regulation, and stability in introjected regulation (Barkoukis, Taylor & Ntoumanis, 2014). In a study of Japanese high school students, intrinsic and identified regulations decreased, and external and introjected regulations increased during junior high school. Profile analysis showed that some students showed only a decrease in autonomous motivation, while others showed only increase in controlled motivation (Nishimura & Sakurai, 2017).

Learning Strategies

Effort regulation is important to academic success because it not only signifies goal commitment, but also regulates learning strategies (Pintrich, Smith, Garcia & McKeanchie, 1991). Effort regulation is one of the resource management strategies that work as motivational beliefs and that promote and sustain different aspects of self-regulated learning (Pintrich, 1999). Change in intrinsic motivation and identified regulation positively predicts change in effort (Taylor, Ntoumanis, Standage & Spray, 2010).

Peer learning has been found to have a positive impact on achievement, and dialogue can help clarify material and reach insights one may not have attained on one's own (Pintrich, Smith, Garcia & McKeanchie, 1991). Help seeking from peers and the instructor is important – peer help, peer tutoring, and individual teacher assistance all facilitate student achievement (Pintrich et al., 1991).

Task absorption helps people concentrate on an activity. Mental focus is positively related to performance and enjoyment for students (Lee, Sheldon & Turban, 2003). Task absorption or involvement has been shown to be positively associated with intrinsic motivation and to lead to more free-choice puzzle solving, more time spent on the activity, and enjoyment (Cury, Elliot, Sarrazin, Da Fonseca & Rufo, 2002; Elliot & Harackiewicz, 1996). There is a positive correlation between absorption and participation in art education in university students (Wild, Kuiken & Schopflocher, 1995). A study among medical students found significant positive associations between study effort and academic performance (i.e., grades) for males (Kusurkar, Ten Cate, Vos, Westers & Croiset, 2013). Lynch (2006) reported that effort-regulation strongly predicted course grades for freshman and upper level college students. Effort as a learning strategy predicted final grades and performance in the lab among college students (Lynch, 2010).

THE PRESENT STUDY

The theory and research presented above link the different measures used in this study together, and show the importance of each of the variables for enhancing motivation and important outcomes in PE. Hence, the overall question for this study is: How do important motivational factors and learning strategies influence change in outcomes such as performance, participation, and exertion throughout secondary school in PE? This question is answered by: (1) looking at correlations between change scores for motivation variables, learning strategies, and performance, participation, and exertion in physical education (PE) throughout three years of secondary school, (2) analyzing mean changes in motivation regulations, learning strategies, and outcome variables over the three years, and (3) applying a person-centered approach to look at different sub groups in the development of performance, exertion, and participation.

The person-centered approach was explorative, but finding three groups was expected: students who increased their performance, exertion, and participation, students who decreased their performance, exertion, and participation, and students who maintained their level of performance, exertion, and participation throughout secondary school. Different groups were hypothesized to show different scores for autonomy support, need satisfaction, autonomous motivation, controlled motivation, and learning strategy use.

METHOD

Participants

In the study, 86 Grade 8 students participated at T1, and 65 of the same students completed the study in Grade 10. The PE teacher was the same for all of the three years. Quantitative measurements were conducted at three time points using questionnaires. Students responded to a questionnaire package in late February every year, just after receiving their semester grades. The questionnaire was completed in class with one teacher reading the questions out loud.

Translation of Measures

All questionnaire measures described below were translated to Norwegian, and back-translated to English, and adapted following the procedures suggested by Beaton, Bombardier, Guillemin, and Ferraz (2000).

1) Perceived autonomy support was measured with a short version of the Sport Climate Questionnaire (SCQ) adapted to physical activity from Williams, Grow, Freedman, Ryan, and Deci (1996), which shows good consistency and validity in Norway (Solberg & Halvari, 2009). The questions were modified to assess students' perception of the degree to which their teachers are autonomy supportive in physical education classes. Students respond to 6 items on a 1-7 scale. Two example items are: "My teacher encourages me to ask questions" and "I feel that my teacher understands me."

2) Psychological need satisfaction was measured with the 12-item "Basic Psychological Needs in Exercise Scale" (BPNES; Vlachopoulos & Michailidou, 2006), with four items measuring each of the three needs (i.e., the needs for competence, relatedness, and autonomy). Three sample items are: "I feel very much at ease with the other participants in physical education" (relatedness), "I feel I have been making huge progress with respect to the end result I pursue in physical education" (competence), and "physical education is highly compatible with my choices and interests" (autonomy). Participants responded to the items on a 7-point Likert-scale ranging from 1 (*not true at all*) to 7 (*very true*).

3) Motivation was measured with the self-regulation Questionnaire (SRQ) (Ryan & Conell, 1989). Items measuring identified and intrinsic regulation (14 items) were computed to form autonomous motivation. Students were asked to respond to reasons behind participating in physical education. There were

the following questions. "Why do you participate in physical education?" "Why do you work hard in physical education?" "Why do you train for difficult things in physical education?" "Why do you want to do well in physical education?" Students responded on a 1-4 scale. Example items are: "I participate because it`s fun" (intrinsic regulation), and "I want to learn and understand more" (identified regulation), "I want the teacher to think I am a good student" (introjected regulation), and "I get in trouble if I don't" (external regulation). Reliability and validity were satisfied (Halvari, Ulstad, Bagøien & Skjesol, 2009; Cock & Halvari, 2001).

4) Learning strategies were measured with three resource management strategies from the Motivated Strategies for Learning Questionnaire (MSLQ: Pintrich, Smith, Garcia & McKeanchie, 1991), namely effort regulation, peer learning, and help seeking. Sample items are: "Even when tasks in physical education are dull and uninteresting, I manage to keep working until I finish" (effort regulation), "I try to work with other students from this class to complete the tasks and activities" (peer learning), and "When I can't understand the tasks and exercises in physical education, I ask another student in this class for help" (help seeking).

A fourth learning strategy, absorption, was measured with the 3-item Absorption Scale (Elliot, Murayama & Pekrun, 2011). Absorption involves students using the time in class to concentrate on appropriate tasks, which is a skill related to a resource management learning strategy labeled time and study environment regulation (Pintrich et al., 1991). A sample item: "In this physical education class I concentrate on fulfilling the tasks." Participants responded to the items on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

5) Participation in physical education was measured by one question about how often students participate, ranging from (1) almost never to (4) very often.

6) Performance was measured by self-reporting grades and expectation of grades using the following two questions. "What grade did you get this semester?" "What grade do you expect to get next semester?"

7) Exertion in physical education was measured on a 5-point scale ranging from (1) "I do not exert myself" to (5) "I exert myself very much". This scale is developed from the Rating of Perceived Exertion Scale (RPE-Scale; Borg & Ottoson, 1986).

DATA ANALYSIS

Correlations between variables at each time-point and between change-scores were performed. Drop out analysis (one way ANOVA) was conducted to test for differences between those participating at all three time points (n = 69) with those only answering at T1, and T1 and T2 and T1 and T3. No significant differences between the groups were found. Further analysis was done with 65 students in ANOVA and with 86 students in the Mplus analysis.

A one-way repeated measured analysis of variance (ANOVA) was performed to look at changes over time for each variable, together with a follow up comparison to look at pairwise differences on each time-point.

Mplus (Version 7.3; Muthén & Muthén, 2007) was used to perform a latent class growth analysis (LCGA). LCGA is a statistical method used to analyzing longitudinal data in order to identify distinct trajectories (Jung & Wickrama, 2008). In this study, different trajectories were identified for performance, participation, and exertion. To identify the trajectories, the variance of the slope was fixed to zero, and the variance in the intercept was free. This was done to get a restrictive model. Several criteria were used to evaluate model estimation fit and to decide on the number of latent classes: the highest possible entropy (values close to 1 indicate high classification accuracy, and values close to 0 indicate low certainty), and significant results on the Bootstrap Likelihood Ratio Test (BLRT), the smallest Bayesian Information Criteria (BIC) and the smallest Aikaike`s Information Criterion (AIC) (Jung & Wickrama, 2008; Nylund, Aspaoutiov & Muthén, 2007).

RESULTS

Descriptive Statistics, and Reliability

In Table 8.1, means and reliabilities are presented for all the variables at Time 1, 2, and 3. All variables yielded good reliability estimates with values above .70 (Ponterotto & Ruckdeschel, 2007), except absorption and effort regulation at Time 1, with alpha values = .64 and = .56. Peer learning had values at .51, .42, and .38. This is below the recommended values regarding this sample size and is unsatisfactory (Ponterotto & Ruckdeschel, 2007); therefore, the variable peer learning was taken out of further analysis.

Table 8.1 Means, Standard Deviations and Reliability Coefficients (α) for Variables at Time 1, 2, and 3; N = 65.

	T1	SD	α	T2	SD	α	T3	SD	α
Autonomy Support	4.62	1.29	.91	4.44	1.26	.91	4.71	1.31	.92
Autonomy	5.15	.98	.75	4.93	1.20	.89	4.99	1.21	.84
Relatedness	5.86	1.24	.94	6.01	1.10	.92	6.10	.97	.74
Competence	5.36	1.08	.83	5.46	.97	.78	5.62	.88	.84
Need Satisfaction	5.46	.91	.76	5.47	.97	.85	5.57	.89	.83
Intrinsic Regulation	3.41	.59	.92	3.42	.58	.91	3.41	.48	.79
Identified Regulation	3.40	.47	.79	3.40	.50	.84	3.36	.54	.84
Introjected Regulation	2.30	.51	.76	2.41	.54	.75	2.24	.49	.69
External Regulation	2.29	.51	.76	2.25	.49	.73	2.02	.46	.68
Absorption	4.64	1.25	.77	4.69	1.29	.85	5.18	1.19	.83
Effort Regulation	5.60	1.06	.76	5.64	1.13	.86	5.93	.89	.81
Peer Learning	4.28	1.03	.51	4.83	.92	.42	4.93	.79	.38
Help Seeking	4.88	.81	.51	5.28	.95	.57	5.32	1.02	.74
Exertion	3.45	.69	–	3.66	.70	–	3.97	.73	–
Performance	4.37	.60	.69	4.45	.62	.75	4.51	.66	.70
Participation	3.78	.57	–	3.86	.43	–	3.88	.48	–

Correlations

Correlations between change-scores (Table 8.2) are in line with SDT research. Correlations between changes in need satisfaction (T1–T2) are significantly positively correlated with change in autonomy support (T1–T2). Both autonomy support (T1–T2) and need support (T1–T2) are significantly positively associated with autonomous motivation (T1–T2 and T1–T3). Change in autonomous motivation (T1–T3) is correlated with change in all of the learning strategies (T1–T3), and change in learning strategy use (T1–T3) is correlated with change in performance and exertion (T1–T3). Change in participation is uncorrelated to change in learning strategy use.

Table 8.2 Pearson Correlations Among Variables of Change (T1 – T2 – T3).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Autonomy support T1–T2												
2. Needs T1–T2	.38**											
3. Autonomy T1–T2	.48**	.87**										
4. Competence T1–T2	.08	.62**	.47**									
5. Relatedness T1–T2	.17	.84**	.55**	.53**								
6. Autonomous Motivation T1–T2	.31*	.55**	.65**	.28*	.33**							
7. Autonomous Motivation T1–T3	.25*	.21	.30*	.41**	.30**	.35**						
8. Absorption T1–T3	.06	.20	.24	.45**	.10	.28*	.58**					
9. Effort Regulation T1–T3	.18	.33**	.27*	.49**	.25*	.15	.36**	.36**				
10. HelpSeek T1–T3	.08	–.05	–.01	.13	–.10	.22	.39**	.46**	.14			
11. Performance T1–T3	.24	.36**	.33**	.59**	.23	.16	.54**	.32*	.39**	.28*		
12. Participation T1–T3	.19	.27*	.28*	.06	.28*	.12	.13	–.02	–.02	.07	.26*	
13. Exertion T1–T3	.32**	.31*	.34*	.36**	.13	.29*	.47**	.49**	.33**	.33**	.29*	.07

Change scores (standardized residuals) were estimated by regression of T2 measures onto T1 Measures and T3 measures onto T1 measures.

*p < .05. ** p < .01 N = 65

ANOVA Repeated Measures

A significant time effect (Wilks' Lambda = .76 $F_{2,65}$ = 9.81, p<.001) is shown for external regulation, with a decrease from T1-T3 and T2-T3 (T1-T2 is not significant). A significant time effect (Wilks' Lambda = .78 $F_{2,65}$ = 9.15, p <.001 is also shown for absorption, with an increase from T1-T3 and T2-T3 (T1-T2 is not significant).

Further, a significant time effect (Wilks' Lambda = .85 $F_{2,65}$ = 5.57, p < .01 is shown for effort regulation, with increases from T1-T3 and T2-T3 (T1-T2 is not significant). In addition, a significant time effect (Wilks' Lambda = .80 $F_{2,65}$ = 7.90, p < .001 is shown for help seeking, with increases from T1-T2 and T1-T3 (T2-T3 is not significant). Finally, a significant time effect (Wilks' Lambda = .66 $F_{2,65}$ = 16.38, p < .001) for exertion was found, with increases from T1-T3 and T2-T3 (T1-T2 is not significant). All other variables had non-significant changes.

Determination of Number of Latent Classes

Two different trajectories of performance among students were identified. In Table 8.3, the fit indices for the different number of latent classes from the LGCA are presented. A two-class solution was chosen because of the lowest BIC value and a significant BLRT value for 2 versus 3 classes. A three-class solution had a higher entropy and a smaller AIC than the two-class solution, but because of the small number of participants (n = 3) in one of the groups in the three-class solution it was more meaningful to choose the two-class solution. Trajectory 1 consisted of 35 participants (41%) and is called "stable" (Intercept: M = 4.16, SE = .08, p = < .001; Slope: M = .01, SE = .07, p = .91). Trajectory 2 consisted of 51 participants (59%) and is called "increase" (Intercept: M = 4.80, SE = .08, p = <.000; Slope: M = .16, SE = .03, p = <.000). Regarding exertion and participation, no trajectories were identified due to significant BLRT value for only the one-class solution, and a small number of participants when looking at other class solutions.

Table 8.3 Fit Indices for Latent Growth Class Models of Performance for Different Number of Trajectories.

No. of Classes	No. of free parameters	AIC	BIC	BLRT (p – value)	Entropy	Latent class proportion (%)
1	6	287.68	302.40			
2	9	273.67	295.76	.075	.77	41/59
3	12	267.64	297.09	.003	.85	3/38/59
4	15	265.88	302.68	.67	.81	50/23/2/11

Note. N = 86. AIC = Aikaike's information criterion; BIC = Bayesian information Criterion; BLRT; Bootstrap Likelihood Ratio Test

Covariates Associated to Performance Class Membership at T1 and T3

In Table 8.4, descriptive statistics for all covariates in both of the trajectories at T1 and T3 are presented. Results from the multinomial logistic regressions are presented in Table 8.5, with coefficient differences for trajectory group membership, and odds ratio on eight independent variables at T1 and T3. At T1, the probability of being in Class 2 ("increase") rather than Class 1 ("stable") increases when the students are higher in autonomy support, autonomous motivation, need satisfaction, perceived competence, absorption, and effort regulation. At T3, the probability of being in Class 2 ("increase") rather than Class 1 ("stable") increases when students are higher in the same variables as T1. Controlled motivation and help seeking were not significant in predicting membership in any of the two trajectories.

Table 8.4 Descriptive Statistics for Covariates for the Latent Trajectory Classes of Performance at T1 and T3.

	Class 1 T1 Stable n = 35	Class 1 T3 Stable n = 35	Class 2 T1 Increase n = 51	Class 2 T3 Increase n = 51
Autonomy Support	4.0 (1.15)	4.0 (1.27)	4.9 (1.40)	5.1 (1.11)
Need Satisfaction	4.9 (.90)	5.0 (.86)	5.7 (.82)	6.0 (.62)
Perceived Competence	5.3 (1.05)	5.3 (.79)	6.2 (.81)	6.3 (.58)
Autonomous Motivation	3.2 (.55)	3.2 (.44)	3.5 (.37)	3.6 (.43)
Controlled Motivation	2.4 (.46)	2.2 (.49)	2.2 (.45)	2.1 (.44)
Absorption	3.9 (.97)	4.6 (1.24)	4.9 (1.19)	5.6 (.92)
Effort Regulation	5.2 (1.27)	5.5 (.84)	5.8 (.94)	6.3 (.72)
Help Seeking	4.8 (.78)	5.1 (1.16)	4.9 (.81)	5.5 (.83)
Performance	4.2 (.46)	4.2 (.33)	4.8 (.36)	5.2 (.26)
Exertion	3.3 (.73)	3.7 (.80)	3.5 (.61)	4.1 (.61)
Participation	3.5 (.79)	3.7 (.76)	3.9 (.41)	4.0 (.15)

Table 8.5 Predictors of Membership in the Latent Trajectory Classes of Performance (Class 1 = Stable, Class 2 = Increase).

	Class 2 vs 1 at T1 Coeff OR		Class 2 vs 1 at T3 Coeff OR	
Autonomy Support	.51*	1.66	.77**	2.17
Need Satisfaction	1.13**	3.10	1.79**	6.00
Perceived Competence	1.08**	2.93	2.03**	7.64
Autonomous Motivation	1.83*	6.22	2.20*	8.99
Controlled Motivation	–.91	.40	–.59	.56
Absorption	.83**	2.28	.92**	2.51
Effort Regulation	.55*	1.74	1.32**	3.74
Help Seeking	.25	1.29	.45	1.57

*p < .05; **p < .001. Coeff = Coefficient; OR = Odds ratio; N = 85

DISCUSSION

The main purpose of the present research was to answer the following research question: How do important motivational factors and learning strategies influence changes in performance, participation, and exertion throughout secondary school in PE? This question was answered by looking at correlations between change in scores for motivation variables, learning strategies, and outcomes in physical education (PE) throughout three years of secondary school, change in scores between mean values, and if different trajectories were emerging when looking at the development of performance, participation, and exertion in students.

From an SDT perspective, and based on a supported SDT process model in PE courses in Grades 8–10 (Ulstad, Halvari, Sørebø & Deci, 2016), some correlations between motivational constructs can be expected. In Ulstad, Halvari, Sørebø, and Deci (2016), autonomy support from teachers was positively related to basic psychological need satisfaction. Need satisfaction was positively related to autonomous motivation and perceived competence, both of which were positively related to learning strategy use. Finally, learning strategy use was positively related to the level of participation and the performance (i.e., grades) in PE. Both performance and participation were hypothesized to increase when increases occur in the use of learning strategies. What we see in this study

regarding correlations between change scores is a similar tendency, supporting the SDT process model of participation and performance in PE. Correlations between changes in autonomy support and need satisfaction measured early in secondary school and changes in autonomous motivation measured later in secondary school were significantly positively associated. In turn, changes in autonomous motivation were significantly positively related to changes in learning strategies, which were significantly positively related to changes in exertion and performance in PE. This indicates that students who perceive their teacher to be more autonomy supportive experience more need satisfaction and autonomous motivation. Becoming more autonomy motivated seems to lead to use of those learning strategies that improve performance and levels of exertion in PE. This highlights the importance for secondary school teachers to be autonomy supportive towards their students. As we see from the ANOVAs, perceived autonomy support stayed at the same level throughout secondary school for the whole group of students. Students who increased their performance also reported an increase in perceived autonomy support. This indicates that teachers should try to reach out to more of the students to be perceived as more autonomy supportive.

The overall results from ANOVAs for the whole group of students (n = 65) for the three years indicates that students' perception of teachers' autonomy support is the same between Grades 8–10. Students' need satisfaction and motivational regulations (except external regulation) also seems to stay at the same level. This lack of change is significant in all three years. This is better than expected because other studies (e.g., Gillet, Vallerand & Lafreniere, 2012; Otis, Grouzet & Pelletier, 2005; Gottfried, Flemming & Gottfried, 2001) report a decrease especially in students' motivational regulations throughout secondary school. Some other studies include different subjects in their analysis, which may have led to different results. A strength in this study is that it only measured the different variables for PE. With a stable mean of 3.4 on a 5-point scale on intrinsic and identified regulation, the students were demonstrated as being quite high in autonomous motivation, which may lead to a range of positive outcomes (Deci & Ryan, 2008).

Regarding autonomy support and need-satisfaction, there seems to be a decline in secondary school in students' self-reports in the literature. Differences

can occur between the different needs (Cheon, Reeve & Moon, 2012; Ntoumanis, Barkoukis & Thøgersen, 2009), but the tendency is that they decrease. With a mean of 4.6 on a 7-point scale for autonomy support and a stable mean of 5.5 for need satisfaction, the students in this study seem to be in an environment that enhances autonomous motivation in PE. The satisfaction of the three needs is important for human growth and functioning (Deci & Ryan, 2000; Deci & Vansteenkiste, 2004).

All of the learning strategies (absorption, effort regulation, and help seeking) showed significant positive changes over time. All students were high in learning strategies, and they learned to use these learning strategies even more as they progress in secondary school. This should help them to perform better (Kusurkar, Ten Cate, Vos, Westers & Croiset, 2013; Lynch, 2010), and participate more (Wild, Kuiken & Schopflocher, 1995). Some differences seem to occur between the different learning strategies. Help seeking increased between Grades 8 and 9, while absorption and effort regulation increased between Grades 9 and 10. Exertion and effort regulation changed significantly, mostly in Grades 9 and 10. This may have something to do with the final grade students get in Grade 10. The assessment in Norway may also be quite different than in other countries, and this may play a role in enhancing effort regulation and exertion. Students' effort in PE is part of their basic subject assessment. This is often communicated to students and is highlighted as important for those wanting to improve their grades.

Overall, it seems like the students' development in autonomy support, need satisfaction, and motivational regulations are stable over time. The learning strategies seem to change positively.

What do we see regarding the same variables if we look at the two trajectories that emerge from the LCGA analysis? Results from LCGA show a more nuanced picture of the development of performance in sub-populations of students in secondary school PE. One trajectory with 35 students is labeled "stable." In this group performance is at the same level throughout secondary school and starts at a lower level than in the other group in Grade 8. The other trajectory with 51 students is labeled "increasing". The students in that group have an increase in their performance throughout secondary school and they also start higher in performance in Grade 8.

If we look at these two trajectories and how they relate to the other variables, we get a more nuanced look at the development of performance. Students who increase their performance are likely to have a higher perception of autonomy support, higher need satisfaction, and higher autonomous motivation. Students who have a stable performance throughout secondary school are likely to have a lower perception of autonomy support, lower satisfaction of needs, and lower autonomous motivation. Regarding the use of learning strategies, being high in absorption and effort regulation puts students in the "increase" group. Being high in help seeking and controlled motivation does not significantly put students in either of the two trajectories.

The group that is stable in performance is also stable in autonomy support, need satisfaction, perceived competence, and motivational regulation. The students with increased performance are also quite stable in autonomy support, need satisfaction, perceived competence, and autonomous motivation, but at a higher level. In Grade 10, the "increase" group is 1.0 above the "stable" group in mean values on autonomy support, need satisfaction, and perceived competence. Indeed, the reason for the increase in performance in one group may be because of a higher level of autonomy support, perceived competence, and need satisfaction together with a higher mean level in absorption and effort regulation.

It seems that being high in performance in Grade 8 is important for increased performance throughout secondary school. Motivational constructs such as autonomy support, need satisfaction, and autonomous motivation seem to stay at the same level, but when it comes to the use of learning strategies, we see an increase in this group. This, together with a higher level of autonomy support may explain the change in performance that occurs. Students showing more absorption, effort regulation, and more help seeking perform better.

The results from this study emphasize the importance of autonomy support and the importance of facilitating need satisfaction among students, especially those who show lower levels of performance. It is also of importance to help students use learning strategies such as effort regulation and help seeking. This study highlights the development of performance for secondary school students in PE in association with autonomy support, need satisfaction, motivation, and learning strategy use, and may contribute to the knowledge regarding what teachers can do to improve their students' performance.

Limitations and Further Research

There are several limitations in this study. All data from the students were based on self-reports. Students may have misunderstood questions or they may have tried to gain the teacher's approval. Using observed measures of students' participation and performance would have strengthened the study. Other aspects of students' motivation, such as self-efficacy, mastery goals, interest, and absorption could have led to different results. The number of participants is low for performing LCGA analysis. A higher number of participants probably would have helped in creating different sub groups, and maybe also helped in detecting trajectories regarding participation and exertion. A group of students who decreased their performance would have been of interest for analysis, and it would also have been of interest to compare students' measures on all variables in other subjects to see if there are any differences between subjects. Looking at gender differences would also have been interesting. Future research should also explore why the students in one of the groups increased their performance in a more thorough way using more participants and also measuring other variables. Regarding different academic subjects in school, there may also be differences. Gottfried, Flemming, and Gottfried (2001) found a decrease for intrinsic motivation in math and science classes, a small decrease in reading and for school in general, and no change for social studies from middle elementary throughout the high school years. Further research is needed in this area.

CONCLUSIONS

Using a LCGA person centered analysis is new with SDT variables in PE. The current study is the first to investigate different developmental trajectories for performance in PE students. The present study contributes to the SDT-based literature and shows a nuanced picture of the development of performance in different trajectories in secondary school PE, linking this development to autonomy support, need satisfaction, motivational regulation, and learning strategies. By using different approaches when analyzing the development of different motivational variables and outcomes in PE, and by considering correlations between change scores, change scores between mean values, and different trajectories, nuances are revealed that may help teachers better understand what happens in the development of performance throughout secondary school.

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CHAPTER 9

Teaching represented: a study of student-teachers' representations of the professional practice of teaching

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ABSTRACT

This paper explores student-teachers' representations of what is considered teachers' professional knowledge. Acknowledging the gap between theory and practice in teacher education, the current study investigates what this gap might mean in terms of how student-teachers represent knowledge of the profession. The study maps students' representations of knowledge in a double dichotomy that spans between the universal and local and the theoretical and procedural. The knowledge landscape mapped questions what epistemologies students encounter both in and outside of campus during their education. A discussion follows on how the traditional gap between theory and practice can be understood when the representations of professional knowledge are made by teacher-students themselves.

INTRODUCTION

Most teacher education programs include a theoretical as well as a practical component. This combination of a practical and a scientific-oriented route into the profession is also grounded in the Norwegian framework plan: "Teacher education institutions offer integrated, profession-orientated primary and lower

secondary teacher education […] rooted in research and experience-based knowledge (Ministry of Education and Research, 2016)". A benefit of this model is that students may become better qualified to teach during their preservice years. However, integrating disparate domains such as theory and practice on the one hand and experience and research-based knowledge on the other can be a complex undertaking.

The Ministry of Education and Research claims that the programs offered by educational institutions are "integrated". The current study acknowledges the idea of a program being "integrated" as a reference to how the program succeeds in merging the academic disciplines disseminated on campus with the practical aspects of the profession encountered during practicum placement. Presumably, an integrated approach strives to create coherence between the disparate domains of the educational institution and the field of practice. The Ministry of Education and Research claims that the programs are rooted in both "research and experience-based knowledge". Hence, teacher education is facing a challenge in integrating knowledge from varying, sometimes opposite, epistemological positions. It is important to note here that research-based knowledge may be abstract and theoretical, whereas experience-based knowledge may remain unarticulated.

Researchers studying education claim there is a "gap" between what is taught on campus and what skills are required to succeed in the classroom. This perceived gap between theory and practice is not unique for Norwegian teacher education; instead, it seems to be a challenge shared globally. Critique stems from the assumption that knowledge and practices taught within preservice programs will enable professional practice in the workplace. However, there is a disparity between the types of skills and knowledge taught in educational institutions and the reality of the workplace (Allen & Wright, 2014).

The current study aims to investigate how professional knowledge is represented by student-teachers. The study departs from the assumption that throughout their preservice years, student-teachers encounter the teaching profession in various epistemological disguises that influence students' perceptions of what a teacher's professional knowledge is. The abovementioned gap can then be investigated by exploring the epistemological positions that are represented by the student-teachers participating in this study.

The research question posed is as follows:

What epistemological positions can be inferred from the student-teachers' own representations of professional teacher knowledge as experienced on campus and in practicum?

In the current study, a class of first-year student-teachers were observed as they shared with their peer students the interpretations of chapters of a handbook on classroom management (Bergkastet, 2009). The same group of students were observed when they shared their experiences from the first practicum placement. In both settings, the students conveyed their messages by presenting them using PowerPoint. Video recordings of the presentations were transcribed and analyzed slide-by-slide. A model, designed as a double dichotomy, was created to capture a variety of different epistemological positions expressed by the students. The foundations for the discussion were four representative samples from the data collection; these illustrate the extremes of a double dichotomy that situates the student-teachers' representations of professional knowledge between local or global and between theoretical or procedural.

BACKGROUND

In 1904, Dewey identified two approaches to combining theoretical knowledge and practical skills in teacher education (Dewey, 1904). *The apprenticeship approach* encompasses teaching the practical skills to do the job proficiently. The apprentice learns from observing demonstrations and best practices that are encountered in practicum and on campus. *The laboratory view* advocates the need to design practical experiences to "inform and make real and vital the two components of theoretical work – subject matter knowledge and educational principles and theory". Dewey claimed that the apprenticeship approach looks backward because it is based on imitating the local, particular and situated and the "hard-won gains of past tradition and practice". The laboratory view looks forward because it generates transferable, general knowledge. A similar conception of knowledge is conceived of by Bruner (1986) who referred to "paradigmatic knowledge", which is the finite, certain and objective, and "narrative knowledge", which is socially constructed and embedded in a certain context (Bruner, 1986).

For decades, debates have centered on the relationship between professional knowledge and its application. Referring to the "indeterminate zones of practice", Donald Schön (Schön, 1992) illustrated how the theoretical foundations

of professions fail to capture the complexity of practice. The grittiness of reality escapes ready-made models derived from theory, and accordingly, questions arise as to what constitutes competent practice. A mode of professional knowledge is one embedded in action. Metaphors such as "the artistry of teaching" (Eisner & Reinharz, 1984) and "pedagogical tact" (Van Manen, 2008) reflect ideas of professional knowledge tacitly expressed in the action of teaching, or doing.

Schön (1983) introduced the terms "knowing-in-action" and "reflection-in-action" to capture the tacit knowledge embedded in action and to place a focus on the on-the-spot decision-making of professional practitioners (Schön, 1983). The reflexive approach is echoed by Shulman's (1998) view that the exercise of *judgement* is what negotiates the ground between theory and practice, and knowledge and its application (Shulman, 1998).

Traditionally, academic knowledge from an educational institution has preceded over the practical knowledge and expertise that resides in the schools (Zeichner, 2010) and curricula in Teacher Education leans toward the "paradigmatic" type (Burnett, 2006). The "action-guiding" knowledge required in practicum differs from the "abstract, systemized expert knowledge" that resides in teacher education (Korthagen & Kessels, 1999, p. 5). Students perceive in-the-field experience as practical, real and immediate, whereas on-campus work is considered theoretical, remote and of "little value in becoming a teacher" (Allen, 2009, p. 653).

Literature, thus, refers to knowledge pertaining to the teaching profession along opposing positions. Theoretical knowledge that resides in educational institutions is contrasted by the practical and action-oriented skills required in practicum. Knowledge can be universal and transferrable on the one hand, or it can be local and context bound. These observations will be addressed when discussing the findings of the current study further below.

TEACHER EDUCATION – SITUATED BETWEEN PRESENCE AND REPRESENTATION

The goal of the current study is to explore what epistemological positions are expressed when student-teachers report on knowledge practices on campus and in practicum. To pursue this goal, some clarification is needed on the ontological basis of the study. A key question is the following. In what way is the teaching

profession itself present in the activities in which the student-teachers take part, both on campus and during practicum placement?

Traditionally, educational institutions present knowledge about the world "outside" and for that very reason they rely upon a representational epistemology. This is an epistemology that says that our knowledge "stands for" or represents a world that is separate from our knowledge itself (Osberg & Biesta, 2003, p. 84). This quote originally aimed at explaining how the evolution of a world of education has led to a split between the "world outside" in which pupils learn, and a separate world of institutional, educational practices. The world outside needs to be represented in the school classroom, something which has become a realm of its own. The statement may also hold true for activities in teacher education; the outside world of the teaching profession is brought into the classrooms and lecture halls on campus by means of mediating tools and artefacts. That is, handbooks on classroom management convey aspects of the profession by representing it in terms of text, graphics and images.

However, a representation is not a reflection of the real world or a mirror of reality. It should be considered a version of people, places, things, objects or concepts. In educational settings, words and images are combined to represent ideas, make meanings and represent versions of the world. Therefore, student-teachers' representations of professional knowledge do not *re-present* some pre-existing reality, but actively construct it (Unsworth, 2011). Representations "produce" and "create" the object they assume to represent, that is, objects gain their meaning in and within representations. Such representations are always influenced or mediated by ways of thinking about the world; therefore, they are not fixed (Miller & Colwill, 2010).

The teaching profession is also sometimes *present* for the student-teachers since they participate in the very practice of teaching during practicum placement. Then, the profession is not "re-presented" in a remote institutional context; instead the profession itself is being *present* in the situated context of the school environment.

The current study puts the student-teachers' agency at the center of the process of learning and emphasizes the transformative and agentive action performed by the students when making their own representations of curricular knowledge and representations of their experiences from practicum. Fundamentally, the approach grounds the study in a constructivist worldview to approach the problem of a gap between theory and practice as an issue of

representation, where representation cannot be an isomorph with "reality", instead it is evidence of the student-teachers' engagement with certain aspects of the teaching profession. Borrowing a social semiotic perspective on the act of making meaning, representation ultimately becomes a *sign-making* activity. Representation is defined in the following.

> …process in which the makers of signs (…) seek to make a representation of some object or entity, whether physical or semiotic, and in which their interest in the object, at the point of making the representation, is a complex one, arising out of the cultural, social and psychological history of the sign-maker, and focused by the specific context in which the sign-maker produces the sign (Kress, 2006, p. 7).

To pursue the intention of the study, access to observing the student-teachers' representational practices and sign-making activities is essential.

EMPIRICAL SETTING

By informally surveying teacher educators' plans for the current term, it became apparent that using PowerPoint would be an established method for making students share their assignments. The current study is based on data retrieved from observing on two separate occasions a full class of first-year student-teachers (N = 17) in a class on pedagogy.

The first setting centered on the outcome of a compulsory assignment. As a means for preparing the student-teachers' forthcoming practicum placement, a book from the syllabus on classroom management and relational competence (Bergkastet, 2009) was the subject for analysis by the students. The various book chapters were distributed among the student-teachers, and the student-teachers were responsible for presenting to their peers an interpretation of the chapters. The student-teachers were told to pay attention to what tools and methods for classroom management were introduced by the handbook. They were asked to promote what aspects of the text they liked and what challenges the methods and approaches of the handbook introduced.

The second session took place a month later. The subjects of the presentations were the student-teachers' reports on their recent practicum placement. The purpose of the assignment was to link the student-teachers' experiences

with the curricular topics, such as a teacher's role, classroom management and didactic planning. The student-teachers were told to report on their systematic observations on their pupils' learning activities, on the practicum regarding a teacher's ways of managing a class, means of organizing learning activities and means of developing supportive conditions for learning.

DESIGN

The study design is an instrumental case study, which uses a particular case to examine an issue for insights (Stake, 1995). The instrumental case study is an appropriate tool because it facilitates an understanding of a particular phenomenon other than the case itself. In the present study, the cases comprise presentations performed by the student–teachers. However, the phenomenon external to the situation is that of *student-teachers' epistemological positioning,* which is expected to be observed in the student-teachers' representations of professional practice.

The empirical material was collected by observing and video recording both sessions in which the full class of first-year student-teachers (N = 17) used PowerPoint to present the outcomes of compulsory assignments. The class was organized into five groups of three-to-four members. Each presentation lasted 8-12 minutes and comprised from 6 (min.) to 17 (max.) slides. The total number of slides presented was 75.

Because of the multimodal nature of communication in instructional communication (Mishra, 2008, p. 363), video was considered the best tool for capturing data in the field. A single HD camera was positioned at the back of the classroom to capture the student-teachers' actions and speech and the visual content projected on screen. During the presentations, field notes were taken using an observation template to capture thoughts and ideas evoked in session.

The video recordings were turned into data by transcribing speech and incorporating into the transcripts other meaning-making resources such as text, graphics and images. Segments of speech and the corresponding PowerPoint slides were first coded and categorized using HyperResearch software (Hesse-Biber, Kinder & Dupuis). A code book of 51 codes was established across all data sources. Some codes were defined close to the data-reflecting aspects of professional knowledge thought to be represented by the data segments. A priori codes were derived from the theoretical backdrop and applied where appropriate.

To achieve further abstraction, code categories were labelled *universal domain* and *local domain,* depending on the context of the expression of knowledge implicit in the allocated code segment. Further diversification was achieved by sorting the codes according to the segments, producing *propositional* knowledge or *procedural* knowledge. For this paper, a selection of samples, representing the variation width along the two dichotomies, is used as an illustration.

To obtain a more in-depth understanding of the phenomena of representation of professional knowledge, a multimodal analysis was conducted on candidate samples. Analysis was carried out by studying the slides and their constituent elements alone and studying the interactions between the presenter's speech and the meaning-making resources embedded in the slide, such as text, images and photos. Drawing on a recent study on PowerPoint presentations (Zhao, Djonov & Van Leeuwen, 2014), transcripts for publication featured the overarching heading *semantic integration,* which spans across transcribed speech, and *visual information,* which encompasses the elements projected as slides.

Analytical framework

To support the analysis of the data from the field, the study adopted the amended Learning Design Sequence (LDS) as an analytical framework. The original model is aimed at mapping "the design activity in learning sequences, the formation and transformation of knowledge" (S. Selander, 2008; S. Selander & Kress, 2010). In the current context, this corresponds to the student-teachers' learning process as they make representations by giving shape to the chapters from the handbook on classroom management and by giving shape to their experiences from practicum. Essential to this is the notion that the sign maker, guided by his or her interest, selects from the available resources to make an apt representation, or sign, of the aspect of the world that is in focus. The student-teachers apply semiotic software (PowerPoint) to make a representation of the issue at stake, drawing on the software's affordances in terms of applying fonts, layout, colors, tables, images and so forth. In the context of initial teacher education, the student-teachers' sign-making activities are thought to be pedagogically motivated.

A mode is a socially organized set of semiotic resources for making meaning. Examples of modes include image, writing, layout and speech (Jewitt, Bezemer & O'Halloran, 2016). Fundamental to the multimodal social-semiotic approach

is an understanding that where several modes are involved in a communicative event, all the modes can be combined to represent a message's meaning (Kress & Van Leeuwen, 2001). The meaning of any message is, however, distributed across all these modes and not necessarily evenly. Therefore, each mode is partial in relation to the whole of the meaning, and speech and text are no exceptions (Kress & Jewitt, 2003). Therefore, multimodal research attends to the interplay between modes and looks at the specific work of each mode and how each mode interacts with and contributes to the others in the multimodal ensemble. In the current setting, such a multimodal interplay occurs across meaning-making devices within the *pre-formed* PowerPoint slide and between the *pre-formed* slides and the presenter during *performance* (Van Leeuwen, 2016).

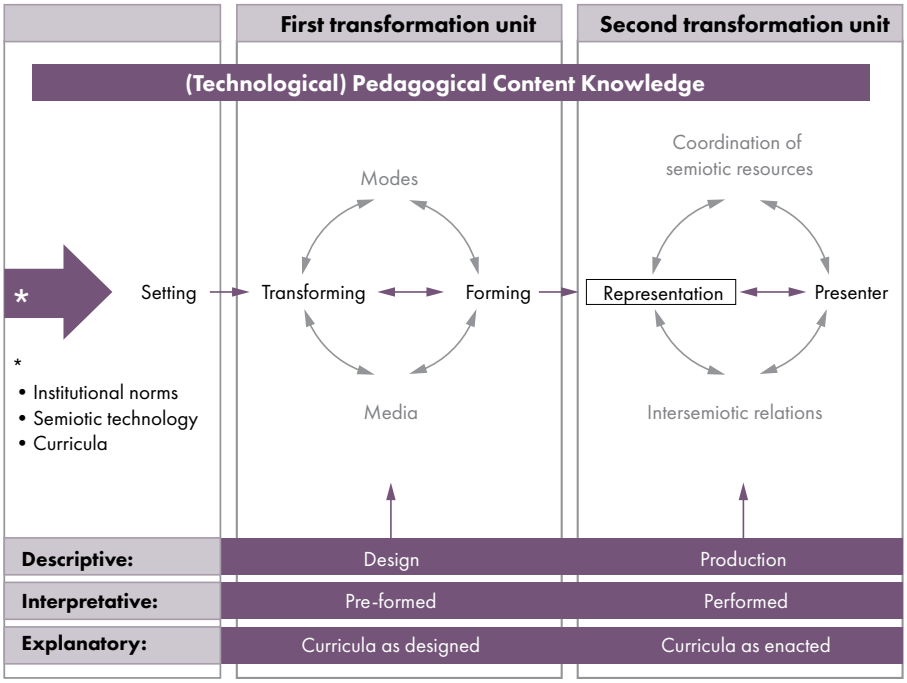


Figure 9.1 Learning design sequence amended (Kvinge, 2017 (in press)).

In the two settings observed in the current study, the student-teachers engage by creating a representation of the issue at stake in two stages; these correspond

to the first and second transformation units of the LDS. In the first unit, the student-teacher directs his or her transformative engagement toward the assignment issued by the teacher educator, toward his or her own recent experiences from practicum and toward aspects of the designated chapter. The semiotic software permits the student to design a multimodal representation of the issue at stake. In material terms, the outcome of the first cycle is a set of PowerPoint slides. The first transformation unit maps the part of the process where the *representation* is *pre-formed*.

In correspondence with the LDS model's second transformation unit, the student-teacher's representation is performed for the instructor and peer student-teachers for discussion, feedback and assessment. The settings observed and video recorded for the current study show numerous instances of the second transformation unit. Although the transformation this time takes place in real time, the presenter's agency and interest are also considered to be guiding the transformative processes across the modes available in the situation. The researcher's focus is directed at the multimodal interplay that occurs between the *pre-formed* semiotic artefact and the student-teacher who performs the presentation.

FINDINGS

The following section presents four transcripts that constitute different epistemological positions regarding how they represent a teacher's professional knowledge. The transcript template features both the pre-formed slides, which are referred to as *visual information* in the left column, and the accompanying student–teacher's performance, which is represented as speech in the right column. Combined, the modes in the slides and the presenter's speech constitute a *semantic unit*, where meaning is distributed between the resources at play. This is thought to be in accordance with a multimodal social-semiotic view on how meaning is made and influenced by the norms prevalent in the current setting. A motivation for doing so is to gain insight into the transformative principles that underpin a student's representation of what may be interpreted as an epistemological position.

Curricular theory – procedural knowledge as universal theory

The first empirical example is taken from the dataset where student-teachers' presentations are responding to an assignment on pedagogy. Chapters of a book were

distributed among the student-teachers for peer presentations. The book itself was referred to by one student-teacher as a "practical handbook for teachers in primary school which proposes ideas for efficient teaching, and which illustrates the importance of the teacher". The current slide was presented as one in a series of eight, and it sums up a section of the handbook that discusses the logistics of the classroom and principles for effective communication. The transcript below represents the slide (left) and the presenter's full spoken comments about this slide (right).

Table 9.1 ex. 1.

Semantic integration	
Visual information:	**Presenter's speech:**
Three principles of organizing **1. eye contact with pupils** **2. move about quickly and efficiently** **3. movement without disturbance or "traffic jam"**	Then, there are three specific principles mentioned in the book, and the first is that the teacher should be able to have eye contact with all pupils when teaching and when giving messages for all. The second is that the teacher must be able to get to the pupils in a quick and efficient manner to assist, encourage and correct. And the third is that the teacher should be able to move about to do what is required without making disturbance or causing a traffic jam.

The slide displays how a student-teacher has engaged with the original text and transformed a chapter of a book on the logistics of a classroom into three principles. The affordance of the software is used to format the principles into three numbered bullet points. The formatting makes the principles appear as a set of rules governing good classroom practices. The sentences do not have a subject clause, yet it is apparent from the context that the principles are meant to apply to teachers. The missing subject clause, however, makes the second principle appear imperative and takes it in the direction of becoming a "commandment". The absence of images or illustrations of any sort emphasizes the context independence and universality of the principles. The presenter elaborates on the bullet points in her talk by specifying on what occasions the teacher should observe the principles. However, the principles still emerge as a normative theory of universal applicability.

The example is typical of a category of data where what is represented is primarily practical knowledge that resides in the teacher's actions in a classroom setting. The book is a representation of a teacher's reality. At its core, such knowledge can be considered experiential and "narrative" because it usually is embedded in a context. The author of the textbook transforms the practical wisdom of classroom management by selecting what aspects of "the reality of it" to present and how to represent it. Being a curricular entity, the handbook serves as a medium for bringing the practical knowledge, which resides in the classroom context, to the student-teachers' attention. The student-teachers, however, engage with the book as theoretical knowledge of the "paradigmatic" kind, and their transformation turns the textbook chapter into normative rules which are context independent.

Curricular theory – applied to the local

The second empirical example is taken from a session where a group of students reported on their experiences in practicum. Throughout their presentations, the group reported on observations made on a teacher's role, classroom management and didactic planning, all of which were central items for the class on pedagogy.

Example 2 (below) features a slide describing how the current group utilized the Didactic Relation Model (Bjørndal, 1978) as a tool for planning and conducting a lesson. The slide is designed using three elements. The headline introduces the topic (didactic planning) and is separated from the other elements because it is placed in the designated area for a headline provided by the selected PowerPoint template.

Left is an unordered list featuring seven items that appear to be key words to support the presenter's reasoning. The key words do not convey meaning entirely by themselves, although the heading and the context of the presentation may give the viewer ideas of its intentions. The sparse design of the current slide forces the presenter to articulate its full meaning.

A sample of the Didactic Relation Model is embedded in the slide; however, the characters are too small for the viewers to read. The outline of the layout of the template does convey ideas of how the form is structured in terms of columns and headlines. The filled-in model, being an artefact representing "the world outside", contributes to making the slide appear as a representation of the reality experienced by the group of students.

Table 9.2 ex. 2.

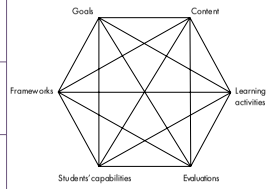
Semantic integration	
Visual information:	**Presenter's speech:**

DIDACTIC PLAN

- Before lesson
- Limit time
- Equipment
- Manuscript
- Pre assesment
- Feedback or reflexion
- Re-use

Plan for teaching made by students at: Autumn, 201x				*Diamond:*
Class:	Teacher:	Class:	Time:	
Competence aims from The National Curriculum for Knowledge Promotion (LK06):				
Competence aims expressed as learning aims of this particular session. What should the pupil know after completion of class/learning outcome?				
How would you begin the class? How would you motivate the pupils?				

Learning outcome: What? The pupils' work, the students' teaching. Content and methods.	Explain the reasoning behind your choices:	The organising of the pupils:	Conditions: ie. what ought the pupils know in beforehand?	Framework: What tools and utilities do you need?	Assessment for learning: How would you retrieve information about the pupils' learning outcome?



Ahm, planning using the (didactic) diamond has been quite helpful, because, to us students, it is, like, limiting your time, and finding what equipment you need, and stuff like that, before the lesson begins, and using it as a manuscript. Ahm, prior to the lesson, we did a little pre-assessment, the teacher offered us preassessment, and the teacher used the diamond in a way to know what we were about to do, and she would give feedback on what would work and what would not. And another benefit of the diamond is that the teacher after class can go back and give us feedback and reflect on what we did. And the diamond is kind of a reusable thing, because you can use it in different classes in various subjects.

The transcript of Example 2 features the presenter's entire speech pertaining to the slide. The speaker gives context to the slide by relating to the audience how the didactic relation model was used by the student-teacher and supervising teacher during practicum placement. The speaker elaborates and extends on the meaning of the key words by contributing new information. The apparent disparate list of key words is made into a coherent whole as the student-teacher relates to the audience how the template for didactic planning was put into use by the student-teachers as a tool for planning and by the practicum teacher as a tool for assessment.

The example represents a category of empirical data grounded in the student-teachers' own practicum experiences. However, the student-teacher's narrative describes a meeting between formal theoretical knowledge, in terms of the didactic relation model, and its application in practicum. Like Example 1, this category reports on student-teachers engaging with theoretical knowledge, which are items of the formal curriculum of teacher education. Whereas the first example illustrates student-teachers reporting practical knowledge articulated as "universal" theoretical principles, the current example reports on how the universal theoretical principle of didactic planning is applied to the local circumstances situated in practicum.

The particular becomes universal

A third example is selected from the second observation session where the student-teachers reported on their practicum experiences. In this case, the student-teacher filled in a standard report schedule designed for learning through self-evaluation (Tiller, 2017). The template invites the student-teacher to inscribe events that he or she is engaged in and make brief reflexive statements on what he or she learnt and what he or she considered "smart" in terms of knowledge worth passing on to others.

Affordance of the software is used to set up a table where the green color marks the first row as a headline. The columns below detail the content of each heading. The headlines evolve, left to right, from a concrete telling of what was done in practicum toward a higher level of abstraction and generalizability. Judging by just the slide, it is not clear whether there is a logical connection between the elements inscribed in each row. However, the presenter suggested that the group of student-teachers have emphasized showing a variety of elements. Hence, there is no cohesion across and between the elements of the table.

Table 9.3 ex. 3.

Semantic integration

Visual information

What we did	What we learned	Smart to pass on
Joined culture week	Different methods	Good planning
Acquainted w/ each pupil	Better at instruction	Be well prepared
Make butterflies during culture week	Become more confident when teaching	Prepare alternative activities to quick pupils
Test the teacher role	Various methods to call for attention	Good observations
		Make good relations

Presenter's speech:

Um, then we have made a "Did, learnt & smart" schedule. We did not select one event in particular, rather we have emphasized various things we have done, learnt and found to be smart. During the practicum placement, we have joined a culture week, we have had two days of out-door teaching and we have created butterflies during the culture week, um, a lot follows down the column. And we have learnt various teaching methods, become better at instructing, and we have become more confident when teaching, and we have learnt various ways of getting attention, and stuff like that. And we have found out, for example that it is smart, we knew good planning is essential, but now we have more insight in why that is smart. It is smart to prepare alternative tasks for those who finish early.

At the beginning, a comment by the presenter makes it clear how the content is organized. The presenter engages with the slide by articulating verbally the content of the table's cells, yet there is no in-depth elaboration of the content, and there are items not commented on at all. Rather than supporting a discussion of what makes "did, learnt & smart" relevant for the student-teachers' leaning and development, the display of the slide serves as evidence that the student-teacher did indeed make such a schedule.

This example represents a category of sample data that is grounded in the local, situated and context-specific. This is in contrast to the previous examples that were grounded in theory. Situated in the local, the current example displays how student-teachers generate knowledge based on their experiences gained in the practicum placement. The column of "smart to pass on" is knowledge of a universal character, in that it is transferrable to another context. It resembles the first example in that it is formulated as short principles, or "rules of thumb", for good practice. However, contrary to the first example, which summarized principles of a handbook, these rules for good practice are generated by the student-teachers themselves and are based on their personal experiences in practicum.

Procedural knowledge situated in the local

The fourth and final example is selected from a session where the students reported from practicum. The example represents a category of slides and narratives that detail the local and situated events as they happened, and it is void of theoretical references.

The student-teacher avoids the common practice of listing key words and embeds in the slide three images from the field on which are commented. Affordance of the media allows the student-teacher to set up the images as a collage and to add the caption "day out" in the top right corner of the collage. The images document people and events that took place one day, but there are few visual clues that suggest what exactly took place in the settings captured by the camera. The caption helps link the images to the same day and event.

Therefore, the student-teacher's verbal contribution is a decisive factor in making the slide represent concrete practicum experiences. The student-teacher's speech contributes verbal captions that address what is prominent in the collection of images. Thus, the poor weather, a visit to the school garden

Table 9.4 ex. 4.

Semantic integration	
Visual information	**Presenter's speech:**
	Then, we had a day of outdoor school, we were not fortunate with the weather conditions, it started raining, but not as much as we thought, so it actually went well. Um, we walked about in the school garden, and then we experienced a little problem in the middle, the sea level had risen and set our fireplace under water, so then we met a challenge where we just had to quickly improvise and make a new fireplace, but it ended well, we found a new place quickly. Then we divided the children into groups where four pupils were allowed to collaborate on lighting the fire. They had done so previously and knew how to do it, and some teachers just observed that it all went well. They enjoyed doing it. The other pupils collected sticks and prepared those for making campfire twists at the fire. That also went well, the children had done so previously, so it was not something we should teach them to do. We played a few games, the sheriff among others, and stuff.

and the activity of lighting a campfire are themes that anchor the images by detailing what happened, why choices for action were made and where it took place.

This final example represents a kind of professional knowledge that resides in the student-teacher's action and performance in the field. As discussed in the review section of this paper, it resembles the action-guiding knowledge regarded as essential to teachers. This mode of knowledge is represented by the student-teacher as images, and the mode of imagery is chosen as a means for representation across several samples within the same category. The images are supported by a spoken narrative that declares what procedures and action unfolded. This category of findings is defined by representing action anchored in the local, situated context. The knowledge is procedural because it unfolds in action as a response to the circumstances. The knowledge is exercised in the performance, which in this case is the carrying out of a field trip and reorganizing the plan by improvisation in response to unforeseen circumstances.

DISCUSSION

The above analysis has centered around four examples that represent what can be considered a teacher's professional knowledge. The examples are student-teachers' self-made representations of the knowledge practices that they have encountered in the field and on campus. According to the current study's ontological basis, there is no fixed reality as such. These examples are assumed to construct reality. Each sample, therefore, constitutes a version of what may be considered representing professional knowledge. The representations are subject to the perspective chosen by the student-teachers who design and perform the slide. The Learning Design Sequence supports this ontological perspective in that it puts the student-teachers' transformative activities at the center. The term transformation is a dynamic concept because it captures the agency of the student-teachers as they select the aspects of the world on which to focus. Governed by their interest, they choose what aspects of the issue to represent. They make choices as to what affordances of the semiotic technology to use so that they can give meaning with a shape and design, as exemplified by the four transcripts above. The Learning Design Sequence also captures how transformation occurs at the stage of presentation: the set of slides become subject to

transformation, yet again. The examples have shown how the presenter interacts with elements of the slides by elaborating and extending on their content, thereby altering the meaning of the slides. Representation, in the context of this study, can be described as an aspect of the teaching profession that is both pre-formed and performed by a student.

The analysis of the student-teachers' representations reveals that there is difference among the student-made representations of teacher's professional knowledge. The metaphor "professional knowledge landscape" as conceived of by Clandinin & Connelly (1998), p. 5), may be helpful because it acknowledges that teachers draw on a breadth of knowledge and that knowledge is both "narrative" and "paradigmatic". What would a map of such a landscape look like? In the following, the observations of the current study are placed along two axes.

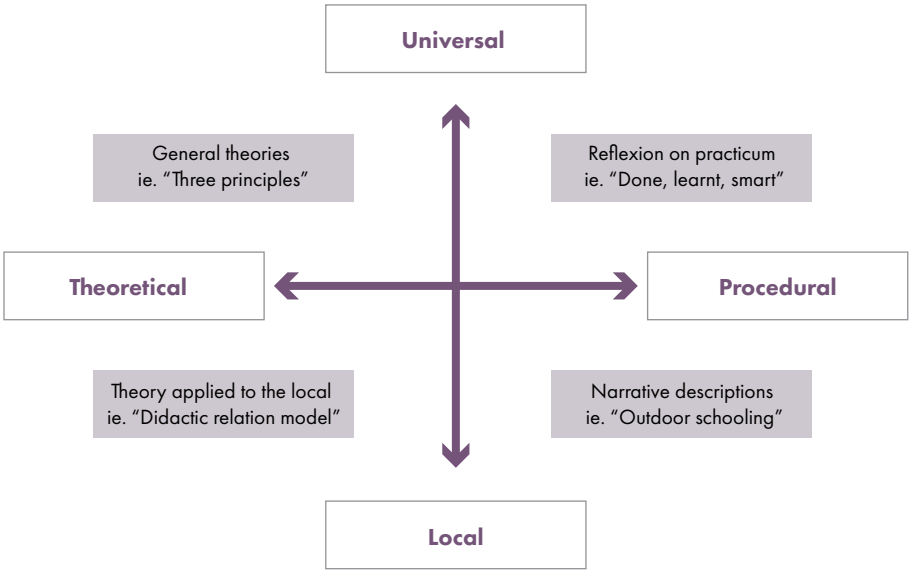


Figure 9.2 Professional knowledge landscape.

The horizontal axis reflects the span between theoretical knowledge on the one hand and procedural knowledge on the other. It reflects the analytical observations of whether the student-teachers' representations stem from a theoretical domain or from actions and activities in the field. The dichotomy is reflected

in the data material. The first encounter with theory is the representation on classroom management. The student-teachers transformed the book's content into rules, or "commandments", for best practice. The sample featuring the didactic relation model illustrates how theoretical devices, taught at the educational institution, can be applied during practicum. The procedural dimension is encountered in the samples featuring the story about outdoor schooling. The knowledge of the student teachers resides in the actions taken during the day in response to changing weather conditions. The "Done, Learnt, Smart" schedule evolves from the practical undertakings made by the student-teachers, such as participating in making butterflies together with their pupils. The epistemological positions of this axis are also reflected in the literature review which reports on pre-services teachers' complaints on the disparity between theoretical approach practiced on campus, and the action guiding knowledge called for in the practicum.

However, contrary to the traditional opposing view between theory and practice, the data reveal that there are other characteristic features that serve to diversify the "knowledge landscape". "Contextuality" appears to be a feature common across the samples. A second dichotomy introduces a universal dimension on one end and a local one on the other. The universal dimension is associated with normative statements and formulations of rules that are independent of the context. The handbook on classroom management is turned into a representation by the student-teacher that expresses normative statements on what good principles are and how to adhere to them. Such principles are universal in their application as they can be transferred to most classroom settings. The outcomes of the student-teachers' reflection on what they have learnt in practicum are universal. The "Done, Learnt, Smart" schedule takes the local experience as a starting point and encourages the student-teachers to identify what experiences from their practicum placement should be passed on to others. Preparing extra work for able learners became a rule. The particularities of the practicum are turned into universal lessons.

The local dimension is, on the other hand, situated and contextual. The use of the didactic relation model for planning local activities in practicum is an example of how theory is anchored in the local. The model for didactic planning forces the student-teacher to argue for the aim, content and assessment

methods of the lesson, while taking into consideration the local factors of each pupil's ability and the general framework factors of the host school. Theoretical knowledge on general didactics are adapted to local conditions. The local dimension is also present in the student-teacher's account of the "outdoor schooling" because it is a narrative of what events took place. The local represent the contextual because it influences the activities and actions accounted for on that day. Procedural knowledge was exercised in the local context in response to the local circumstances. The imagery of the PowerPoint slides emphasizes the local dimension because it gives a visual account of the events.

CONCLUSION

The current study observed settings in which student-teachers are at the center of meaning making activities. What is represented during performances of PowerPoint slides are the students' own constructions of reality and their own constructions of teachers' professional knowledge. The semiotic technology and the practice of presenting does not "mediate reality" as if reality were a fixed and finite object that is represented in the settings observed. The focus in instead directed towards *transformation* as an activity which involves the students' own meaning making. In the current setting, students give shape to experiences, ideas and conceptions related to teachers' professional knowledge. The outcome of the study shows a diverse "knowledge landscape", which reflects the contradictory positions that are inferred from the representations constructed by the students themselves.

Traditionally, the understanding of a "gap" is based on the assumption that the professional knowledge that student-teachers encounter on campus and during practicum wear different "epistemological disguises". The theoretical map handed out on campus does not fit the landscape encountered during practicum placement.

The current study turns the table and draws a map based on the students' own representations of teachers' professional knowledge. Such a map may aid the pre-service teacher in discovering the dynamics in the interplay between campus and practicum. The one does not exclude the other, instead, professional knowledge seems to rely on mutual inputs from different positions of the "knowledge landscape".

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CHAPTER 10

Drawing as an art-based method and reflexive approach in educational leadership study programmes

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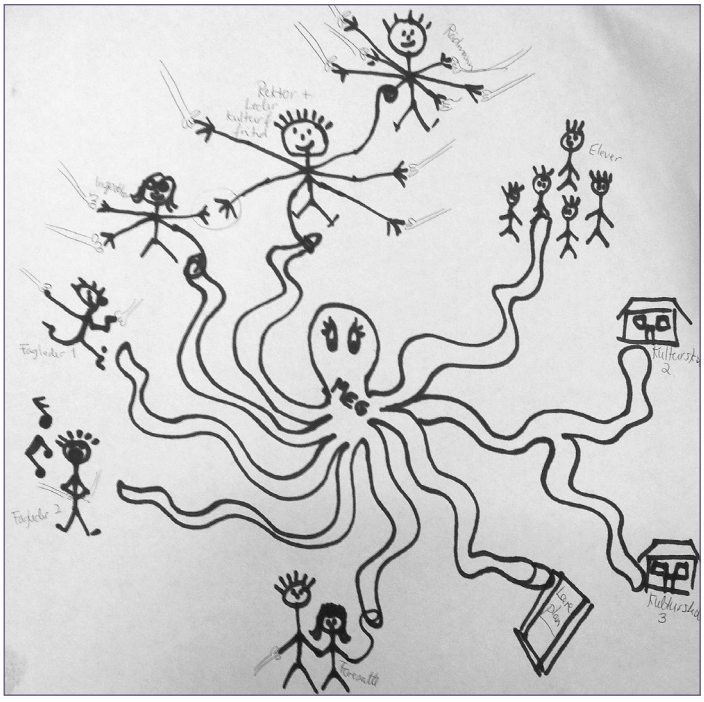


Illustration 10.1 Student's drawing.

ABSTRACT

The purpose of this chapter is to draw attention to drawing as an art-based method (ABM), particularly to applying drawing as a reflexive approach in educational leadership study programmes. The study on which this chapter draws was carried out in three separate university study programmes in educational leadership, where the majority of students were head teachers or assistant head teachers in Norwegian primary and secondary schools. Empirical qualitative data were generated from a series of drawings made by the students in an art-based research design. Theoretically, the chapter draws on perspectives that connect educational leadership with both art-based research and educational methods within the field of educational leadership. The results indicate that drawing as a reflective tool in educational leadership study programmes may contribute to already-applied reflexive approaches in these programmes. However, there seems to be need for further research on, for instance, preparation for sense-making in ABM processes, ABM as a reflexive tool and the relevance of ABM when connected to educational leadership as a practice field.

INTRODUCTION

This chapter caters to educational leadership practitioners and to those researching or working with one of the many diverse paths within the growing fields of art-based research methods and art and leadership education. Furthermore, the purpose of the study is to discuss how drawing as an art-based educational method may be applied as a reflexive tool in educational leadership study programmes. To provide direction for this paper, I present the following question.

> In what way may ABM in educational leadership study programmes help educational leaders explore and extend their capacity to reflect on their leadership practice?

Over the past decade, there has been a perhaps cautiously but still growing amount of scholarly publications exploring the versatile idea of art as part of leadership education, organisational learning, leadership development, learning and management (e.g.: Austin & Devin, 2003; Barry & Hansen, 2008; Barry & Meisiek, 2010a, 2010b; Springborg, 2010; Taylor and Ladkin, 2009;

Irgens, 2014). In this paper, I argue first that drawing, applied in considered and prepared circumstances, may have significant potential as a reflexive tool in educational leadership study programmes. Second, drawing may help educational leaders explore and extend their capacity to reflect and make sense of their leadership practice.

A thorough search of academic and scientific databases finds few publications regarding explicit, interfaced connections between educational leadership study programmes and drawing or ABM. This indicates a significant gap in the existing literature on educational leadership study programmes. In addition, I suggest that drawing as a reflexive tool may serve as an additional educational method, or tool, for training educational leaders in educational leadership study programmes. This qualitative, art-based approach provides the following key findings to answer the research question in this chapter:

1 Drawing as an applied educational method in educational leadership study programmes may enable students to make sense of their practice field in a form that may otherwise be suppressed or unarticulated.
2 The applicability of drawing in educational leadership study programmes depends largely on the processual stages, including the facilitator's vocational experience, preparation, facilitation and presentation.

In the next section, I present the central aspects regarding the choice of methodology and then turn to the process of generating data. The third section addresses ethical considerations, followed by what I regard as useful and applicable theory regarding art and leadership. In the fifth section, I present a discussion whose results are included in Section 6. The seventh and final section sums up this chapter by presenting implications and suggestions for further research.

METHODICAL APPROACH

The study discussed in this chapter is based on a qualitative methodological approach, applying art-based methods (ABM) to gain knowledge on the reflexive use of drawing. The focus is on drawing as a complementary supplement to the array of existing methods within educational leadership study programmes, as discussed by Taylor and Ladkin (2009) and Minocha and Reynolds (2013),

for instance. The main research question of the study discussed in this chapter gives direction when choosing and engaging theory in analysis and discussion, leading to the key findings and implications. The particular analytical approach applied and referred to in this chapter is the art-based research method, drawing from Barone and Eisner (2012), which allows the creation and inclusion of art-based work as part of both generating and analysing data.

As stressed by Corbin and Strauss (2008, p. 12), the research question sets the direction when choosing the methodological approach. Significant examples of ABM relevant to this chapter are presented by Klenke (2008), who reviews image-based qualitative research in the study of leadership and concludes that it "can uniquely capture the richness of context that works of art offer the leadership researcher" (p. 263). Moreover, Klenke (2008) refers to Eisner's (2008) thorough publication on ABM as a research method by describing any alienating aspects of art as forever linked to its conventional paradigm: "art-based research may simply be among one of many systemic studies of phenomena undertaken to advance human understanding, not exactly art and not exactly science" (Klenke, 2008, p. 275). The suggestions set forward by Klenke (2008) which point towards innovative, experimental research, may bridge the gap between art-based research and more well-known approaches within not only qualitative (e.g.: case-studies, ethnographic studies and discourse analysis), but also phenomenological methodology and research.

In this study the preferred methodological approach to the research question is art-based research combined with an overarching methodological qualitative approach, paying close attention to the first, second, third and fourth of Eisner's (1991, pp. 32-36) six features of qualitative studies: 1st feature – being field focused, 2nd feature – regarding the researcher's self as an instrument of research, 3rd feature – acknowledging the interpretive nature of research, 4th feature – the use of expressive language (here, the visual language of drawing) and the presence of the researcher's voice.

GENERATING DATA

This chapter reports on a series of four lectures: of these, three lasted for three hours, and one was a full-day seminar. The overarching theme of all of these lectures was *schools as part of society*, with a particular focus, first and foremost,

on juridical governance, including the Educational Act, regulations, associated statutes and relevant laws. Growing numbers of educational leaders in Norway attend the national educational leader postgraduate study programme (in Norwegian, *Rektorutdanningen*), where part of the curriculum consists of juridical issues, which, in my experience as an educator and researcher, suggest that educational leaders may perceive tasks and responsibilities within the legal area as complex, demanding, labour intensive, frustrating and challenging. Hence, teaching methods need to spur involvement, in addition to offering students relevant reflexive tools.

To add to the available practical teaching methods, drawing and ABM was introduced in this research as a reflexive tool for students, with the aim of broadening their capacity to visually reflect critically on complex aspects experienced in their own practices. The students involved were principals and assistant principals attending the national educational leader postgraduate study programme. In addition, data were generated within groups of students pursuing master's degrees in educational leadership. There were 20 students in the smallest group, and 30 in the largest group. All the students were given several sheets of sturdy 100 gsm white paper with an approximate size of 50 cm by 50 cm. Furthermore, coloured markers, crayons and other drawing tools were at the students' disposal.

The students were encouraged to let go of any inhibitions that occurred and to just draw, depict and visualise themselves within their own educational organisations. Furthermore, they were thoroughly informed that the purpose of the drawing session was to disclose a variety of perspectives on their roles or positions as leaders as a foundation for future individual reflections and group discussions. Any expressive style (symbolic, non-figurative or figurative) was encouraged, except for writing letters or forming letters into words and sentences. A total of 30 minutes was set aside for drawing. After completing the drawing session, the students were asked to mount the drawings on the largest wall of the teaching area.

As the facilitator, I gathered all the students in front of the large wall in the learning space where all the drawings were presented. Then, in random order, the students were asked to share one specific perspective, aspect or detailed experience from their personal drawing. Not wanting to share was also offered

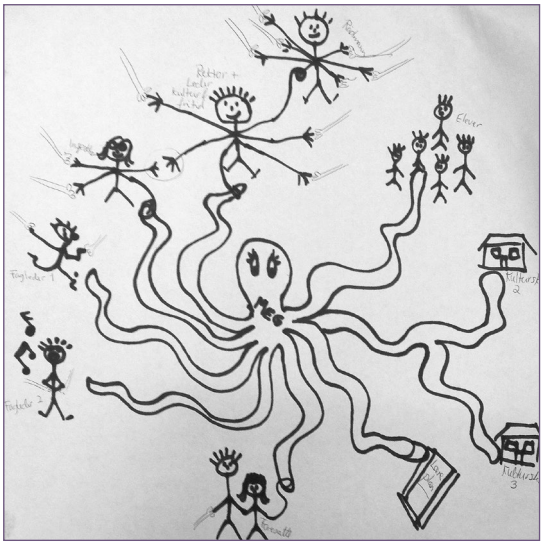
as an option. By letting the students share one only reflection, the students who came later in line could still offer new reflections and nuances. None of the students expressed unwillingness to share their reflections or asked to withdraw from the session. All of the drawings were photographed in order to document the sessions, whilst the majority of the student's comments and reflections were written down as research notes by me.

Illustrations 10.1–10.5, are examples of the students' drawings that depict both abstract and concrete expressions and present a multitude of perspectives on educational organisations. In this context, the phrase *educational organisations* refer to the extended organisational context surrounding each school, including parents, pupils, school owners and policy makers on both the regional and the national levels. It may be easy to be seduced by creative images, bedazzled by the richness of expressions and perhaps read too much into these images. Interpretation of the students' drawings, therefore, calls for critical restraint, looking past personal taste to focus on the key questions or problems at hand.

Drawing themselves as part of a larger organisational context enabled the students to articulate a wide array of nuances when orally sharing reflections on their own practice. This corresponds with findings described by Sutherland and Jelinek (2015), who emphasise one significant finding (amongst others):

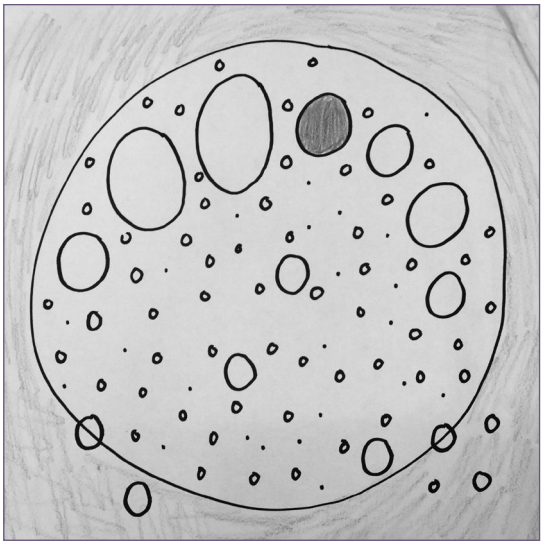
> [...] the dominant learning discussed was around awareness and attention to the subjective aspects of leadership and organizational life. These were aggregated into two categories: relational insights into leadership and the sensual experience of power and responsibility (p. 298).

The further analytical process, therefore, depended on the students' oral presentations and plenary discussions. Opportunities to take notes of meaning-making statements emerged as I listened to and engaged in the students' sharing their experiences. The following illustrations (Illustrations 10.2–10.5) show four selected drawings from the students with my complementary notes.



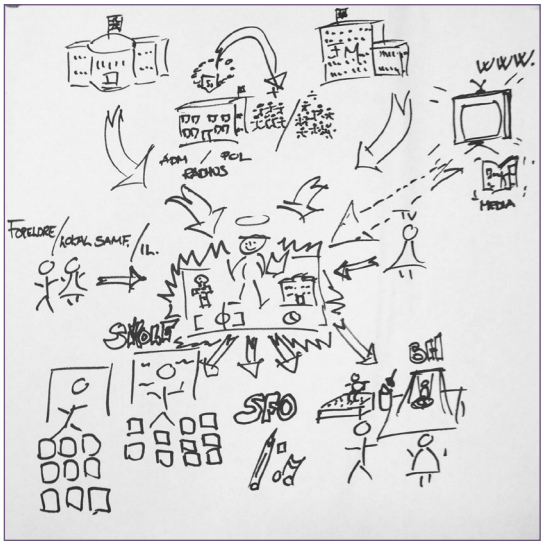
I haven't got enough hands.
Impossible to get everything done
Diversity
Octopus principal
Everybody wants a piece of me.
Justice
Still I get lots of things done.
Complex organisation

Illustration 10.2 Student's drawing.



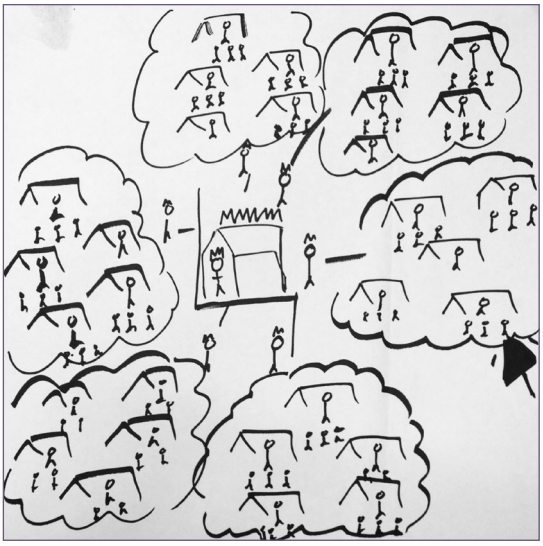
Alone but still part of ...
A single cell in a large organism
Scattered elements
More or less composed
I am visible.
Flat organisation

Illustration 10.3 Student's drawing.



Many levels
Distance between each level
Pressure from above
Influenced by media
Many tasks are being generated.
Passing on tasks
Complexity
Good overview

Illustration 10.4 Student's drawing.



Shady connections
Many sub-organisational groups
Lack of detailed overview
Satellite units
Principal on the sideline
Principal on the periphery
Power within the core
School owners have the power.

Illustration 10.5 Student's drawing.

What the entire group of students seemed to agree upon was that the process of drawing, including the completed drawings, helped them perceive themselves from a meta perspective. As a student states: "It might be kind of silly, portraying myself as an octopus, but I sometimes feel like I have lots of arms going in every direction at the same time" (Student 003, 2015).

The analytical process started with visual coding of the drawings, using an interpretive research lens in keeping with the research question at hand (Saldaña, 2009, p. 52). In many ways, this process can be seen as closely related to qualitative analysis in which condensation of meaning constitutes the prior purpose, as discussed by Kvale and Brinkmann (2009, 2011).

Table 10.1 Coding of interpretive notes from drawing presentations.

Code generated from the drawings and oral presentations	Student's statement written by the researcher	Condensed categories using art-based methods
I haven't got enough hands.	It might be kind of silly, portraying myself as an octopus, but I sometimes feel like I have lots of arms going in every direction at the same time.	Seeing oneself as strained but still capable Not overwhelmed Challenges
Less detailed overview	There are so many participants ... schools, departments, levels of power. ... I find it hard to keep track of how everything connects.	Admitting inadequacy Courage Struggle Organisational awareness Challenges
I am noticed! People see me!	Yes, there are many actors in my organisation, but I am still highly recognisable. I'm there. I stand out!	Organisational awareness Pride Self-awareness Possibilities

This table shows the connections between the researcher's initial open coding based on interpretations of the students' drawings (Illustrations 10.2–10.5) and the students' articulated experiences while discussing and commenting on each other's drawings.

ETHICAL CONSIDERATIONS

Having taught arts and craft subjects in vocational study programmes in secondary schools for a decade, I choose to draw from my own experience as an

artist, relating to what Eisner (1991, pp. 33-34) describes as using oneself as an instrument of research. Relating to previous experience, I foresaw that the students might be sceptical about the general idea of drawing if they linked it to a lack of personal artistic talent. Consequently, the students were allowed to withdraw from the exercise if they felt uncomfortable, but at the same time, they were fervently encouraged to participate.

In addition, I supervised the students' handling of technical issues if they so desired. Nevertheless, careful preparations could not disguise that my choice of method and art-based approaches was deeply connected to techniques that I had mastered and with which I was comfortable. Therefore, I recognised that the students should be allowed to withdraw from the entire experiment if desired and that an alternative method should be provided. This was communicated to the students, emphasising that they could choose to stand back, and instead submit written reflexive notes as an alternative.

Whilst doing qualitative studies, acknowledging the researcher's involvement and bias may allow the benefit from the researcher's experience and pre-knowledge of (in this case) drawing, as underlined by Toma (2000) and Eisner (1991). In addition, Katz-Buonincontro and Phillips (2011, p. 278) suggest that exposing students to the idea of risk-taking through engaging in creative activities beyond their comfort zones can lead to new ways of perceiving their everyday practice as leaders. To establish trust and mutual respect while leading the students into unknown territory, all the oral statements and drawings included in this study were anonymised and stripped of personal or recognisable characteristics. Furthermore, the collected original drawings on paper were destroyed after being photographed and saved on an encrypted server.

ART AND EDUCATIONAL LEADERSHIP

Within the growing theoretical intersection of leadership and art, there is an increasing number of scholarly publications unifying the concepts of art and education related to ABM. However, most may be described as "experimenting with leadership development using art-based approaches" and have taken place within the business community and unfortunately very little amongst educational leadership (Katz-Buonincontro & Phillips, 2011, p. 288). Still, I regard theory relating to the business community (e.g.: Schiuma, 2011) as

being also relevant and useful when studying educational study programmes as the research scope.

When applying the term *art* in this paper, I draw from etymology and suggest that it is imperative to be aware of the diverse interpretations and connotations of art across languages and cultures, as discussed by Dehlin and Hagerup (2017). For example, in the Norwegian language, *art* is referred to as *kunst*, which has direct roots in the German language and refers to a person possessing a certain knowledge (*Kunnen*). When the context is art, knowledge or *Kunnen*, *art* may refer to a person's creative skills and imagination (Caprona, 2013, p. 599). In English, *art* derives from the Latin term *artem* or *ars*. The word's origins may also be traced back to the Old English *eart*, referring to something that is created with imagination and skill, that is beautiful or that expresses important ideas or feelings (Merriam-Webster, 2016). The term *art* recurs throughout this chapter on ABM realised by drawing as a reflexive approach but does not exclude craft as people imagine what to express through art. Moreover, ABM recognises the importance of how to express the lived experience of educational leadership and acknowledges the function of drawing utensils, paper and crayons, in addition to facing the challenge of manoeuvring them as reflexive tools.

More recent literature on the connection of art and leadership (e.g.: Barry & Meisiek, 2010a; Adler, 2008; Springborg, 2010) and on art and leadership education (e.g.: Guthrie & Callahan 2016; Kerr & Darsø 2008; Taylor & Ladkin, 2014) may provide convenient stepping stones towards relevant, illuminating discussions on the characteristics of art and how art may develop or, for that matter, not develop reflexive approaches within leadership education. Barry and Meisiek (2010a) argue that establishing a contemporary art-related discourse will prove helpful by forming a basis for understanding art and then identifying what role art can play in the development of organisations and leadership education. Moreover, such a discourse could lead to much-needed and, so far, less unarticulated and used research perspectives by including artists (e.g. painters, print-makers, dancers and sculptors). Furthermore, Barry and Meisiek (2010a) state that:

> We believe the art of leadership is currently on the wrong train, pulled by an outmode engine that is gradually running out of steam. Instead, we suggest that

> leaders, leadership researchers, and leadership writers start qualifying their use of art in light of contemporary art discourse, and with this, begin to conceptually decouple art and craft in the interest of strengthening both (p. 334).

Professional fine art artists and contemporary crafters, though, seldom publish academic, peer-reviewed papers to any significant extent. Academic scholars may benefit from instead engaging in the contemporary discourses written in art magazines, such as *Billedkunst* (*Visual arts*), *Kunstkritikk* (*Art critique*), *Art forum*, *October*, *Art news* and *Norwegian crafts*. Ladkin and Taylor (2010) join theorists discussing art and leadership education, stating that leadership art (p. 240) "[…] is about creating new ways of understanding the world that embrace its inherent complexity". This includes "the capacity to hold paradoxes, tensions and outright contradictions at the same time" (Ladkin & Taylor, 2010, p. 240).

The latter is of importance in this chapter, in which art is approached as a reflexive tool with the aim to enhance students' capacity to reflect *critically* on their leadership practice since art includes both the "pleasant and unpleasant" (Ladkin & Taylor, 2010, p. 240). Drawing on Ladkin and Taylor (2010), I find it relevant to view art as capable of simultaneously holding together several potent paradoxes, and moreover, notions of paradoxes are important to notice when introducing ABM in educational leadership study programmes. Accordingly, Jagodzinzki and Wallin (2013) point to the acknowledgement of ethical considerations in ABM when aiming to portray the image of thought.

The phrase *educational leadership study programmes* used in this chapter refers to continuing or postgraduate education aimed at providing theoretical and practical perspectives and knowledge on leadership, management and organisation to students working within the multifaceted practice field of educational leadership. In my experience as an educator in educational leadership study programmes, there appears to be a lack of alternative approaches for practical and empirical examples of how to reflect, think, perform and act as educational leaders. However, there is growing interest in practice-oriented methods. For instance, in being *open to learning conversations*, students may rehearse conversation strategies with one another, as elaborated by Robinson (2014). In addition, other practical approaches, such as coaching (Aas, 2016) and legal issues (Grongstad, 2014; Hall, 2016), are adding new perspectives to the growing

theoretical field of educational leadership. However, the artistic and creative dimension of educational leadership may still be viewed as uncharted territory. Although not focusing specifically on educational leadership, Barry (2008) is rather spot on when stating:

> We have so many pushes, pulls, and turns in the field of management and organization: scientific ones, positivist and not-so-positive ones, cultural, discursive, critical, postmodern and post postmodern ones. Now I think we may be in for yet another – an artful one (p. 31).

In addition to Barry (2008), Katz-Buonincontro and Phillips (2011) point out that, there has been little scholarly attention to problem-solving skills in leadership education and, in my own experience, art-based ones. Hence, I suggest that art-based educational methods must be allowed time to develop, especially in the context of educational leadership.

Additionally, I refer to Becker (2008) and question his view of art worlds as indisputably connected to fine art. However, Becker (2008) does address some crucial elements from which ABM practitioners can benefit by taking them into consideration when facilitating educational leadership study programmes. Becker (2008) emphasises the time-consuming conditions related to making and working with art. Not only is there a time to create the actual art work, but just as important, there is the time to prepare for the process of doing art-based work as a collective activity (Becker, 2008, pp. 2-7). Preparing a desirable workspace, tools, direction and purpose, therefore, should not be ignored in order to secure the potential of art-based activity as part of ABM. Furthermore, Becker (2008) addresses the significance of change within art worlds and suggests that art worlds as they might have been perceived in the past are no longer sufficient: "New worlds come into existence, old ones disappear. No art-world can protect itself fully or for long against the impulses for change, whether they arise from external sources or internal tensions" (p. 300). Becker's (2008) ideas might not be directly transferable to educational leadership study programmes but still prove relevant when viewed as a foundation for further practical perspectives developed through more direct and reflexive art approaches to educational leadership study programmes.

The lack of empirical examples and studies on art as part of leadership education is also highlighted by both Mack (2013) and Adler (2008), who direct attention to the risks that may be encountered when introducing art to leadership studies. However, both Mack (2013) and Sutherland and Jelinek (2015) are among theorists who provide relevant, practical examples from their own educational practice. One such example is published by Mack (2013), who refers to what is called the touchstone artefact exercise:

> Artistic experimentation has been used by CCL (Center for Creative Leadership) to provide participants with opportunities to create a touchstone (an object) that is both personal and symbolic of their unique program experiences. The touchstone process culminates with participants sharing, through the medium of storytelling, the meaningfulness of the touchstone to their own leadership development (Mack, 2013, p. 290).

Based on Adler (2008, p. 487), applying drawing as way of performing ABM may be interpreted as more of cross-fertilisation between art and pedagogical methods than cross-fertilisation between art and leadership. What Adler (2008) refers to when using the term cross-fertilisation emerges as an aspiration in much of ABM theory, whilst the lack of focused, careful research on ABM reveals the need for further comprehensive, systematic experimentation with various practical approaches linked to the field of ABM. An additional relevant example of art in leadership education is given by Sutherland and Jelinek (2015), who present a series of exercises in which leadership students closely observed the interactions between a choir and its conductor. These sessions were organised like master classes lead by a facilitator, and each master-class student was given the opportunity to volunteer to conduct the choir. The master class then continued by engaging the volunteer participant-conductors in conversation, reflecting on their leadership practice through questions, feedback, and seeking advice and discussion with the group (Sutherland & Jelinek, 2015, p. 294).

When engaging relevant theory regarding art as a future-oriented foundation before developing leadership education, I also draw from theory primarily written with the education of artists in mind. Highly relevant insight may emerge from approaching art teachers' reflections on various aspects of teaching art

students how to become artists (e.g. Emery 2002; Hardy, 2009). Approaching the arts as a professional arena (or a field of practice) by considering the theory of both art education and art practices may strengthen the foundation for designing what Austin and Devin (2003) label as artful making in an organisational context and Adler (2008) describes as cross-fertilisation.

DISCUSSION

From the students with whom I worked during the drawing sessions, it became quite clear that they experienced the entire process of drawing followed by the oral reflection as useful, increasing their awareness of what Adler (2008, p. 490) describes as *turbulence*, *complexity* and *chaos* as recognisable content within educational organisations. However difficult to describe orally or in writing, the students' engagement in drawing expressed that they also found ways of reflecting on areas within their practice distinguished by challenging aspects, such as *turbulence*, *complexity* and *chaos.* Dwelling on the latter, I suggest that valuable insights through reflection may be gained from ABMs in education leadership when seeking applicable, useful reflexive tools that may be transferred to educational leadership study programmes to create an arena where art, artefacts and work exceed their borders, drawing attention to the expression *workarts* set forward by Barry and Meisiek (2010b, p. 1506). By workarts, Barry and Meisiek refer to arts-based initiatives in organizations (p. 1505).

Insight into art worlds through workarts may help educational leaders explore the practices of art and creativity and experiment with how these practices may be used to develop reflexive methods and learning approaches within educational leadership study programmes. Here, I refer to learning and educational practices that "can drive the enhancement of management mind-sets and support the evolution of traditional models and activities" (Schiuma, 2011, p. 89)

Art itself may not serve as a brand-new solution to the need to find useful reflexive tools in educational leadership study programmes. However, art may serve as a complement to existing practices. Additionally, I see relevance in referring to one of Leonardo da Vinci's main endeavours, who in the words of art historian Pevsner (1940), sought to "raise painting from a manual skill to a science" according to da Vinci's "principio della scienta della pittura" (p. 30). In the study discussed in this paper, drawing may be perceived not only as

a trainable, manual skill but equally as a way of engaging the hands and the brain in a cogenerative dialogue in which the entire human being may mediate and share an expressive experience. In my view, the aim to raise practices, such as leadership, from *skills* to *academic disciplines* or *art* is far from new, however underrepresented in the scope of research focusing on how to educate educational leaders.

Turning to the many various art forms and ways of expressing oneself may also entail the acceptance of risk, alongside the unpredictable and uncontrollable. According to Adler (2008), Katz-Buonincontro and Phillips (2011) and Mack (2013), taking a plunge into processes whose aim is to unleash the artful capabilities within people requires courage to embrace the undetected and the unknown. According to Katz-Buonincontro and Phillips, it is possible to argue that for the undetected and unknown to be discovered, universities and educational leadership education programmes should show more innovative courage when choosing educational methods: "Despite the current press to improve school leadership, little scholarly attention focuses on how university educational leadership preparation programmes can build leaders' problem-solving abilities" (Katz-Buonincontro & Phillips, 2011, p. 269). In the study referred to in this chapter, drawing as a reflexive tool could also be viewed as an approach to problem solving abilities, when reflecting on a subject and developing new ways of expressing experience connected to a particular subject. Like Katz-Buonincontro and Phillips (2011), the study referred to explored drawing as part of ABMs that could be useful as a reflexive tool, enhancing educational leaders' ability to solve practice-oriented challenges in educational leadership study programmes. This quality is highly relevant when analysing how the students discussed in this paper, by facing their own inhibitions and lack of art-based experience, gained access to a strange, new range of expressive tools and, thus, reflexive tools. Drawing and exhibiting these reflexive art works challenged the comfort zones of nearly all the students, also exemplified by Sutherland (2013, p. 33). When starting to draw, the students seemed to be slightly uncomfortable with entering such an unfamiliar arena. They had to re-connect with drawing, as an activity which they might have left behind as children in primary school.

Facing their own inhibitions connected to the idea of revealing their personal experiences using drawing, markers and paper as the chosen medium, the

students were forced into a state of mind that required relational and emotional courage, an issue that is also addressed by Ladkin and Taylor (2010, p. 239). Emotional courage suggests that the students might have had to overcome thoughts about aspiring to create and display work based on artistic talent or quality. Again, the role of facilitator became important here to reassure the students about the key purpose of drawing related to the current context. The students also had to mobilise three additional sources of courage, eminently described by Adler (2008): "[...] the courage to see reality as it actually is, and not as others would have us see it – the courage to envision previously unimagined and unimaginable possibilities – and the courage to inspire others to bring possibility back to reality" (p. 496). Here, Adler establishes connections to Darsø (2004), who, in turn, built on German conceptual artist Joseph Beuys, who advocated that "art should play a wider role in shaping the content of our daily lives" (Darsø, 2004, p. 185). Following this statement, leadership may be regarded as part of everyday life. Leadership as part of everyday life is further underlined by Ladkin and Taylor (2010), who suggest what educational leaders might learn from professional artists: "truly inspirational artists always take risks in creating art which disturbs, soothes, or challenges" (p. 239).

New reflexive tools arising from art-based approaches are also characterised as facilitated meta-levels of learning, as explained by Springborg (2012). In his paper (2012), Springborg underscores that leaders who submit to or engage in ABM may be characterised as leaders who remain true to their senses. Moreover, in a previous paper, Springborg (2010) suggests a simple model that I regard as complementary when dealing with the concepts of reflexive tools. In this model, Springborg (2010) suggests that combining art and leadership (here, related to the drawing session referred to in this paper) may prepare for sense-making, which may strengthen the background needed to make decisions, again enabling leaders to take considered actions (p. 246).

In my opinion, Adler (2008) suggests that whatever breadth and diversity art may offer to leadership, art may also pose a tricky outcome as known borders are exceeded, and new approaches to leadership are laid open. The ability to take on new approaches and basically do whatever one desires requires a thoughtful, critical approach to art, a field saturated with new and unknown opportunities. Integrating art and ABM as part of leadership education might not necessarily

be entirely beneficial if the understandings of art conveyed are similar to the more established concepts of art; then how art is perceived may fall within what Becker (2008) refers to as the art worlds. Springborg (2010) further discusses the matter of interpreting or understanding what art is:

> Borrowing from the category of institutional definitions of art [...], we can say that for something to become art it is necessary that it is embedded in a setting where others recognize it and appreciate it as art. Without an audience with the necessary skills of art appreciation, the leader artist will have poor conditions for developing his/her art. (p. 257)

Educating educational leaders so that they by themselves can develop an understanding of how to engage in ABM to develop reflexive tools may not be sustainable or helpful. According to Springborg (2008), art as part of leadership should be regarded as a collective matter, in which both the leaders and those led should aim for a shared view of what art is in their context.

I assume that art may offer new approaches when educating educational leaders as ABM practitioners recognise that sufficient time and an artful presence must be obtained before involving students. Dealing theoretically and practically with art forms, arts education and art as exploratory perspectives can provide insight into new ways of reflecting on educational leadership and furthermore how art may add value to educational leadership as a field of practice. As presented in this paper, art may serve a worthwhile purpose even when the contextual platform deviates from traditional art worlds, and transcend to educational leadership practices and pedagogical learning situations.

RESULTS

This chapter explores how drawing as a reflexive tool may enhance teaching methods in educational leadership study programmes. Two major points related to this question are revealed.

1 Drawing as an applied educational method in educational leadership study programmes may enable students to make sense of their practice field in a form that might otherwise be suppressed or unarticulated.

2 The applicability of drawing as a reflexive tool in educational leadership study programmes depends largely on the processual stages, including the facilitator's vocational experience, preparation, facilitation and presentation.

The phrase *relational insight* surfaced in my interpretive mind while listening to the study groups reflect orally on their drawings and later while I took notes and later coded them. All the students in the three study groups activated their drawings as metaphorical springboards, which enabled them to discover and formulate new perspectives of themselves as leaders, reflecting on, describing and clarifying the many different aspects of their own organisational contexts. In addition, the various relational links between the organisations' diverse participants were visualised and thereby made comprehensible through an explanatory process strengthened by complementary details and reflexive comprehensiveness.

IMPLICATIONS FOR FURTHER RESEARCH

This study suggests that further research should focus on how ABM in educational leadership study programmes may help educational leaders explore and extend their capacity to reflect on their leadership practice. Equally important, my findings support a focus on how the educators of educational leaders may expand and vary their teaching methods. These implications are further affirmed by Jagodzinzki and Wallin (2013), who state that it is important to attempt to introduce ABM into leadership education and that it is inevitable that "[...] we aim to evoke new problems for the field of arts-based research" (p. 4). To address these problems, Jagodzinzki and Wallin (2013) expand the scope of possible new research areas by suggesting that "contemporary arts-based research requires the fabulation of a new ethics" (p. 4).

Drawing the chapter to a conclusion, I suggest two major concepts that may benefit from further research:

1 In what way may ABM as an interventional educational method in educational leadership study programmes enable students to express awareness of their practice field in a form that may otherwise be suppressed or unarticulated?

2 How can educators prepare for practical and reflexive approaches involving ABM in educational leadership study programmes (including the processual stages, preparation, facilitation, presentation and evaluation)?

One of the most significant insights gained from the drawing session was (unsurprisingly) that the entire session depended on meticulous preparation. Moreover, it was necessary to take practical measurements, make sure that all the provided tools were available and fit for their purpose, to set aside sufficient time, give clear guidelines and maintain an attentive presence and supervision of the students throughout the process, which Becker points out as a key necessity when preparing for collective arts activities (2008, pp. 2-7). In addition, facilitating exhibition space was crucial to present each drawing so that it became accessible to the group, which, in turn, granted status and value to each student's effort.

The organisational world, including educational leadership and the education of such leaders, displays many different logics that may often appear as incoherent. Even assuming that any activity may have an artful dimension, therefore, does not mean that ABM is the proper approach in any given situation. In addition, ABM comes across as highly divergent in ideology, method and context, which obliges ABM practitioners to work ahead and prepare for much-needed practice-oriented research on the matter. A solution may be achieved by initiating and doing research to help establish a useful framework to discover how ABMs as reflexive tools may be integrated into educational leadership study programmes.

Like the organisational world, the academic world has always accepted the significance of the scientific mind, and now, the academic world may gradually move towards recognition of what Davies (2012) refer to, when stating that human beings are an artful species. Opportunities deriving from art seem to be multifarious but require both relational and rational courage, driven by perseverance and manifested in research recognising artistic risk as an opportunity, not a threat. The most important finding in this chapter reveals that substantial amounts of varied research are necessary to gain more detailed, practical knowledge on ways to implement and conduct ABM and on the nature of learning outcomes when using ABM as a reflexive tool in educational leadership study programmes.

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DEL 3

Innledning

Den siste delen av boken har bare én artikkel, en invitert artikkel fra NAFOLs første leder, professor emerita Anna-Lena Østern. Hun har analysert NAFOL-studentenes prosjekter, og har skrevet en review-artikkel om tematikken i NAFOL-prosjektene. Artikkelen, gjennom sin grundige analyse, er en sterk dokumentasjon av bredden i nyere lærerutdanningsforskning i Norge.

KAPITTEL 11

Et stopp-punkt i en pågående kunnskapsproduksjon gjennom en review av 46 kunnskapsbidrag til norsk lærerutdanningsforskning fra Nasjonal forskerskole for lærerutdanning, NAFOL

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ABSTRAKT

Hensikten med den studien dette kapittelet bygger på, er å bidra til økt kunnskap om en pågående kunnskapsproduksjon gjennom ph.d.-avhandlinger som er ferdigstilt av kandidater som har deltatt i forskerskolen NAFOL. I kapittelet beskrives og analyseres kunnskapsbidragene ut fra prinsippet sortere, redusere og argumentere. Kapittelet omfatter analyse av 46 avhandlinger, dvs. alle som ved slutten av september 2017 er godkjent for disputas. Derfor er dette kapittelet et stopp-punkt i en pågående strøm av profesjonsforskning innenfor barnehage, skole og lærerutdanning av kandidater som har deltatt i forskerskolen NAFOL. Kunnskapsbidragene har åpnet «hemmelige rom» i praksis i barnehage, skole og utdanning. Analyser med sammenstilling av policydokumenter og praksiserfaringer viser dilemmasituasjoner som profesjonsutøvere må forholde seg til. Kunnskapsbidragene viser hvordan hverdagen i barnehage, skole og utdanning er avhengig av fronesiskunnskapsformen i samarbeid med techne- og epistemekunnskapsformer i et samfunn i hurtig forandring, og med høy grad av kompleksitet, der forskningen viser grensesoner med ulike kunnskapsformer i bruk, nettopp som kunnskapsbidrag.

INNLEDNING

I den studien som dette kapittelet bygger på, spør jeg hvilke kunnskapsbidrag 46 ph.d.-avhandlinger produsert av forskere som har vært kandidater i den nasjonale forskerskolen for lærerutdanning i Norge, NAFOL[1], inneholder. Avhandlingene er fra perioden 2012–2017 og omfatter i hovedsak avhandlinger fra de tre første kullene, i tillegg fire fra kull 4 og en fra kull 5. Jeg spør: Hva skriver forskerne frem som kunnskapsbidrag fra sine studier? Jeg har også en undring over hvor lang tid NAFOL-kandidatene bruker på å ferdigstille avhandlingene. I målformuleringen til Norges forskningsråd for den opprinnelige syvårsperioden forskerskolen skulle virke, fra 2010 til og med 2016, er det angitt 80 ph.d.-grader. I skrivende stund er det målet ikke nådd.[2] Undringen gjelder i hvilken grad den bevisstgjøring og den kunnskap kandidatene får gjennom forskerskolen, dels kan bidra til at flere skriver gode avhandlinger, dels at prosessen tar lenger tid gjennom alle sakkyndige kommentarer og innspill kandidatene får. Denne undring ligger som et bakteppe for å stoppe opp for å se hva som faktisk er oppnådd. Undringen får jeg dog ikke svar på gjennom dette kapittelet. I 2015 ble en relativt stor spørreundersøkelse gjort innover i NAFOL-nettverket om forskerskolens betydning. Den er presentert i denne boken (Vattøy & Smith, 2018). Smith (2017) omtaler konklusjonen på denne studien slik i en artikkel i tidsskriftet *European Journal of Teacher Education*:

> In an extensive evaluation of NAFOL by a contracted researcher, one of the questions examined was the perceived impact of NAFOL on teacher education after six years. The findings suggest that NAFOL plays a central role in developing national and international networks in teacher education in that it reaches beyond disciplinary, institutional, and national boundaries. The findings also point at NAFOL's contribution to strengthening a teacher education identity at an individual as well as at an institutional level (Vattøy & Smith, 2018; Smith, 2017, s. 7).

1 For informasjon om forskerskolen se www.nafol.net

2 Per 6.10. 2017 viser NAFOL-administrasjonens statistikk 55 innleverte avhandlinger, i tillegg fire som har fått førstekompetanse.

Med min studie som utgangspunkt kan eventuelt en ny undersøkelse gjøres med mer direkte fokus på kandidatenes vurderinger av å skrive avhandling i denne konteksten. Jeg inkluderer i dette kapittelet et avsnitt om akademisk skriving og kvalitetskrav i tolkningsfellesskap som et sideblikk til kvalitetskrav for ph.d.-avhandlinger slik noen andre studier beskriver dem. På den måten prøver jeg å problematisere hvilke kunnskapsbidrag som er mulige (eller eventuelt vanskelige) å formulere i norsk forskningskontekst.

Bakgrunn

Forskerskolen NAFOL er et resultat av et samlet ønske fra lærerutdanningsinstitusjoner i Norge (se Østern & Smith, 2012; Østern, 2017; Østern & Smith, 2017). Forhistorien kan for eksempel ses i St.meld. nr. 20 (2004–2005, s. 150) *Vilje til forskning,* som nevner at Utdannings- og forskningsdepartementet har bidratt til programmer i Norges forskningsråd:

> ... og har i St.prp. nr. 1 (2004–2005) annonsert et nytt program for yrkesrettet forskning og utvikling rettet mot lærerutdanningsmiljøene. Denne typen praksis- og profesjonsorientert forskning vil oftest ha en annen karakter enn tradisjonell grunnforskning i fagdisiplinene. Kravet til kvalitet gjelder all forskning og utvikling, og det er derfor en utfordring å utvikle kvalitetsstandarder også på slike felt, tilpasset feltenes egenart.

St.meld. nr. 28 (2016–2017) *Fag – Fordypning – Forståelse. En fornyelse av Kunnskapsløftet* forteller om fornyelse av den nasjonale læreplanen, noe som kommer til å få innvirkning på endringsprosesser i skole og lærerutdanning og invitere til forskning.

Fra 2014 er NAFOL innordnet under Norges forskningsråds program FINNUT og har mandat til å virke ut 2021. Det er derfor et beleilig tidspunkt å stoppe opp og gjøre et midlertidig regnskap gjennom å undersøke hva som er kunnskapsbidrag fra de avhandlinger som til nå er ferdigstilt av kandidater som har deltatt i forskerskolen NAFOL. Jeg nærmer meg tematikken kunnskapsbidrag gjennom et sideblikk på kvalitetskrav i akademisk skriving, og da med forforståelsen at forskning innenfor utdanningsvitenskap skal leve opp til samme kvalitetskrav som annen forskning. Det kan i seg selv ses som et kunnskapsbidrag å utvikle

for eksempel praksisledet forskning, selvstudier og intervensjonsforskning i de kontekster NAFOLs kandidater virker innenfor.[3] Det ligger også noen større spørsmål under analysen av avhandlingene. Det er nemlig slik en stor mengde lærerutdanningsforskere kvalifiseres, og det er beleilig å spørre om denne retningen er tilstrekkelig tydelig formulert, men også tilstrekkelig generøs for å tillate nye prosjekter og nye metodologier til å utvikles.

AKADEMISK SKRIVING SOM GENRE OG KVALITETSKRAV I TOLKNINGSFELLESSKAPER

Det fins mye litteratur om hvordan en «god» ph.d.-avhandling skrives. Hver tekst tar utgangspunkt i et tolkningsfellesskap, og spørsmålet for en kandidat og kandidatens veiledere er hva slags tolkningsfellesskap det er forskeren ønsker å bli akseptert av. Det som er felles for utdanningsvitenskapelige tekster, er at man ikke forsker innenfor en eksakt vitenskap, men i grenselandet mellom samfunnsvitenskap og utdanningsvitenskap og med kontakt med fagdisipliner av ulike slag. Utdanningsvitenskap karakteriseres ofte som normativ, og virksomhet i barnehage, skole og utdanning er regulert av policydokumenter, som endres med omtrent ti års intervaller i norsk kontekst. Det fins også europeiske standarder for læringsmål for ph.d.-utdannelse.[4]

Det er mulig å kikke noen tolkningsfellesskap i kortene gjennom studier av bedømmelse av doktorgradsavhandlinger og gjennom å se på de krav sentrale vitenskapelige tidsskrifter stiller til artikler som publiseres. Det går stort sett på IMRAD eller IMLRAD som strukturmodell, dvs. Introduction, Method, (Literature), Result, and Discussion.[5] I Krumsviks (2016) studie *En*

3 Norges forskningsråd har organisert utdanningsforskning, for eksempel Utdanning 2020 (avsluttet): https://www.forskningsradet.no/prognett-utdanning/Avsluttede_programmer_utdanningsforskning/1224697864885 og PRAKUT, et praksisrettet forskningsprogram 2007–2012. Se https://www.forskningsradet.no/prognett-praksisfou/Prosjektarkiv/1224697992358

4 A Framework for Qualifications of the European Higher Education Area – Bologna Working Group on Qualifications Frameworks (http://www.aic.lv/bolona/Bologna/Bergen_conf/Reports/EQFreport.pdf) Tilgang 25.9.2017.

5 Ved en Skype-forelesning, høsten 2017, for ph.d.-kandidater ved Institutt for lærerutdanning, NTNU, presenterte ansvarlig redaktør for *Scandinavian Journal for Educational Research* denne strukturen som et krav for artikler i denne nivå 2-rankede journalen.

doktorgradsutdanning i forandring har han fokus på den artikkelbaserte avhandlingen. Krumsvik, Øfstegaard og Jones presenterer i et kapittel en gjennomgang av ulike kriterier for kvalitet og ulike krav til en ph.d.-avhandling. De refererer til Badleys (2009) vurdering av de viktigste kvalitetskravene, nemlig originalitet, stringens og signifikans (Krumsvik, Øfstegaard & Jones, 2016, s. 42). I litteraturgjennomgangen de gjør, konkluderer de med at artikkelbaserte avhandlinger[6] må ha forutsigbare og transparente vurderingskriterier. I dag er det urovekkende mye sprik i bedømmelseskriterier, og, skriver forfatterne, her har de fleste fagdisipliner et utviklingspotensial.

To artikler om resultat av bedømmelse av ferdige doktorgrader i Norge og Danmark er av interesse for denne artikkelen. Det er Lies (2014) artikkel om innhold i bedømmelsestekster om underkjente avhandlinger fra et norsk universitet, samt Rienecker og Jørgensens (2013) analyser av bedømmelser av 41 danske doktoravhandlinger. Både Lie og Rienecker og Jørgensen har fått tilgang til bedømmelser fra humanistisk fakultet ved et universitet. Lie konstaterer at komiteene kan si mye positivt, men allikevel konkludere med ikke å akseptere et manuskript. Hun nevner spesifikt irritasjon over svak akribi og svak koherens i tekstene. Rienecker og Jørgensens gjennomgang er meget systematisk, og de konstaterer at komiteene ikke legger så stor vekt ved resultatpresentasjonene, men at spesielt litteraturgjennomgangen kritiseres som svak i mange avhandlinger. Dessuten savner komiteene i mange tilfeller en sluttdrøfting som plasserer avhandlingen i et større bilde. Et ufravikelig krav ser ut å være en problemstilling, eller et forskningsspørsmål, som avhandlingen undersøker, besvarer og drøfter. Alvesson og Kärreman (2015, s. 57) har foreslått en metodologi for forskning som har som hensikt å produsere nye empirisk funderte teoretiske ideer, og de legger stor vekt på formulering av utfordrende forskningsspørsmål. Et annet ufravikelig krav er høy etisk standard på forskningen (Biesta, 2013). Avhandlingene jeg har analysert, er produsert innenfor et sterkt koreografert regime, dirigert av vitenskapelige tidsskrifters krav og av bedømmelseskomiteers kvalitetsforståelser. Hvis avhandlingene ikke lever opp til denne koreografien, blir de ikke akseptert.

6 Forf.s. anm.: Dette gjelder selvfølgelig også monografier.

PROFESJONSFORSKNING FOR LÆRERUTDANNERE OG FORSTÅELSE AV KUNNSKAPSBEGREPER

Endringsprosesser

I dette avsnittet legger jeg grunnlag for sluttargumentasjonen om kunnskapsbidrag i de analyserte ph.d.-avhandlingene. Jeg innleder med et blikk på endringer i norsk lærerutdanning, slik Krüger (2016, s. 212) beskriver betingelser for at endring skal kunne skje, og om hvordan makt og viten utfolder seg:

> Utgangspunktet mitt er at jeg ser det slik at lærerutdanningen består av en rekke uåpnede rom eller skjulte, hemmelige praksiser, det vil si at den innehar et stort potensial som ennå ikke er aktivert, og at det er en viktig oppgave for forskningen å bidra til å åpne dem og gjøre oppmerksom på den frihet og de muligheter som tross alt eksisterer.

Norge er i en endringsfase når det gjelder tenkning omkring lærerutdanning, med innføring av mastergrad som grunneksamen for alle lærerstudenter fra høsten 2017. Krüger (2016, s. 213) konstaterer at virksomhetene i lærerutdanningen fungerer som et strategisk redskap i en nasjons kulturelle produksjon og reproduksjon. Han konstaterer også at posisjoneringen i spenningsfeltet mellom kulturell reproduksjon og ny produksjon gjør at lærerutdanning befinner seg i et pågående dilemma mellom å være samfunnets tjener og kritiker. Krüger ser virksomheten innenfor feltet som dynamisk:

> Det foregår stridigheter og interessekamper. Vi ser dem ofte ikke, og vi tror det er først når vi får øye på dem, at de eksisterer. Men kampene foregår kontinuerlig, i en evig dynamikk, skjønt ofte i det stille og i det skjulte. De handler om retten til å definere hva som skal telle som fornuftig, normalt, viktig og legitimt å foreta seg i lærerutdanningen og sette på dagsorden for hva som skal skje (Krüger, 2016, s. 214).

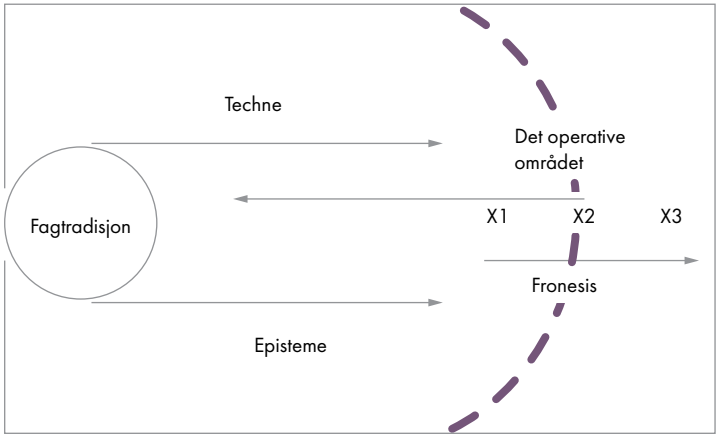
Krüger (2016, s. 215) beskriver lærerutdanning som et mangedimensjonalt epistemologisk prosjekt, og han skriver at om man vil forstå endringsprosesser er et utgangspunkt at lærerutdanning også er strukturert og har fått og får sin form gjennom viten. Gjennom forskning kan mulighetsbetingelser for at nye

ting skal kunne fremtre og realiseres drøftes, og, konkluderer Krüger, feltet trenger åpning for problematiserende diskusjoner om hva endring innebærer.

I en ph.d.-avhandling fester forskeren oppmerksomhet ved små detaljer, men også ved det store bildet, konteksten som avhandlingen skriver seg inn i. Uansett om studien henter empiri fra barnehage, klasserom eller utdanning, møter forskeren utfordringer i å beskrive det han eller hun ser, og å åpne mer eller mindre hemmelige rom for å bidra med ny kunnskap inn i feltet som studeres.

Kunnskapsteori

Som teoretisk referanseramme og som begreper til bruk i argumentering for hvilke kunnskapsbidrag avhandlingene bidrar med, har jeg valgt Brunstads revitalisering av tre kunnskapsformer med røtter i gresk filosofi (se Grimen, 2008; Gustavsson, 2000). En revitalisering av de greske begrepene episteme, techne og fronesis er nemlig gjort gjennom Brunstads (2007) filosofiske analyser. Denne revitaliseringen ser jeg som relevant med henblikk på kunnskapsutvikling innenfor lærerutdanningsforskning. Brunstad har visualisert sin revitalisering gjennom en kunnskapsteoretisk modell for generell profesjonskompetanse vist i figur 11.1.



Figur 11.1 Kunnskapsteoretisk modell for generell profesjonskompetanse formulert av Brunstad (2007, s. 68; brukt med tillatelse av Brunstad).

I figur 11.1 vises fagtradisjon som et utgangspunkt for techne. Techne blir beskrevet som fortrolighetskunnskap, ofte taus, og kroppsliggjort håndverkskunnskap. Episteme (som også har utgangspunkt i fagtradisjon) blir beskrevet som vitenskapelig-teoretisk kunnskap, som er eksplisitt og artikulert. Både pilen for techne og for episteme peker inn mot praksis (det operative stiplede området), men pilene når ikke helt frem. Her fins Brunstads bidrag til revitalisering av kunnskapsbegrepet gjennom plassering av kunnskapsformen fronesis i et liminalt felt. Det operative området er et liminalt felt, et felt med et gap, et tomrom, et usikkerhetsfelt, eller en grensesone. I dette tomrommet må fronesis, den praktiske klokskapen, dømmekraften, aktiveres, skriver Brunstad. Fronesis virker i konkrete valg og beslutninger. Valgene beskrives som X1, X2 og X3, ettersom de er situasjonsspesifikke, risikofylte og unike. Brunstad tematiserer X-ene som tre stasjoner innenfor utøvelse av klokskap:

> X1 står da for evnen til å se at en står overfor et nytt problem eller et uløst dilemma. Dette er en del av situasjonsbevissthetens betydning for klokskap. X2 betegner den praktiske eller konkrete handlingen som utføres på bakgrunn av den kloke overveielse. Det er her klokskapen viser mot og risikovillighet til å handle, selv om konsekvensene kan være uklare. X3 er til sist likevel tankens foregripelse av handlingens konsekvenser. Det er klokskapens forutseenhet som her kommer til uttrykk. Til sist ser vi en pil som går fra det operative området og tilbake til det stabile kjerneområdet av fagtradisjonen. Med dette understrekes klokskapens forankring i erfaring, historie og tradisjon. Klokskapen trenger en god hukommelse (Brunstad, 2007, s. 68).

I denne studien ser jeg forskerne som involvert i et prosjekt av kunnskapsproduksjon, der deres forskning utgjør et bidrag til å flytte kunnskapens frontlinjer både nasjonalt og internasjonalt, i et fellesskap av forskende lærerutdannere og lærere. Som praksisnære forskere kan de bidra med kunnskap om sammenfletting av kunnskapsformer med vekt på valg og vurderinger i det operative praksisfeltet de studerer.

PROBLEMSTILLING OG METODE

Materiale for analyse

Denne studien er en litteraturstudie (se Lunenberg, 2014), og materialet er alle ph.d.-avhandlinger produsert av kandidater som har vært deltagere

i forskerskolen NAFOL, og som senest i september 2017 er akseptert. Jeg kaller denne analysen et stopp-punkt i en pågående strøm av forskningsprosjekter, som har som et utgangspunkt deltagelse i forskerskolen. Forskerskolen NAFOL har mandatperiode fra 2010 og ut 2021, og de to siste kullene tas opp i januar 2018. Jeg har i en studie (Østern, 2016) analysert 140 prosjektsammendrag publisert på NAFOLs hjemmeside ut fra problemformuleringene i prosjektskissene. I den studien gjorde jeg en forsøksvis gruppering av prosjektene inn under tre diskurser: en målstyrt utdanningsdiskurs, en dannings- og demokratidiskurs og en kritisk kunnskapsproduserende diskurs. I denne studien plasserer jeg ikke ferdige avhandlinger inn under diskurser, annet enn at jeg gjentar som i studien fra 2016 at alle skriver seg inn i en solidaritetsdiskurs som omfatter ønske om å bidra til forskningsbasert kunnskap om barnehage, skole og (lærer)utdanning.

Problemstilling

Jeg er i denne studien veiledet av følgende problemstilling: *Hva skriver forskerne fram som kunnskapsbidrag fra sine studier?*

Metode

Når jeg i denne studien spør hva slags kunnskapsbidrag sluttførte prosjekter gir, velger jeg altså ikke en diskurstilnærming, men beskriver bidragene analytisk ut fra tre aspekter ved kvalitativ tilnærming: å sortere, redusere og argumentere. Jeg er i denne analysen inspirert av to svenske forskere, Rennstam og Wästerfors (2015) ved Lunds universitet. De representerer som sosiologer et utenfrablikk på lærerutdanningsforskning, men er sakkyndige i forhold til analyse, især kvalitativ analyse. De nevner tre problemer som er tilbakevendende når kvalitativt materiale skal analyseres: kaosproblemet, representasjonsproblemet og autoritetsproblemet. Kaosproblemet er knyttet til store materialer som må organiseres for å bli håndterbare. Representasjonsproblemet er knyttet til spørsmål om hva av materialet som forskeren skal velge å fordype seg i, og som dermed representerer hele materialet. Autoritetsproblemet omfatter spørsmålet om hva forskeren kan si (som er nytt!) på basis av dette materialet. Jeg analyserer i denne studien tekster som på ulike måter allerede har håndtert disse problemene. Forfatterne av ph.d.-avhandlingene har sortert, redusert og argumentert. Jeg gjør dermed en sortering, en redusering og en argumentering på tekster som

allerede er produsert, og der avhandlingsforfatterne har håndtert og løst disse tre problemene. I alle avhandlingene fins mot slutten av teksten en drøfting av avhandlingens bidrag. Bidragene kan omfatte teoretiske bidrag, metodologiske bidrag samt ny kunnskap om forhold i det materialet som er analysert.

For å kunne finne mulige svar på det spørsmålet som veileder denne analysen, gjør jeg i mitt materiale (46 ph.d.-avhandlinger) på nytt en sortering, en redusering og en argumentering som en syntese av den kunnskapsbygging som er under konstruksjon.

Sortering

Å sortere betyr å lære seg å finne frem i materialet, å finne materialets uttrykksfulle og originale sider, samt å kunne se relasjoner mellom detaljer, skriver Rennstam og Wästerfors (2015, s. 182). Jeg har i løpet av snart et halvt års tid lest de ulike avhandlingene. Jeg har på en måte omgåttes avhandlingene, hatt noen tekster med på ulike reiser og har gitt meg selv tid til å lese langsomt. På den måten har jeg kunnet se relasjoner mellom avhandlingene, også relasjoner mellom detaljer. Kunnskapsbidragene kan grupperes på ulike måter – men alle er knyttet til analyser av empiri med relevans for barnehage, skole og lærerutdanning.

Jeg har skapt matriser hvor jeg har plassert de 46 avhandlingene. Matrisene har følgende kolonner: forfatterens kjønn, sort (artikkelbasert/monografi), type (kvantitativ, kvalitativ, mixed methods), språk, design (vitenskapsteoretisk ståsted, teoretisk referanseramme, problemstilling og forskningsspørsmål, metodologi og metode, etikkspørsmål, resultat/funn og drøfting), og sitat fra tekst om kunnskapsbidrag.

Redusering

I den etterpåfølgende analysen, som omfatter redusering, skiller jeg ikke mellom artikkelbaserte avhandlinger eller monografier. Jeg skiller heller ikke mellom avhandlinger med kvalitativ eller mixed-methods-design. Reduseringen består av en gruppering av avhandlingene etter tematikk, eller aldersgruppe. Gjennom reduseringen vises fokuserte områder for avhandlingene. Reduseringsprinsippene kan være av ulik art, og de prinsipper jeg har valgt for denne reduseringen, er kun et valg ut fra flere mulige reduseringsprinsipper. Det er et aktivt valg fra meg som forsker å peke ut temaområder av sentral betydning for det

mandatet norsk lærerutdanningsforskning har fått gjennom sentrale policydokumenter og konkretisert i Norges forskningsråds bestilling (gjennom ulike utlysninger rettet mot spesifikke miljøer). Denne bestillingen er nokså eksplisitt å kvalifisere lærerutdannere for forskningsbasert undervisning og veiledning. Her er høyskolenes lærere vurdert som en sårbar gruppe som trenger støtte, og kanskje barnehagelærerutdanningene som en gruppe som spesifikt oppfordres til å styrke forskningskompetanse.

Å redusere innebærer etter Rennstam og Wästerfors å zoome inn og å komprimere. De foreslår at reduseringen kan skje gjennom kategorisk og illustrativ redusering, men også gjennom å søke brudd eller «breakdowns» mellom vanlige antakelser og empiriske funn (Rennstam & Wästerfors, 2015, s. 183). I denne fasen kan forskeren også skape egne forskerdrevne fortellinger ut fra materialet.

Argumentering

I denne siste fasen av analysen prøver jeg å ikke være oppskriftsaktig, men kreativ, refleksiv, etisk bevisst og transparent. Jeg ser denne fasen som krevende, kompleks og spennende. Jeg tilfører materialet noe *mer* gjennom å skrive fram mening og betydning av de kunnskapsbidragene forskerne har skrevet frem.

Her påpeker Rennstam og Wästerfors (2015, s. 183) betydningen av å sette ord på funn: forskeren tenker med data gjennom begreper og perspektiveringer. De konstaterer også at forskeren kan «dette baklengs» inn i materialet, og først i etterkant se betydningen av funnene: «Många gånger är det andra – kollegor, handledare, studenter, vänner – som pekar ut det nya …» (Rennstam & Wästerfors, 2015, s. 184).

Etiske overveielser og min posisjonering som forsker

Jeg er som forsker godt kjent med norsk lærerutdanningsforskning. Jeg har som leder av forskerskolen NAFOL i perioden 2010–2015 godt innsyn i mange av prosessene som har resultert i avhandlingene. Jeg er dermed ingen distansert forsker. Jeg er engasjert i de problematikker som studeres og jeg lar meg berøres av forskningsprosjektene. Nettopp gjennom mitt engasjement og min innsikt i praksisnær forskning og i forskerutdanning har jeg et skarpt analytisk blikk, fordi jeg vet en del om hva som skal til for å gi troverdighet og transparens. For å ha nødvendig distanse til materialet jeg analyserer, har jeg valgt et deskriptivt

nivå på analysene. Dette nivået gir meg rom til å bidra med innsikter om den pågående kunnskapsproduksjonen i NAFOL, men uten å gjøre kritiske kvalitetsvurderinger av enkelte avhandlinger.

Det er publiserte avhandlinger som jeg forholder meg til, og forskningsetisk respekt vises nettopp gjennom at jeg ikke gjør kvalitetsvurderinger av enkelte avhandlinger. Avhandlingene er kvalitetsvurdert av kommisjoner som har akseptert manuskriptene. Jeg kan som forsker se at alle avhandlinger skriver seg inn i en solidaritetsdiskurs, som omfatter ønske om å kvalifisere forskningsbasert lærerutdanning gjennom de forskningstemaer som belyses.

ANALYSE OG RESULTAT

Sortering av avhandlingene

Av avhandlingene er 32 produsert av kvinner og 14 produsert av menn. Andelen artikkelbaserte avhandlinger er 59 %, andel monografier er 41 %.

Det er forskjeller mellom artikkelbaserte avhandlinger og monografier med hensyn til forfatterskap. Mens monografiene alltid er skrevet av én person, er noen av artiklene ofte skrevet i samarbeid med veileder(e). Kappen er etter norske krav for ph.d.-graden alltid produsert av forfatteren, men under veiledning. De artikkelbaserte avhandlingene har krav om begrensning i sidetall i artiklene (bestemmes av redaksjon i journalen eller boken de er publisert i). Mange universiteter og høyskoler har også begrensning i anbefalt sidetall i kappen.[7]

I tabell 11.1 vises oversikt over antall artikler i hver artikkelbaserte avhandling og i tabell 11.2 antall sider i kappen.

Tabell 11.1 Oversikt over antall artikler i en avhandling (N = 27).

Antall artikler i en avhandling, gruppert
3 artikler (16 stk.)
4 artikler (9 stk.)
5 artikler (2 stk.)

7 NAFOLs vertsinstitusjon Institutt for lærerutdanning ved NTNU anbefaler 100 s. som maksimum på en kappetekst.

Tabell 11.2 Oversikt over og antall sider i kappen i de undersøkte artikkelbaserte avhandlingene (N = 27).

Antall sider i kappen, gruppert
75–99 sid. (13 stk.)
100–136 sid. (9 stk.)
137–220 sid. (5 stk.)

Av de totalt 94 artiklene i de artikkelbaserte avhandlingene er 30 skrevet av forskeren med en eller to medforfattere, oftest med veileder(e). De to avhandlingene som har fem artikler, har de samme fem artiklene i begge avhandlingene. Dermed skiller disse to seg ut kun gjennom en individuelt skrevet kappe. Én avhandling har alle tre artiklene skrevet sammen med veileder, og en har tre av fire artikler skrevet sammen med veileder.

En tilsvarende sortering av monografiene gir oversikt over antall sider (uten vedlegg) (tabell 11.3) og kapitler i monografiene (tabell 11.4).

Tabell 11.3 Antall sider i de undersøkte monografiene (N = 19).

Antall sider i monografiene, gruppert
200–259 sider (9 stk.)
260–349 sider (6 stk.)
350–396 sider (4 stk.)

Tabell 11.4 Antall kapitler i monografiene, gruppert (N = 19).

Antall kapitler i en enkelt monografi, gruppert
4–7 kap. (9 stk.)
8–11 kap. (8 stk.)
12–14 kap. (2 stk.)

Det er kun én monografi som omfatter 14 kapitler, og denne monografien har 368 sider.

Avhandlingene på norsk dominerer. En del artikkelbaserte avhandlinger har artikler både på norsk og engelsk. To av monografiene er skrevet på engelsk, og åtte artikkelbaserte avhandlinger er skrevet på engelsk (to av dem med en artikkel på norsk). Det er fire avhandlinger som er skrevet på nynorsk, og to er skrevet på dansk. En avhandling er godkjent ved et universitet i Sverige, de øvrige ved universitet eller høyskole i Norge.

Åtte av de ferdige avhandlingene gjør bruk av mixed methods-design, av disse to med hovedsakelig kvantitativ tilnærming. Utværs (2013) studie har av disse en omfattende datainnsamling med 474 informanter i den innledende spørreundersøkelsen, og med en oppfølging via registerdata om temaet frafall i videregående skole. Hofslundsengens (2017) studie av tidlig literacy i barnehage og mulige spesialpedagogiske vansker har en kvasi-eksperimentell design.

REDUSERING GJENNOM GRUPPERING I TEMAOMRÅDER

For å få grep om de områder kunnskapsbidragene i avhandlingene er innenfor, har jeg som redusering gjort en grov førstegruppering innenfor tre (tematiske) områder. Reduseringen er styrt av min forståelse av at lærerutdanning, lærerprofesjon, didaktikk og ledelse kan forstås som sammenholdte tematikker. I reduseringen, omfattende to grupper til, har jeg vurdert barnehage og kunnskap om barnehagebarn og nybegynnere på skolen som en sammenholdt tematikk. Jeg har også valgt å se studier omfattende unge mennesker i videregående skole og deres lærere og læringsmiljøer som en sammenholdt tematikk. Reduseringen til disse tre tematiske feltene ga én stor gruppe og to mindre:

- Lærerutdanning, lærerprofesjon og ledelse (26 stk.)
- Barnehage og nybegynnertrinn (10 stk.)
- Videregående skole og unge voksne (10 stk.)

Denne reduseringen er grov, men en tematisk gruppering gir meg mulighet til å argumentere i neste fase av analysearbeidet. Det er enkelte studier som ikke helt selvfølgelig hører hjemme innenfor et tema, og selvfølgelig kan andre temaer ha vært utgangspunkt for sorteringen.

Et forsøk på å gruppere etter vitenskapsteoretisk posisjonering, eller knytte an til bestemte teorier, ledet til en mulig sortering i sosialkonstruktivistiske, hermeneutiske og sosio-materielle studier, med en dominans av sosialkonstruktivistiske tilnærminger i studiene.

Et stort antall teoretiske referanserammer kan navngis i de undersøkte studiene. Systemteori, praksisteori, profesjonsteori, postkolonial teori, teori om sosial rettferd, performativ teori, dramaturgiteori, sosialsemiotisk (multimodal) teori, literacyteori, dialogfilosofi, kroppsfilosofi, økologisk teori, diskursteori, aktivitetsteori, kodeteori, kompleksitetsteori og dannelsesteori, og flere, fins som teoretiske referanserammer i studiene. Disse kan reduseres til kritiske teorier og bekreftende teorier. Det som er felles for disse teoretiske bakgrunnsforståelsene, er at de gir analytiske begreper, men også at de muliggjør et teoretisk løft ut fra funnene i studiene.

ARGUMENTERING FOR KUNNSKAPSBIDRAG AV BETYDNING FOR LÆRERUTDANNINGSFORSKNING

I delkapittelet om redusering har jeg komprimert studiene inn under tre store temaområder. I delkapittelet om argumentering gjør jeg først en motsatt bevegelse gjennom at jeg kort presenterer hver studies tema og bidrag, med korte sammenfattende kommentarer til hver undergruppe. Til slutt tar jeg et metablikk på kunnskapsbidragene og konkluderer gjennom å bruke Brunstads (se figur 11.1) kunnskapsteoretiske modell for å se gjennom hele analysematerialet. Jeg knytter også an til Krügers tanker om mulighetsbetingelser for endringsprosesser i lærerutdanning.

LÆRERUTDANNING, LÆRERPROFESJON OG LEDELSE

Lærerutdanning som kontekst for forskning

Lærerutdanning som kontekst for forskning vises i ni studier med fokus dels på studenter, dels på lærerutdannere og samspillet mellom dem.

Lærerstudenters profesjonelle utforming innenfor en statlig norsk høyskole undersøkes i en diskursorientert studie (Espedal, 2017). I forskningen skisserer forfatteren opp seks dominerende diskurser. I samvirke mellom disse diskursene aktiveres formende mekanismer på selvet, samlet i begrepet «en samkonstruktiv utøver». Studien produserer utfordringer vedrørende mulige problemer med den

profesjonelle utformingen i det aktuelle utdanningsrommet. Studien er en Foucault-inspirert studie, og den viser hvordan tanker om et desentrert subjekt får store konsekvenser for forståelsen av hva som er på spill i en utdanning. I en kritisk studie (Sjølie, 2014) av lærerstudenters akademiske læringspraksiser undersøker forskeren blant annet lektorstudenters «academic literacy» som praksis. Studien utfordrer både lærerutdanning, praksisveiledere og lærerstudenter til å finne felles kommunikative rom for kunnskapsutvikling i løpet av lærerutdanningen.

Riis (2016) har i en selvstudie av designprosesser løftet frem betydningen av praktisk kunnskap i tekstildesign innenfor kunstfaglig lærerutdanning. Avhandlingen viser betydningen av visuell dokumentasjon som en del av avhandlingsarbeidet. Orset (2017) skriver frem betydningen av praktisk kunnskap i teaterpedagogers maskeundervisning. Hun artikulerer gjennom studien en kunnskap som hittil har vært kroppsliggjort av pedagogene, men ikke artikulert. Waade (2016) undersøker tegnspråket Soundpainting som praksis i en musikkutdanningskontekst, ut fra det nære forholdet mellom improvisasjon, komponering og performance. Sætre (2013) har studert hvordan musikklærere i allmennlærerutdanninger underviser i musikk. Forskeren kunne identifisere viktige spenninger mellom lærerutdannerne og faget musikk i generell lærerutdanning. En tendens var å gjøre undervisningspraksis i lærerutdanningen lett på grunn av behov for støtte i lav-risiko-setting. To studier tar for seg henholdsvis testangst hos sykepleierstudenter (Røykenes, 2015) og mestringsforventninger hos fremtidige matematikklærere i grunnskolen (Hessen Bjerke, 2017). Røykenes' studie viser hvordan studenter med lav selvoppfatning i matematikk, og med testangst, forholder seg til en intervensjon som skulle støtte studentene (men ikke selvsagt gjør det). En konklusjon er at studentenes tidligere erfaringer i matematikkopplæringen er av betydning. Hessen Bjerkes studie viser en ny og mer positiv og nyansert forståelse av «svake» lærerstudenter som skal undervise i matematikk.

Digital kompetanse hos fire kull av lektorstudenter i engelsk er studert gjennom blant annet et verksted i digitale fortellinger (Røkenes, 2016). Hovedbidraget fra studien er økt kunnskap om tilnærming og innovativ undervisning med IKT.

Profesjonsforståelse og profesjonell utvikling

Profesjon og profesjonell utvikling er tema i fem studier fra ulike kontekster. Profesjonsforståelse er tema i Angelos (2012) studie av instrumentallærere.

Studien er et bidrag til grunnleggende tenkning om kunnskap, makt og identitet innenfor disse profesjonene. Dermed skiller denne studien seg fra de andre gjennom å hevde et kunnskapsbidrag til grunnlagsforståelse. I Æsøys (2017) læremiddelanalyse knyttet til nyere pensumlitteratur for grunnskolelærer- og sykepleierutdanning gjøres en sammenligning av tankemønstre i litteraturen. Studien er filosofisk orientert og er et innspill i en debatt om vitenskap og profesjon, nemlig spørsmålet om hva slags kunnskap den profesjonelle utøveren skal få gjennom sin utdanning. I Jensens (2016) dialektiske, teoridrevne studie av det han kaller ritualet i praksisveiledning av lærerstudenter, rettes et kritisk blikk mot betydningen av de veiledningssamtaler han har observert.

Eik (2014) har i sin studie undersøkt hvordan det er å være ny i profesjonen som førskolelærer og hvordan førskolelærerne utvikles profesjonelt det første året i profesjonen. Et funn var at de kun i begrenset grad oppfattet at de gikk inn i gjensidige læringsprosesser på sin nye arbeidsplass.

Svendsen (2017) har gjennom en longitudinell intervensjon med bruk av en kompetanseutviklingsmodell prøvd ut blant naturfaglærere ved en ungdomsskole og to videregående skoler, studert faktorer av betydning for endringer i læreres profesjonsutvikling som eierskap til utviklingsprosessen, tidsperspektiv i utviklingsprosessen, samarbeidslæring og utvikling av kollegial profesjonstilhørighet.

Studiene som undersøker hva som skjer i lærerutdanning innenfor ulike felt og studier som studerer profesjon og profesjonsutvikling, gir bidrag til kunnskap innenfor avgrensede områder, men samlet peker de mot et større bilde av utfordringer som lærerutdannere trenger å være bevisste på og å forholde seg til. Disse rommene er ikke «hemmelige», men i noen tilfeller oppfattet som litt selvsagte og ureflekterte. Første fase i en endringsprosess er å få innsikt i at det selvsagte og «normale» er kulturell læring i en spesifikk kontekst.

Læreren i skolen og klasserommet

Lærere i skolen og klasserommet som arena er tema i åtte studier, som jeg kort beskriver i det følgende.

Skåland (2016) har studert læreres opplevelse av vold eller trussel om vold fra studenter og elever. Forskeren peker på de dramatiske konsekvenser enkeltstående hendelser kan få for den enkelte lærer gjennom tap av ontologisk

trygghet. Det rommet Skåland åpner gjennom sin forskning, er et rom der nettopp taushet og fortielse har vært negativt for lærerne som forteller.

En studie av litteraturundervisning i ungdomsskolen (Kjelen, 2013), studert i lærerperspektiv, fokuserer på kanon, danning og kompetanse hos 18 lærere – med ulik forståelse av disse begrepene. Stabell-Jørgensen (2014) har studert eksistensiell skriving i religionsfaget i elevperspektiv. Bueie (2017) har studert ungdomsskoleelevers forståelse av skriftlige lærerkommentarer i norskfaget, og konstaterer at en økt bevissthet hos elevene kan gi disse kommentarene større formativ betydning. Formativ vurdering i lærerperspektiv er tema i Wilsons (2014) systemteoretiske studie av formativ vurdering som dels et vitenskapelig og dels et politisk konsept. Hun drøfter med bakgrunn i disse konseptene hva som er ansvarlig respektive uansvarlig vurderingspraksis. Burner (2016) har studert formativ vurdering av skriving i engelsk gjennom en 18 måneder lang periode i feltet, med portfoliovurdering som et markant innslag i en intervensjon. Vurderingsdialogen i vurdering av nasjonal læringsstøttende prøve i skriving er undersøkt av Jølle (2015) med et dialogteoretisk perspektiv på tolkningsfellesskapene hos vurderere. En studie kalt *Nasjonale prøver – fra «tvangstrøye» til verktøy i utvikling av skolens praksis* (Vestheim, 2017) har studert praksis på skoler som over tid har oppnådd gode resultater på nasjonale prøver, og har funnet at en del ledelseskvaliteter er av stor betydning.

Rektorers ledelse og pedagogers ledelse

Ledelse er tema i fire studier fra ulike kontekster. Bjordals (2016) studie av markedsretting i skolen bygger på dokumentanalyser og intervjuer med rektorer i Oslo-skoler. Gjennom studien rettes et kritisk blikk på dilemmaer rektorer møter i sin virksomhet som pedagogiske ledere, av og til på kollisjonskurs med policydokumenter. En lignende kritisk studie av barnehagen som læringsarena er gjennomført av Nygård (2017). Hun tar utgangspunkt i analyser av policydokumenter og spør barnehagelærere hvordan de posisjonerer seg som aktører i den sterkere statlige styringen av barnehagens innhold. I to skyggestudier av ledelse i barnehage (Bøe, 2016; Hognestad, 2016) synliggjøres hybride praksiser gjennom kunnskapsledelse. Kunnskapsledelse defineres som en kombinasjon av kunnskap, dømmekraft, forståelse og improvisasjon, hvor lederne faktisk er til stede i pedagogisk arbeid med barn sammen med sitt personale i barnehagen.

Mens de to første studiene problematiserer spenning mellom policydokumenter og lederverv, har de to studiene om kunnskapsledelse i barnehagen fokus på hvordan praksis utformes. Også disse studiene kan plasseres i det «stiplede» praksisfeltet i Brunstads kunnskapsteoretiske modell, for også disse studiene peker på valgsituasjoner av etisk art, og behov for ledelse som utøves med dømmekraft.

Sammenfatning av kunnskapsbidrag fra tematisk område 1 – en argumentasjon

Spennet i disse studiene er stort, fra undersøkelser av nasjonale prøver, grunnleggende ferdigheter og formativ vurdering til danningsforståelse hos litteraturlærere, samt traumatiske erfaringer av vold mot lærer. Som kunnskapsbidrag representerer de dokumentasjon av en tid i forandring i løpet av den perioden KL06, *Læreplan for Kunnskapsløftet* (Kunnskapsdepartementet, 2006) har vært styrende for skoleutviklingen. Relatert til Brunstads kunnskapsteoretiske modell (vist i figur 11.1) kan mange av kunnskapsbidragene her plasseres i det stiplede feltet som markerer praksis, og der valg må tas med bruk av praktisk dømmekraft i en grensesone med høy grad av usikkerhet. Ettersom det er forskning utgående fra praksis, fra erfaring og fra praksisfortellinger, vises hvor avgjørende betydning valgsituasjoner har for utfall av praksis. I selve avhandlingen flettes techne-kunnskap sammen med episteme-kunnskap, og i storparten av avhandlingene skapes originalitet, stringens og signifikans gjennom at forskerne gjør konklusjoner knyttet til det operative feltet, der fronesis-kunnskapen er nødvendig.

BARNEHAGE OG NYBEGYNNERTRINN

Gjennom studier gjennomført i barnehagekontekst, åpnes ganske konkret «hemmelige rom» i barnehagebarns hverdag i barnehagen og som nybegynnere på skolen. Disse «rommene» har ikke vært undersøkt, eller har vært underbelyst i tidligere forskning. Det kan være barns oppfattelse av regler (Skreland, 2016), hverdagslivet til «barneborgarar» (Grindheim, 2014), barns digitale dannelse i kunstpedagogiske prosjekter (Letnes, 2014), barnehagens møter med teknologi (Lafton, 2016), barns erfaringer av landskap og plasser (Jørgensen, 2014), barns involvering i fysisk aktivitet i ulike utemiljø (Bjørgen, 2017),

«emergent literacy» med fokus på barn med lærevansker (Hofslundsengen, 2017), skolenybegynneres forhold til skjermtekster (Solberg Runestad, 2015) og barnesamtaler om bildebøker (Solstad, 2015). Den følsomme overgangen til skole og SFO granskes kritisk i en studie av kontinuitet og diskontinuitet i denne fasen (Dehnæs Hogsnes, 2016).

Sammenfatning av kunnskapsbidrag innenfor tematisk område 2 – en argumentasjon

Gjennom kunnskapsbidragene i disse avhandlingene gis barn en stemme som kompetente til å ha meninger om sitt barnehageliv. De voksne utfordres også i sin forståelse av hva det er som skjer i denne viktige perioden av barns liv, fylt av erfaringer og læring som kan sette spor for resten av livet. I Laftons avhandling brukes Latours aktørnettverksteori som en sosio-materiell teori som kan vise til betydningen av både mennesker og materialitet i barnehagepraksis. De etiske perspektivene i forskning med barn og på barns liv tematiseres i disse avhandlingene. I helt spesiell grad utfordres fronetisk kunnskap i det liminale rom barn alltid befinner seg i, fordi det som aller mest karakteriserer barndom er forandring.

VIDEREGÅENDE SKOLE OG UNGE VOKSNE

I Norge er videregående skole en felles plass for ungdom og unge voksne som velger yrkesfaglig retning og for de som velger studiespesialisering. De forskere som har valgt videregående skole som arena for sin forskning, har hatt fokuserte interessefelt som de har gått inn på. Unge mennesker med ikke-norsk etnisk bakgrunn er gitt stemme i to avhandlinger med talende overskrifter: *Dialogen som visker ut kategorier* (Solbue, 2014) og *Skolen ser ikke hele meg!* (Chinga-Ramirez, 2015). Begge studiene undersøker den videregående skoles håndtering av etniske ulikheter. Chinga-Ramirez gjør interseksjonalitetsanalyser ut fra et postkolonialt perspektiv, mens Solbue peker på dialog som en mulighet til å viske ut kategorier og se individer. Dermed, konkluderer Solbue, kan et interkulturelt klasserom skapes.

Yrkesfaglig studieretning studeres i Utværs (2013) avhandling om grunner til frafall i helsefaglig studieretning. I hennes overveiende kvantitative studie inngår noen fortellinger fra enkeltelever om grunner til valg om å bli

i skolen eller å slutte. Disse fortellingene gir dybderesonans til tallene i den kvantitative studien. Skriving som grunnleggende ferdighet på Vg2 yrkesfag er tema i Fiskerstrands (2017) avhandling, og hun konstaterer at samarbeid mellom norsk og samfunnsfag kan gi læringsgevinster for elevene i deres skriveprosjekter. Vurdering for læring i faget kroppsøving i seks videregående skoler er undersøkt i Leirhaugs (2016) studie. Han konstaterer at kroppsøvingsfaget i Norge har en del igjen å lære om betydningen av formativ vurdering. I to studier av henholdsvis «human rights education» (Vesterdal, 2016) og «creating democratic citizens» (Ødegaard Borge, 2016) som tema i videregående skole, problematiseres politisk utdanning som nødvendig og fremtidsrettet basert på grunnleggende verdier i det norske samfunnet. I en studie av hvordan sosiale medier kan revitalisere dramadidaktikken, har Knudsen (2017) gjennomført en intervensjon med ca. 80 elever fra videregående skole, med performativ og dramaturgisk teori som tilnærming til spørsmålet «Hvem er jeg på de sosiale medier?». To studier som jeg knytter til (unge) voksne, er henholdsvis Ofstads (2016) studie *Den entreprenørielle dannelsesreisen* og Fjogstad Langnes' (2017) studie av unge breakere i urban kontekst. Ofstad har analysert 16 livsfortellinger fra mennesker som har det til felles at de har skapt sin karriere på basis av en genuin interessebasert virksomhet som de begynte med som barn eller ungdom. Ofstads spørsmål er hvordan slike fortellinger kan bidra til forståelse for fremtidens læringsprosesser. I Fjogstad Langnes' studie er en breakdans-kultur studert gjennom en åtte måneder lang feltstudieperiode. Hun har undersøkt hvordan kjønn og maskulinitet konstrueres i denne konteksten.

Sammenfatning av kunnskapsbidrag innenfor temaområde 3 – en argumentering

Sammenfattet kan disse studiene bidra med kunnskap om hvordan unge mennesker i videregående skole erfarer sin hverdag, men også om de verdier som formidles i den videregående skolen, samt om betydning av virksomhet på sosiale medier, i entreprenøriell virksomhet og i ungdomskulturelt urbant miljø. I studiene åpnes også hemmelige, uåpnede rom, men enda mer vises brudd eller «breakdowns», når det som er tatt for gitt, viser seg å kollidere med erfart liv og virksomhet. Studiene bidrar med mer kunnskap, kvalitativt annerledes kunnskap, det vil si kunnskap som forandrer og forflytter leserens posisjon

gjennom å vise sammenhenger og betydning av valg. Studiene henter sitt materiale fra praksis, fra ulike utdanningskulturer, og også her er det liminale, terskelopplevelsene eller kritiske hendelser, som får betydning for livsvalg.

KONKLUSJON PÅ ARGUMENTERINGEN SOM SYNLIGGJØR KUNNSKAPSBIDRAG I PH.D.-AVHANDLINGENE

Gjennom argumenteringen i form av korte beskrivelser av alle 46 forskningsprosjekters tema og funn, har jeg utvist etisk bevissthet og vært transparent. Samtidig har jeg gjort valg ut fra et rikt materiale for å kunne skrive fram mening og betydning i forskningsprosjektene. Jeg har kunnet peke på kompleksiteten i de analyserte studiene, og nødvendigheten av forskning som åpner hemmelige eller uåpnede rom i praksis, og setter spørsmålstegn ved fenomener som blir tatt for gitt. Gjennom perspektivering med bruk av begreper som episteme, techne og fronesis har studiene vist at det fins dekning for bruk av fortrolighetskunnskap, praktisk kunnskap, håndverkskunnskap – men at denne ofte ikke-språklige multimodale kunnskapen er tett sammenknyttet med kunnskapsformen fronesis som praktisk klokskap i valgsituasjoner. I Brunstads kunnskapsteoretiske modell knyttet til profesjonskompetanse er det operative området («det stiplede» i figur 11.1) et liminalt felt med et gap, et tomrom, et usikkerhetsfelt, eller en grensesone. Jeg har som kunnskapsbidrag til lærerutdanningsforskning pekt ut dette operative området som et område der studienes funn blir spesielt interessante og betydningsfulle. I mange av studiene er kunnskapsbidragene knyttet til kunnskap om valg og beslutninger og konsekvenser, hvor fronesiskunnskapen må kombineres med både technekunnskap og epistemekunnskap.

Epistemekunnskap bidrar også helt sentralt inn i den kunnskapsproduksjon som skjer i både teoridrevne og empiridrevne analyser, men i forskning som er relasjonell og som involverer lærende individer, må både teoridrevne og empiridrevne analyser berikes gjennom fronesiskunnskap i vurdering av betydningen av analysefunnene og av hvordan funnene formidles. Kunnskapsbidragene fra avhandlingene har gitt nyanserte, komplekse og dynamiske bilder av forandringsprosesser hos barn, unge og voksne i ulike lærings- og utdanningskontekster. Samtidig gir avhandlingene også et dynamisk bilde av ulike måter å undersøke, beskrive, problematisere og forstå komplekse fenomener innenfor barnehage, skole og utdanning gjennom forskning. Avhandlingene gir forfatterne, i tillegg

til en ph.d.-grad, dyp innsikt i hvordan profesjonsrettet forskning, og hvordan det å forske, bidrar til nødvendige endringsprosesser hos forskeren. Mens disse avhandlingene er blitt skrevet, har utdanningslandskapene i Norge forandret seg med store skritt: Mange flere lærerutdanningsinstitusjoner har fått egne ph.d.-programmer, og mange institusjoner er blitt fusjonert inn i større helheter. Veilederne innenfor de ulike ph.d.-programmene har også utviklet sin kompetanse. Det betyr at også kandidater nå i NAFOL gjennomfører sine forskerskolestudier under endrede betingelser. Denne artikkelen kaller jeg et stopp-punkt. Ved dette bestemte tidspunktet ble disse temaene belyst. Samtidig fortsetter mange NAFOL-kandidater med lignende og nye tematikker, og dermed åpnes flere og andre «hemmelige» eller uåpnede rom innenfor lærerutdanningsforskning.

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