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Encouraging the habit of seeing in student teaching

Vivi Nilssen*

Sor Trondelag University College, Faculty of teacher- and interpreter education, 7004 Trondheim, Norway

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ABSTRACT

This article addresses how mentoring can move the student teachers' process of learning towards constructive teaching forms. An underlying assumption of such an approach is the need to understand what pupils know and say. The focus in the article is on how Sara, a cooperating teacher in Norway, encourages student teachers to start their student teaching by developing a mindset where seeing the kids is in focus. She does so by designing and taking care of natural learning situations, and by assisting them to develop their habit of seeing through their own teaching.

1. Introduction

More than a century ago Dewey (1904/1965) feared that the immediate aim of acquiring skills and techniques would surpass in importance the long-term goal of good workmanship in student teaching. He emphasised the need to observe practice, not to "accumulate a store of methods by which he [the student teacher] also may teach successfully. (…) [But rather] to see how teacher and child react upon each other – how mind answers to mind" (p. 155). This article discusses how Sara, a cooperating teacher in Norway, mirrors Dewey's thoughts in her mentoring of first-year student teachers' teaching of mathematics. Similar to Dewey, Sara fears that if student teachers start teaching on their own straightaway, they will be what she refers to as "technical teachers": teachers who merely deliver the subject matter. Sara however, wants the student teachers to understand teaching as interplay or, to echo Dewey: "how teacher and child react upon each other". Consequently, she wants them to be aware of, and understand how each kid[1] perceives and develops mathematics in his or her own way, and recognise how this process affects their teaching. Such an approach to teaching is known as interactive or constructivist.

Although the national curriculum for primary and lower secondary school in Norway (KUF, 1997)[2] emphasises a constructivist approach to teaching and learning, the overall picture is that mathematics is still rather traditionally taught in schools (Alseth, 2004; Alseth, Brekke, & Breiteig, 2003; Haug, 2004). At the same time, the curriculum guidelines for teacher education states that student teachers' competence in mathematics teaching should be directed towards the current curriculum for schools (KUF, 1999). In her study of mentoring in the practice field of teacher education in Norway, Sundli (2002) claims that student teachers and cooperating teachers perform in rather traditional settings. This claim is supported by international studies. According to analysis of mentored learning to teach mentors promote novice's custody but may not support their learning to teach – especially in reform-minded ways (Wang & Odell, 2002). This article tells a different story. Sara encourages the student teachers to learn from the experiences they have gained in the pursuit of an interactive, constructivist teaching approach.

Due to the improvisational nature of interactive teaching forms, they can be difficult to undertake for novices (Doyle, 1977; Edwards, 1998; Nilssen, Wangsmo-Cappelen, & Gudmundsdottir, 1996). Consequently, the student teachers often try to avoid them. This is problematic, as it is commonly acknowledged that the planning and performing of such teaching are important aspects of student teachers' learning (Edwards & Collison, 1996; Zeichner, 1996). The practice field should be considered a setting in which to experience teaching in accordance with the curriculum. This is important in order to help student teachers construct images of

* Tel.: +47 73559807; fax: +47 73559851.
E-mail address: vivi.nilssen@hist.no

[1] Sara never uses the word pupils. She always talks about the kids. I asked her about this and she explains it like this: "I think I have this assumption, teacher-pupil, then it is subject-object, kids are more close to me (laughs) (…) I will never could say that the pupils interplay, the word pupil connects to the teacher, it's the kids who interplay". I could have used children ("barn" in Norwegian), but because of the way Sara personalises it, and the word she uses in Norwegian, "unga" I am convinced that kids is a better word.

[2] This was the curriculum in force at the time of this study.

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what skilful practice may look like, and to understand what it takes to teach in such a way (see for instance Ball & Rundquist, 1993; Dewey, 1904; Feiman-Nemser, 2001; Grossman, 1990; Schön, 1987; Wolf, 2003).

Successful teaching undoubtedly depends upon the teacher's ability to provide connections or bridges between the learner and what should be learned. According to Hawkins (2000), teaching with the aim of covering the curriculum is easy, but to actually teach so that pupils learn is an art. Moreover, he connects this art to the act of listening to the kids, searching for necessary clues about when, how and to what degree the teacher should intervene, or carry on. Interactive, constructivist teaching approaches take into account the kids' own understanding. Not surprisingly, research findings show that knowing about pupils on the local level may be the most important part of pedagogical content knowledge for teaching in primary schools (Hashweh, 2005; McCaughtry, 2005). Such knowledge cannot be learned through coursework or by reading books; knowledge develops through the experience of teaching specific pupils over time. Thus this knowledge is both a prerequisite for, and develops through, teaching. By paying attention to the importance of local knowledge about pupils, we may understand why student teachers find it difficult to carry out interactive, adaptive teaching approaches. They do not simply inherit this knowledge by nature. This article discusses the manners in which Sara encourages the student teachers to develop a habit of seeing the kids, not only as student teachers but also as future teachers. Sara does so by designing and taking advantage of activities that enhances the student teachers' ability of what she calls *seeing*, understood as observing and listening to the kids in order to understand how they think and learn different subjects. The capacity of seeing the kids the way Sara understands it, is an underlying assumption of performing an interactive, constructivist teaching approach successfully.

2. Methodology

2.1. Research focus

The article builds upon findings from a larger project focusing on how the cooperating teacher's way of mentoring may facilitate first-year student teachers' development of pedagogical content knowledge in mathematics. This knowledge has been identified by Shulman (1986, 1987) and collaborators as an amalgam of pedagogy and subject-matter content that is the specific domain of teachers. For student teachers field experience is an important arena to develop this knowledge base as it both comes into sight and develops through teaching. Thus the cooperating teacher plays an important role in assisting the student teachers' development. The aim of the study was to capture the cooperating teacher's actions in mentoring conversations as well as her reflections and thoughts on these actions. Qualitative case study design within an interpretative research tradition was chosen. Such studies are suitable for capturing complex situations like mentoring (Gudmundsdottir, 2001).

2.2. The choice of Sara as research participant

Sara was chosen because she fulfilled three criteria for this particular study (Miles & Huberman, 1994). First, I had reason to believe that student teachers mentored by Sara would experience pupils working with mathematics in accordance with the emphasis given in the Norwegian national curriculum. Second, from evaluation reports delivered by former student teachers Sara has a good reputation. Third, Sara was open to being audio- and videotaped, and capable of looking at episodes from the mentoring conversations and discussing them. She would be able to provide substantial information to the project. This became evident through pre-studies with four cooperating teachers to determine if the method of discussing videotaped mentoring conversations with the teachers was feasible. During that process Sara revealed herself as a classroom teacher, as well as a cooperating teacher who is passionate about her work and is both capable and enjoys talking about and reflecting upon her double profession.

2.3. Data collection

I joined Sara and her group of five student teachers, Eli, Eric, Ina, Ian and Irene for all six weeks of the student teachers' field experience. Data was collected each day by the means of observations, either tape- or video recordings of the mentoring conversations, interviews and log books written by both Sara and the student teachers. Video-taping was chosen for two reasons. First, to understand Sara's responses and actions during the conversations I wanted to know more precisely than I could observe how gestures, eye contact and body-language were used. Second, the videotapes were used as a means to recall episodes which could be discussed later. The aim of this method was to gain a better understanding of Sara's reasoning for the different actions she performed. All the audio- and video recordings were transcribed either as "write ups" or "word by word". All interviews with Sara and the student teachers were taped and transcribed.

2.4. Data analysis

Analysis of the data material started simultaneously with gathering the data since I was continuously looking for patterns and themes, noticing key words and phrases and trying to understand what they could mean. The aim of the analysis was to reduce large amounts of data to a few themes, dimensions, codes or categories (See for instance Creswell, 1998; Miles & Huberman, 1994). This was a complex process which required moving back and forth between the data material, ideas and theories and was performed by the means of analytical tools. Such tools are "devices and techniques used by analysts to facilitate the coding process" (Strauss & Corbin, 1998, p. 87). The main analytical tools used in the research process were to engage in a constant dialogue with the data by the means of asking questions and making comparisons. Additionally, tables, figures and diagrams, were used to assist those in the process of opening the text for meaning.

Early in the analysis I understood that Sara's mentoring was strongly influenced by how she believes pupils learn mathematics and what they are able to do. The final analysis revealed how Sara's guiding principle and her long-term goal for both teaching and mentoring are founded on a philosophy of education as learning through experience and collaboration. Thus, her role as a cooperating teacher entails two intertwined features, to design and allow experiences that assist student teachers' learning and to perform a collaborate way of mentoring. What Sara finds to be most important for first-year student teachers to learn is how teaching is connected to an understanding of what each of the kids know and think. As a consequence, teachers have to be good at what she calls *seeing*. This article presents and discusses Sara's way of encouraging the student teachers to develop a habit of mind of seeing the kids, and her reflections on this aspect of teaching. Before turning to Sara's mentoring, it is necessary to briefly present the context of the study.

3. The research context

The larger context of this study is Norwegian teacher education for primary and lower secondary school at the university colleges. This is a four year integrated study, which means that school