

# QUINT Conference 2024: Organised symposium

**Title of the symposium:** A mixed methods way of thinking in classroom research

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## **Abstract describing the entire symposium (300-500 words)**

This symposium presents the mixed methods design of a large-scale video-based project that evaluates of the Norwegian educational reform in force from 2020 (LK20). The project involves quantitative and qualitative analysis of classroom instruction in seven different school subjects, following the same classes across three years. Using the EDUCATE observation protocols for observation of (1) life skills education, (2) exploratory teaching, and (3) digital competence provide valuable lenses to ways of conceptualizing teaching quality.

Greene's (2007) 'mixed methods way of thinking' has established the value of capturing various voices and perspectives—and the differences between them—when studying complex phenomena. This symposium describes how to integrate different types of data to validate classroom research in a high-stake situation, such as the implementation of an educational reform. First, this symposium describes the mixed methods design of integrating different types of data to inform classroom research. Second, the symposium advances innovative integration through discussion of whether capturing one perspective, such as the video-recorded classroom observation perspective is ever enough in complex and high-stakes situations involved in education reforms. Third, the symposium provides examples of how we have used observation protocols to analyse video data qualitatively and quantitatively and how these analyses are integrated with quantitative analyses of student surveys and teacher log data as well as qualitative analyses of teacher interview data.

The four papers present different aspects of how a mixed methods way of thinking relies on a research design that deliberately seeks to find both similarities and differences in the data (PAPER 1) and how the mixing of qualitative and quantitative teacher data can validate the teacher perspective (PAPER 2). As empirical examples, we present two papers that have used EDUCATEs observation protocols for both qualitative and quantitative analyses. One paper presents EDUCATEs protocol for the observation of life skills education in Norwegian language arts (PAPER 3), while another paper presents EDUCATEs protocol for the observation of exploratory teaching to observe literature instruction across school subjects over ten years (PAPER 4).

## **PAPER 1**

**Abstract title:** A mixed methods way of thinking about education reform.

**Presenting author:** Professor Lisbeth M Brevik and Associate professor Nora E. H. Mathé

This paper presents the mixed methods design of EDUCATE, a large-scale video-based project that evaluates of the Norwegian educational reform in force from 2020 (LK20). EDUCATE employs a mixed methods case design, collecting several types of data that enable a range of qualitative, quantitative and mixed analyses (Brevik & Mathé, 2021; Tashakkori et al., 2020).

This design is inspired by Greene's (2007) notion of capturing different voices and perspectives to gain a deeper understanding of complex social phenomena, such as classroom teaching. The data sources include video observations, teacher logs and interviews and student surveys. Collecting multiple types of data that capture diverse perspectives and can be integrated in various ways, contributes to complex knowledge about planning, teaching and experiences with the new education curriculum.

The core of the design is video-observations of naturally occurring teaching in seven subjects (Hassan et al., 2005; Nassaji, 2020). We observe four consecutive lessons in each subject, each school year. The observations are combined with a systematic collection of logs that teachers complete directly prior to and after each video-recorded lesson: In Log 1, we ask teachers to report their plan for the upcoming lesson. In Log 2, teachers report on what actually happened in the lesson. When filming is completed, we interview teachers about their perceptions of and experiences with the new curriculum. Students' perspectives are captured by a Norwegian translation of the *TriPod Student Perception Survey* (Ferguson, 2012) about their experiences from the teaching more generally. We argue, however, that as both teachers' and students' actions and voices are the focus of the video observations, the design enables access not only to diverse voices and perspectives, but also diverse expressions of these.

In this paper, we argue that through a mixed methods integration of perspectives and rich descriptions (Geertz, 1983; Stake, 1995), we provide comprehensive and sophisticated analyses of the classroom practices we investigate. The fact that the case studies are conducted over a time span of four years, allows for analyses focusing on change over time, which is crucial in a comprehensive process such as the implementation of a new curricular reform.

## PAPER 2

**Abstract title:** Unveiling and validating teacher perspectives: Insights through mixed methods in evaluating curriculum reform.

**Presenting author:** Professor Greta Björk Gudmundsdottir

### **Abstract** (300-500 words)

This study presents how a mixed methods design (Tashakkori et al., 2020) is used to investigate the perspectives and experiences of Norwegian teachers within the context of a recent curriculum reform (LK20) in seven school subjects in Norway.

Methodologically, we combined (1) video-recorded classroom instruction, (2) two sets of teacher logs from the recorded teachers, and (3) in-depth retrospective teacher interviews. While the videos and logs were analysed both quantitatively and qualitatively, the teacher interviews were analysed qualitatively. The log data corroborate the interview reports and complete the video recordings of what actually goes on in the classroom.

In this study we examine how qualitative interviews allows for an in-depth exploration of teachers' perspectives and experiences, providing rich and nuanced insights into their attitudes regarding the curriculum reform. The interviews were conducted within two weeks after the video-recorded lessons, and in the interviews, we referred to the logs as a stimulated recall prompt asking teachers to elaborate on the lesson.

The use of set of logs complements the interviews by offering a structured and systematic documentation of planned lesson (pre-recordings) and the actual implemented lesson (post-recordings) (cf. Arnold-Berkovits et al., 2019; Kurz et al., 2014). The logs document patterns and intentions of teachers in a natural classroom setting. They enable data to be described in such a way that their accuracy can be confirmed not only by researchers, but also by teachers themselves, representing their perspectives through an audit trail available for further evaluation and confirmation (Klette, 2020; Nassaji, 2020).

The incorporation of observation protocols for analyzing video recordings provides a comprehensive and context-specific understanding of classroom practices and the actual implementation of the reform. This method facilitates the observation of real-time interactions, instructional strategies, and teaching practices.

By integrating the three different data sources, we provide a holistic view of a reform's unfolding in classroom settings. Furthermore, we enhance the validity of the study and provide a comprehensive understanding of the complex dynamics at play. Thus, the use of mixed methods has the potential to capture both the depth and breadth of teachers' perspectives through interviews and video observations, as well as the broader contextual factors influencing the reform's implementation based on the log data.

The findings indicate three main patterns. First, the teachers submitted logs before and after two-thirds of the recorded lessons; indicating the willingness to provide systematic evidence of their planned and actual implementation of the reform in the classroom. Second, the interviews provided teachers' views on the implementation of the reform. Third, we found both divergence and convergence between the teachers' self-reports and the video-recorded lessons, which posed complex and demanding methodological choices. These complexities of utilizing mixed data (Creswell

& Plano Clark, 2011), the need for methodological rigor (Morse 2010), and challenges related to conflicting findings will be discussed in the presentation. The study displays how the use of mixed methods can unveil and validate teachers' perspectives, contributing to the overall validity and robustness of the research findings.

### **PAPER 3**

**Abstract title:** Mixing methods using an observation protocol to investigate life skills teaching  
**Presenting author:** Ingrid Evertsen

#### **Abstract (300-500 words)**

The national curricular reform in Norwegian schools (LK20) brought a new concept into the Norwegian classroom – *life skills* (Norwegian Directorate for Education and Training, 2020). However, life skills as an educational concept is not new in an international context. World Health Organisation created guidelines on “Life skills education for children and adolescents in schools” in 1993 where they emphasized 10 core life skills which they argued should be implemented in education (WHO, 1994). While previous research has studied life skills as a generic concept both internationally and in Norway (Danielsen, 2021; Khera, 2012; Kumar, 2017; Ogden, 2021; Prajapati et al., 2017), there is a call for more knowledge on how to implement life skills in language arts lessons (Antonsen et al., 2021).

This paper provides new knowledge by reporting from the EDUCATE project. We used a well-proven video observation design in the classroom (Brevik et al., 2023; Klette et al., 2017), where we systematically recorded four consecutive lessons in each class ( $N=38$ ). This research aims to identify examples of good quality life skills teaching in Norwegian language arts in year 8 (age 12-13).

Using the descriptions of life skills from the national curriculum, the EDUCATE project developed a life skills observation protocol in order to identify life skills teaching. This protocol enabled a mixed methods research approach, where I combined qualitative and quantitative video analyses (Brevik & Mathé, 2021; Creamer, 2016), to identify the number of life skills lessons (quantity) and characteristics of good life skills teaching (quality). The language arts lessons were divided into 15-minute segments and each segment was coded with the life skills protocol on a scale from 1–4. All segments that portrayed life skills teaching were scored 2-4, whereas segments with no identified life skills teaching were scored 1. The quantitative scores were used to sample segments with good quality life skills teaching. These segments were then analysed qualitatively using the WHO’s (1994) 10 core life skills as a lens, to identify common characteristics of good quality life skills teaching.

Integrating quantitative and qualitative analysis using the observation protocol, I identified life skills teaching in all 38 lessons, and in 109 out of 111 segments. While all 38 Norwegian language arts lessons portrayed life skills instruction (scores 2-4), only 10 of the lessons portrayed good quality life skills instruction (scores 3-4), where the teachers connected core life skills to students’ or someone else’s lives. All lessons that were scored 2 or higher involved the development of students’ communication skills, either oral or written. Moreover, lessons that were scored 3 or 4 also portrayed empathy (8 lessons), interpersonal skills (3 lessons), decision making (2 lessons), problem solving (2 lessons), coping with emotions (2 lessons), and/or coping with stress (2 lessons). Based on the mixed methods design, this study contributes new knowledge on the amount and quality of life skills teaching in Norwegian language arts lessons.

## **PAPER 4**

**Abstract title:** Mixing methods in observing literature instruction across school subjects and over time.

**Presenting authors:** Postdoctoral research fellow Katherina Dodou

### **Abstract (300-500 words)**

Adopting a mixed-methods approach (Brevik, 2024; Greene, 2007), this presentation is based on a large-scale longitudinal study of literature instruction in first language (L1) Norwegian language arts teaching and second language (L2) English language teaching in Norwegian lower secondary classrooms. This study includes, (1) a well-proven video observation design in the classroom (Brevik et al, 2023; Klette et al., 2017), where we systematically recorded four consecutive lessons in each language class, and (2) the validated EDUCATE protocol for the observation of exploration in instruction (Brevik et al., 2024). It extrapolates on the classroom use of literature, for the quantitative and qualitative analysis of 137 video-recorded literature lessons in the two subjects. The study used this protocol for the structured observation of teacher practices, with special focus on the opportunities teachers in the two subjects created for their students to explore literary texts.

In particular, the presentation discusses how a mixed methods approach to the observation protocol was used to identify the frequency of exploratory literature teaching and its qualitative characteristics across the two school subjects and over a ten-year period (2015–2024). It accounts for the coding process and how it enabled the systematic and detailed analysis of literature teaching that is complex and situated, methodologically diverse, and thematically disparate. It shows how the use of the protocol generated descriptive statistics about the extent to which teachers made room for students to unpack one or more aspects of literary texts, considering the demands they made on students' cognitive engagement with literary texts and the degree of freedom granted students to decide how to approach literature. These statistics, which provided an overview of a large body of literature lessons, were used to sample lessons for more in-depth study in which exploratory activities required students to engage in literary analysis, interpretation, or reasoning. By thus using the protocol for mixed analysis, the study was able to examine literature instruction that fostered the development of literary competences in the two subjects and to consider changes in literature instruction over time.

## **Extended summary** (1000 words max, excluding reference list)

This symposium presents the mixed methods design of a large-scale video-based project that evaluates of the Norwegian educational reform in force from 2020 (LK20). The project involves quantitative and qualitative analysis of classroom instruction in seven different school subjects, following the same classes across three years. Using the EDUCATE observation protocols for observation of (1) life skills education, (2) exploratory teaching, and (3) digital competence provide valuable lenses to ways of conceptualizing teaching quality.

### *Theoretical background:*

Greene's (2007) 'mixed methods way of thinking' has established the value of capturing various voices and perspectives—and the differences between them—when studying complex phenomena. This symposium describes how to integrate different types of data to validate classroom research in a high-stake situation, such as the implementation of an educational reform. First, this symposium describes the mixed methods design of integrating different types of data to inform classroom research. Second, the symposium advances innovative integration through discussion of whether capturing one perspective, such as the video-recorded classroom observation perspective is ever enough in complex and high-stakes situations involved in education reforms. Third, the symposium provides examples of how we have used observation protocols to analyse video data qualitatively and quantitatively and how these analyses are integrated with quantitative analyses of student surveys and teacher log data as well as qualitative analyses of teacher interview data.

### *Objectives*

The study is part of an educational evaluation project funded by the Norwegian Directorate for Education and Training. The aim of the project is to evaluate the implementation of a new education reform in Norway in primary and secondary education (Subject Renewal) in force from the autumn of 2020; specifically, we evaluate the implementation of (1) life skills education, (2) exploratory teaching, and (3) digital competence. To do so, the project systematically video recorded more than 600 lessons in real classroom settings in seven school subjects in primary and secondary schools in Norway over a three-year period (2021–2024). In line with Nassaji (2015), the data were collected “in their naturally occurring settings without any intervention or manipulation of variables” (p. 129). The project also collected log and interview data among teachers and survey data among students linked to these lessons.

### *Perspectives*

Greene (2007) crafted a theoretical framework that values not only various voices and perspectives, but also the differences between them: “A mixed methods way of thinking aspires to better understand complex social phenomena by intentionally including multiple ways of knowing and valuing and by respectfully valuing differences” (p. 17). Greene (2007) defined the study of complex social phenomena as one that involves not just one or more individuals, but also the individuals and their context. As such, educational reform involves teachers in the complex classroom context of not only providing classroom teaching, but doing so in changing times under the demands of implementing and operationalising a new reform. Thus, the mixed methods way of thinking resonates with the need to explore and deepen our understanding of the complexities characterising the field of education reform and includes the premise that teaching takes place in real classroom settings. However, a deliberate integration of both quantitative and qualitative analyses is necessary to capture these voices and perspectives, which is in line with Greene's (2007) theoretical framework.

### *Multiple purposes*

Greene (2007) stated, “Methodology is ever the servant of purpose, never the master” (p. 97). Many researchers have relied on multiple purposes to explain why research problems require mixed methods integration and of particular interest to this project is Poth’s (2018) integration typology; namely, corroboration, completion, explanation, and innovation.

- (1) *Corroboration – when a single data type is insufficient.* To corroborate our observations through video-recorded lessons, we included teachers’ reported implementation of the new reform through interviews and logs, and surveyed students’ experiences of the lessons.
- (2) *Completion – when additional data type enhances evidence.* In educational reform evaluation, surveys are frequently used to collect teacher self-reports. However, as these commonly collect teacher reports in retrospect, e.g. at the end of the school year (cf. Rowan & Correnti, 2009), there was a need to capture teacher voices both before and after teaching, as close to the teaching as possible, for validation purposes. Combining pre- and post-logs enhanced evidence of implementation and any changes between planned and actual implementation, which provides a more complete picture of reform implementation (Rowan & Correnti, 2009).
- (3) *Explanation – when additional data type expands understanding of the findings.* The need for explanation is yet another purpose of integration. We embedded individual interviews with teachers within the context of a pre–post log design. The purpose was to explain the reports in their logs of the (lack of) implementation of the reform in their teaching. All data types (videos, logs and interviews) were collected concurrently, and the qualitative and quantitative data were integrated through interpretation and reporting for explanation purposes. The interviews helped explain the teachers’ reported implementation in the logs and vice versa, and also the classroom observations.
- (4) *Innovation – when complexity demands integration of both data types to generate what is yet to be known.* As our study addressed uncertainty concerning whether and how the reform would be implemented, the purpose of innovation relates to the complexity of designing an appropriate mixed study.

The integration purposes in the present study have theoretical implications that align with ‘a mixed methods way of thinking’ (Greene, 2007), particularly in the emphasis to capture complexity and multiple ways of knowing from the perspectives of a range of teachers.

### *Scientific or scholarly significance of the study or work*

The significance of this symposium is the emphasis on, (a) how classroom research can be captured through mixed methods design, (b) the validity of integrating an observed perspective through video-recordings with teacher perspectives captured through log data and interview data, (c) a real-life example of a study adopting a ‘mixed methods way of thinking’ as a philosophical and theoretical framework to education reform, and (d) a discussion of how to integrate teacher and student perspectives with evidence from video-recorded lessons to inform new ways of thinking about mixed methods integration in education reforms.



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