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# **The influence of an internship in South Africa on Norwegian preservice mathematics teachers' development of a professional identity**

Mette Andresen<sup>1</sup> and Bettina Dahl<sup>2</sup>

<sup>1</sup>University of Bergen, Department of Mathematics, Norway; [Mette.Andresen@uib.no](mailto:Mette.Andresen@uib.no)

<sup>2</sup>University of Bergen, Department of Mathematics, Norway

*This paper reflects on how the future development of teacher identity by four Norwegian preservice secondary mathematics teachers may be influenced by a nine-week internship in South Africa. It was clear from interviews with the students, completed during their internship, that they were aware of differences in the educational- and school culture regarding, amongst others, teacher authority, students' motivation, and resources. We apply the term 'willingness to learn' to capture extracts from the interviews concerning the students' impression of one such cultural difference, important for their experiences. Based on the interviews, we summarised the students' impressions concerning the relations and interactions between teacher and pupils. The students' reflections were interpreted in the perspective of teacher identity.*

*Keywords: Teachers' professional identity, internship in teacher education, cultural context, secondary school teachers.*

## **Introduction**

At the University of Bergen (UiB) in Norway, the teacher training programme for lower and upper secondary education (grades 8-13) is a five-year degree in which the student studies two subjects. As part of this programme, students spend several periods (100 days in total) on internship in local lower and upper secondary schools. At the first, third and fifth semester, the students spend seven days, respectively, at a school, and at the eighth semester, 30 days. At the seventh semester, the internship is 49 days (nine weeks). Students in mathematics and science can apply for spending the nine-week internship at a boarding school in South Africa which implies that they observe experienced teachers teach and they also teach the pupils themselves. Being a stranger in an environment and culture very different from one's own makes the stranger good at discerning the particularities of the strange situation (Schutz, 1964). Under the assumption that the cultural contrasts between Norway and South Africa encompass such particularities that they will make an impact on the students, this study describes, analyses, and discusses how the students' observations and reflections about different patterns and norms of interaction between pupils and teachers may influence their development of professional identity. Hence, the research question was: How could the Norwegian students' experiences of teaching and learning in South Africa potentially impact the students' development of their professional identity as teachers? And, more specifically, what would the students' observations and reflections about the South African pupils and their relations and interaction with the teacher mean for this development? Answering the research question will serve to concretize general ideas about the formation of teacher students' professional identity under influence of experiences from

contrasting school cultures. This will, supposedly, be of high interest not only for Norwegian and South African researchers but generally, at international level.

## **Theoretical framework**

Gresalfi and Cobb (2011) outline three lines of conceptualisations of identity, emphasising, respectively, a) individual teachers' beliefs about themselves, b) the stories teachers tell about themselves, and c) the ways in which teachers participate in the particular types of activities. Gresalfi and Cobb (2011) follow line c) and propose that the process of identifying in a particular context can be understood as a relation between the *normative identity* established in the context and the *personal identity* that individuals develop as they participate in the practices of that context. According to Skott (2019), teacher identity is understood as i) multiple, evolving and constructed in interaction, where ii) action and sensemaking is informed by broader culturally organised activity and modes of reasoning, and iii) agency is involved in identity. Here, in relations to teachers, the term 'agency' reflects their ability "to make free or independent choices, to engage in autonomous actions, and to exercise judgement in the interest of others and oneself" (Campbell, 2012, p. 183). The development of identity was most often, but not exclusively, studied in connection with novice teachers' starting to practice classroom teaching or with teachers' participation in professional development activities. One exception is the study of Anna in Skott (2019). Graven and Heyd-Metzuyanim (2019) stress the definition of identity provided by Sfard and Prusak: "In concert with the vision of identifying as a discursive activity, we suggest that identity may be defined as collections of stories about persons or, more specifically, as those narratives about individuals that are reifying, endorsable, and significant" (Graven & Heyd-Metzuyanim, 2019, p. 363).

The present study sees the process of identifying in accordance with the view proposed by Gresalfi and Cobb (2011). Further, we assume Skott's (2019) characteristics of teacher identity and the definition by Sfard and Prusak of identity as specific narratives. Among such narratives, the present study set focus on the teachers' beliefs about, and relations and interactions with the pupils. The study, thereby, stresses the personal perspectives of professional identity, i.e., action and agency, to balance better between the individual and the societal view on the development of identity.

The Norwegian students were not expected to identify with the South African teaching practice, since the relationship between the *normative identity* established in the boarding school and the *personal identity* that the students were developing should not necessarily be a relation of alignment. There was, though, no explicitly stated curriculum nor goal in the formal regulations for the internship. The general, common expectation would be that the students could learn from seeing something different from home. As far as shared reflections are a driving force in the individual student's development of professional identity, this study assumed that the influence on the students' development of a professional identity may be detected in the form of the students' common observations followed by their own interpretations of relevant elements of practice, where these are subsequently followed by the students' own reflections upon the same elements. That is, potential impact on the development of professional identity was in our study detected as collective student-action chains of observation – interpretation – reflection. For example, when the students in the interviews collectively describe, interpret, and reflect on classroom dialogue with pupils answering in unison, we assume that the

experience somehow influences the students' development of identity. This does not mean that the students necessarily will adopt that form of dialogue into their teaching repertoire in Norway.

In line with Gorges et al. (2013), we apply the term "willingness to learn" in this study. Willingness to learn is distinct from motivation, although motivation is seen as a factor contributing to the students' willingness to learn. Gorges et al. (2013) stated that "a complex interplay between past and present motivation and self-concept of ability [is] underlying one's willingness to learn and to participate in education" (p. 764). Hence, willingness to learn is an overarching category/concept describing to what extent and how students engage in learning. Also, Shernoff et al. (2016) describes the concept of student interest as complex.

The concept of willingness to learn was introduced into the study as a term to capture the essence of the students' impression of the pupils described in the interviews (see below). Willingness to learn goes beyond the traditional dualism between intrinsic and extrinsic motivation in, e.g., self-determination theory (e.g. Ryan & Deci, 2000) to account better for the South African pupils' situation. The South African pupils may not have the opportunity to let themselves be driven by intrinsic motivation, i.e., to follow their inner wishes. They must, rather, simply obey to what the teachers ask them to do and demonstrate a positive attitude. This is in sharp contrast with the ideas of student-centred learning, basic to the Norwegian (European and North American) tradition in which the four students were educated.

## **Methodology**

Each year, the four students being on internship in South Africa are randomly chosen amongst the applicants (usually 6-10 students). During their nine weeks stay, a member of the academic staff at UiB pay them a one-week visit as their supervisor/mentor, which includes observations of their teaching and discussions about the observations and other arriving issues. The first author of this paper went to South Africa for such mentorships in 2013, 2016, 2019 and 2022. During the 2022 visit, the first author arranged two pair-interviews with the students to inquire about their experience, inspired by the earlier visits. The semi-structured interviews encouraged the students to talk about what it means to be a teacher there, teachers' role and authority, the students' thoughts about teaching in South Africa, how the pupils react when the Norwegian student teachers teach differently from what they are used to, and perception of their pupils' motivation. The interviews were audio taped. Prior to, and after, their nine weeks internship in South Africa, the students were enrolled in a mathematics education course taught by, among others, the second author of this paper.

The purpose of the present study was solely to get insight into how the Norwegian students perceived and reflected upon the situation. The goal was not to document characteristics of South African teaching or school culture. Hence, the detection of the chains as mentioned above is the focus in this paper and therefore, we did neither interview nor include the South African pupils and teachers.

We transcribed the interviews which were conducted in a mix of Norwegian and Danish because the students are Norwegians whereas the interviewer is Danish but working in Norway for the last twelve years. A point worth noting here is that these two languages are quite close to each other. Some differences exist, but since both the interviewer and the interviewees are used to each other's language, it is not likely to have caused misunderstandings neither during the interviews nor during

the transcription or analysis. The interviews were first transcribed into Danish and later, excerpts were translated to English by the authors. In the transcriptions, we do not distinguish which students said what partly due to it being difficult to discern, but also to keep them anonymous. This does not harm the analyses since the students share their observations, interpretations, and reflections in a development of a common agreement. The interviews contain no incidents of disagreement or gradual modification between the students. Each utterance was coded regarding content and level of reflection. In terms of content: If the utterance is related to the South African pupils, it was coded P, but if it was related to the relations between the teacher and the pupils, it was coded TP. The second code related to the level of reflection: Pure observation (coded O), Interpretation of observation or experience (coded I) or Reflections upon observations and experiences (coded R). For example, utterances containing interpretations of observations concerning pupils are coded (P,I). An example of an utterance in the first interview where the student first presents an interpretation (P,I), then refers to her observation (P,O) to support her interpretation:

Student: Yes, well, I have the impression that here [in South Africa], the pupils are more aimed at showing what they can, eh, generally speaking for the majority of the class while you also have those that keep quiet, but there are fewer here, I think, than in Norway, and all are very eager to and want to come to the black board and show their homework and such things. So, this is perhaps actually the difference I notice the most. [(P,I) (P,O)] [Interview 1]

It is worth noting that the students primarily talk about incidents that are different from the Norwegian context, in accordance with the underlying theme of the interview. They were not asked to give a comprehensive description of how pupils are being taught in South Africa.

## **Results**

We have summarized the students' impressions into three themes exemplified by excerpts from students' utterances during the interviews. Since the semi-structured interviews were designed to encourage the free flow of the students' talk, the utterances might not be prompted by a single question by the interviewer. Therefore, the examples are not structured as 'questions and answer'.

### **The pupils' willingness to learn**

The students have the impression of the South African pupils being overall more active, based on their observations, amongst others, of pupils willingly to go to the blackboard and show their work. The students' applied their usual, Norwegian view on pupils. Example 1:

Student: ... I was sitting at the back of the classroom and made observations somehow and it happened that the pupils turned around and asked if I could come and help them because they are used to me helping them but the teacher does not [(P,O), (P,I)] [Interview 1]

Example 1 illustrates how the students set focus on the pupils and interact directly with them in accordance with their Norwegian background tradition. The students get an immediate, positive feedback from the pupils which leads them to see their interaction with the pupils in contrast to the normal teacher's.

The student continued a little later by describing a pin-system where the good pupils get to wear a pin, which the Norwegian students found very odd. Example 2:

- Student: Ehh, if one should have done this in Norway, it would be completely wrong because you must.. we are working more like.. you do not need to be the best to everything, but you must somehow be allowed to feel good and this without it has somehow to mean everything. Here it is a completely different culture, here is only the school important, and that is a bit... [(P,I) (P,O) (TP,I)] [Interview 1]
- Student: Yes, for me it is a bit strange, but still, I understand that here it is a different culture. [(P,R)] [Interview 1]

Following these comments, the students confirm that they believe some pupils would like to wear the pin, others maybe not.

Example 2 illustrates how the students seek to explain the difference between, on the one hand, the Norwegian tradition focusing not only on the pupil but, especially, on the pupils' well-being and, on the other hand, the South African tradition where the pupils' successful performances are endorsed, valued, and rewarded not only by the teachers but, rather, as a common feature of the school culture. In the next part of the same interview the students describe how they perceive the pupils' being admitted to this boarding school as their chance in life.

### **Direct teacher-pupil interaction and the teachers' (lacking?) willingness to help**

The students wonder that one of the normal teachers, apparently, lacks the willingness to help the pupils. Example 3:

- Student: When we teach, we have done it our way, how we ourselves find is best, and we walk around and help the pupils with their tasks etc. Well, I do not know if it is particularly her [the teacher] but she like sits there at the half-hour and waits for them to ask her something and then they must take the questions as a class, and it is my impression that some of them can find this a bit creepy. [(P,I) (P,O) (TP,I)] [Interview 1]

Following this comment, the student said that the pupils feel shy, and that pupils are reluctant to show weakness this way. Example 3 followed directly after the excerpt in Example 1. They interpret the pupils' reactions to the interaction with the normal teacher negatively at the personal level. The students point to a huge variety concerning the relations at the personal level between the normal teacher and the pupils. Example 4:

- Student: I think they have a lot of respect for her somehow because I talked with one pupil after the lesson who said that in that class, it was a very noisy and troublesome class but I did not have the same impression [after observing the class] but then she explained that it [the absence of noise and troubles during the observations] was due to the teacher because they had a lot of respect for her. But she is in a way very tough and strict but somehow personal and with relations so it is in fact a good relation, then [(TP,I)] [Interview 2]
- Student: I don't know. One of mine knows almost no names he just calls them 'menier' which just means mister. (...) And then he screams a lot and shouts and.. (...) it has to do with his competencies because I do not think he is so sure on his expertise.. [(TP,O) (TP,R)] [Interview 2]

After these comments, the students talked about teaching conditions and practical issues like the internet etc. The interviewer directed the talk by asking a new question. Example 5:

- Interviewer: What about the pupils, the way of being a teacher for the pupils do you think you will bring something with you from here?

Student: I think that what I have learned is not to do it similarly, to be more conscious about establishing a good relationship with the pupils because I do not think it works well that the teacher is ranking so insanely high [(TP,R)][Interview 2]

Student: No, I agree but as mentioned, I got one teacher who is very skilled in all this so that is positive, and I think she is very skilled in mathematics. [(TP,R)][Interview 2]

Examples 4 and 5 illustrate the students' impressions of the normal teachers at the personal level of interaction in the classroom. The students linked the teachers' personal way of interacting with issues of authority. In their interpretation, respect for the teacher at the personal level was a prerequisite for good working conditions in the classes. One of the students gave an endorsing reference to a Norwegian teacher supervisor in an earlier internship who had a very strong, almost peer relation with his pupils. The students explicitly stated that they do not want to apply the South African school culture regarding the personal relations between teachers and pupils.

### **Relations between teacher and pupils**

In addition to the direct teacher-pupil interactions, the students talked about the relations between teachers and pupils at a more general level. They, in general, linked the relations with observations in the classroom and interpretations hereof.

One issue was that the pupils got scolded in the classroom. Example 6:

Student: ..she is very.. you know how they scolds; I get like, I sit in the back of the classroom and I am terrified myself. (...) We talked with some of the teachers at lunch one day and one of them said that (...) he feels that here, I am the boss because when they grew up then they were used to be beaten by the teachers.. (...) and she who scolded told that she had been beaten when they did not perform as requested, hence, I think it remains in them [(TP,I)(TP,O) (TP,R)] [Interview 1]

Example 6 illustrate how the students got insight and tried to understand some parts of the background for the normal teachers' relations with the pupils. In this way they contextualise their observations of classroom interaction at the personal level.

In some cases, the students got the impression that the South African tradition directly impedes what they saw as good learning opportunities. Example 7:

Student: Yes, it seems like all they usually do is blackboard teaching and then tasks, the pupils. And some [normal teachers] are very strict and they [the pupils] are not allowed to work together but if you see, here, the pupils often, if they are allowed to work in groups then they keep on talking about the subject and have good professional conversations. In Norway, we see that if they talk in groups, they speak about anything else but here, it is more like, yes, they have good professional conversations by themselves but still, that will be dealt with severely, they are not allowed to communicate, hence, this is a little strange, I am impressed by the very fine professional conversations they have. [(TP,I)(P,O)(P,I)(TP,I)(P,R)] [Interview 1]

A little later the students talk about their normal teacher's reaction to the students' plans for the lesson as presented in advance and evaluated afterwards. Example 8:

Student: In advance, the teachers are maybe a little sceptical, but when we return from the lesson they are impressed by it actually working [(TP,O)][Interview 1]

Examples 7 and 8 illustrate the students' general impression that the teachers do not really fulfil the potentials for learning in the classroom despite the pupils' willingness to learn. The students' teaching served to demonstrate options for organising the lessons differently, but, according to the interviews, the normal teachers would not be interested in that choice.

Besides the personal level of relations, the students have a more comprehensive view of the teachers' role as teachers; including the teachers' willingness to help the pupils.

## **Discussion and conclusion**

We assumed that contrasting experiences would initiate reflections so that the students would talk about issues that they likely would not have encountered in Norway. The relations and interaction between the South African pupils and their teachers were a main issue observed, interpreted, and reflected upon by the students according to the interviews. The relations and interactions between teacher and pupils are elements of teaching practice, classroom interaction and communication. In terms of identity, the students' pupil-centred view, emphasising communication and dialogue, endorses narratives about good teaching that should support pupils' collaboration and talking together. In line with this we see that the students are almost outraged when they experience that the teacher stops a fruitful dialogue between pupils. Similarly, the students talked about the relations and interactions between the normal teacher and the pupils. Some of the relations were characterised as good, or almost like in Norway regarding peer-like, personal relations. One of the students compared with a Norwegian mentor and described the relation quite like the teacher Anna in the first phase in Skott (2019), that is, the ideal relation should be almost like between friends. In contrast with these endorsed narratives, other relations were described as extreme, not appropriate, with the teacher not even knowing the students' names, scolding, and sometimes shouting at them. The students strongly disagreed to such relations, personally as well as professionally because they did not find them supportive for the students' learning. The students explicitly mentioned in the interviews that these experiences made them even more aware of how important the establishment of good relations with the pupils is. That is, their experiences made them adhere even stronger to this endorsed narrative.

At the more general level the students' reflections as revealed in the interviews point to them being aware of the situatedness of teaching culture and, more specifically, the situatedness of teacher-pupil relations and interaction, and the influence of the situation and context on the pupils' potentials for learning. For example, the students on the one hand focused on the individual normal teacher's classroom performance but, on the other hand, discussed this on the background of the educational context and tradition in which the teacher had grown up and learned. The students, in addition, talked about the physical frames and conditions in the form of teaching materials, internet access, etc. This awareness of the situatedness of teaching and learning may be one outcome of their internship, influencing their future teacher identity.

The pupils' willingness to learn is part of the situation. In the interviews, the students repeatedly stressed the difference between a student-centred and non-student-centred learning situations without explicitly mentioning the term willingness to learn. The awareness of the concept, though not the term itself, may as well be an outcome that influence the students' future teacher identity.

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