Identity formations as mathematical learners in the context of transition

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This paper explores the relation between discourses and identity formations as mathematical learners in a context of transition. The data consists of an interview with two 16 year-old immigrant girls, who were relocated when their school, in a multicultural and socio-economically disadvantaged area in Sweden, was closed. The girls showed dynamic and unstable identities by drawing on different discourses. Social relational discourses, more than mathematical pedagogical discourses, governed their actions as learners of mathematics; enabling identities as noisy, un-engaged, but able students in the old school, and as engaged and accepted, but also as strangers, in the new school.

Low achievement in mathematics of students of foreign backgrounds and/or from low socio-economic backgrounds in Sweden is well documented in, for example, PISA (Skolverket, 2013; 2016a) and TIMMS reports (Skolverket, 2012, 2016b). This indicates that the Swedish school system has failed when it comes to equity and providing the same learning opportunities for all students, and raises questions on participation and processes of inclusion and exclusion. A study by Svensson (2014) showed how a group of immigrants in Sweden experienced inequitable opportunities to learn mathematics in relation to native born students. The students drew on discourses that positioned them in deficit ways. Discourses in which immigrant students are construed from a deficit perspective in relation to language and cultural backgrounds and as low-achievers (Norén, 2011; Parszyk, 1999; Runfors, 2003) are common in everyday life in Sweden as well as internationally (Healey & Powell, 2013; Moschkovich, 2002; Valero & Meaney, 2014). These constructions

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Svensson Källberg, P. (2018). Identity formations as mathematical learners in the context of transition. *Nordic Studies in Mathematics Education*, 23 (3-4), 39–59.

ascribe them certain identities, and thus place them "in predefined identities which are used to determine or forecast their performance in school and higher education and predict obstacles on the way" (Stentoft, 2007, p. 1597). Consequently, this may have an impact on their learning opportunities.

Context and aim

The context of this paper involves the closing of a secondary comprehensive school, located in a multicultural and socio-economically disadvantaged area. The decision to close, taken by local politicians, was a way of trying to solve an unsustainable situation with low achievement and a noisy and rowdy school environment. The students were relocated to other schools, forcing a transition. This can be viewed as an act taken to increase the immigrant students' learning opportunities since the transition to a new school may mean change. For example, educational and social changes, in which relationships are changed and power restructured, may occur (Hernandez-Martinez & Williams, 2013). Thus, a change in how students understand what it means to be a mathematics learner can occur and affect how they form identities as mathematical learners (Darragh, 2013). Therefore, their identity formations as learners of mathematics are challenged and must be re-negotiated when entering a new mathematical context (Darragh, 2013).

Thus, in an intersection of school transition and identity formations as mathematical learners, I present an exploration of two 16 years old immigrant girls' identity formations as mathematical learners in the context of transition. I acknowledge identity formations as embedded in discourses (Foucault, 1982; Grootenboer, Smith & Lowrie, 2006; Stentoft & Valero, 2009; Walshaw, 2013). I think of discourse in line with Foucault (1966/73), as a systematic, recurrent, and certain way to talk about and understand the world and human kind; it includes actions and ways of operating. Discourses regulate what is possible to think and say and how to act; thus, people are products of discourses (Foucault, 1974).

This article aims to explore the relationship between the discourses two immigrant girls drew on in their discussions and their identity formations as learners of mathematics. In so doing, the article discusses their opportunities to learn mathematics in the context of a school transition. The guiding research question is: Which identity formations as mathematical learners are expressed by the students and how are these identity formations influenced by different discourses?

Identity in mathematics education

The role of identity in students' views about themselves as mathematical learners has shown to be an important element for succeeding in secondary school mathematics (Boaler, Wiliam & Zevenbergen, 2000). In this paper, identities are thought of in line with the work of Stentoft and Valero (2009) and Walshaw (2013), who draw on Foucault. Thus, identity is not about who one is, but about what one does, and is thus about a process of becoming (Grootenboer et al., 2006; Gutierréz, 2013) or identities-in-action (Stentoft & Valero, 2009). Furthermore, identity formation is related to discourse. According to Stentoft and Valero (2009), identities can then be thought of as "fragile identification processes embedded in discourse and, therefore, tightly related to peoples' actions and participation in on-going discursive practices" (p. 62). A study by Norén (2011), who draws on Foucault, showed how immigrant students' different identity formations grew out of a variety of discourses in the multilingual mathematics classroom. The discourses which were evident included "Swedish only", "regulating", and "noisy immigrant student", as well as discourses that enabled identity formations, such as "engaged mathematics learners". Similar discourses included solidarity, social relations, a discourse promoting multilingualism, and a mathematical discourse.

Walshaw draws on Foucault to explain how formations of mathematical identities are entangled with power and constituted in discourse (Walshaw, 2013). Discourses:

> tell us what it means to be, for example, a teacher or a student at a particular time. Their effect is to produce truth and since they are the means by which reality can be read, discourses are extremely powerful. (Walshaw, 2013, p. 102)

Walshaw (2013) states that people involved with mathematics education, "participate in a social web of power that allows us to "perform" (or not "perform") as students, teachers, educators, researchers, and so on" (Walshaw, 2013, p. 103). Through discourses this social web of power governs the students in the mathematics classroom. For example, through economic and political discourses and through: "the classroom's traditions; through its material, discursive, and technological forms; through its mathematical enactments; and through its discourses that relate to categories of class, gender, ethnicity, and other social determinations" (Walshaw, 2013, p. 103).

Thus, it stands to reason that different discourses operate in the two schools in this article and therefore differently define what learning

mathematics means. These kinds of discursive processes subtly shape students' identities, suggesting that discipline and regulation are both practices in identity formations (Walshaw, 2013) and thus enable different identity formations as mathematical learners.

In a Foucauldian understanding, closing a school because of low achievement and relocating the students can be interpreted as a way of governing the students to form identities as the desired students who raise their grades, by providing them with a social and educational change. Investigating these changes can be understood as offering, "a way of exposing the conditions that make divisions between people in their efforts to identify and become proficient with mathematics" (Walshaw, 2013, p. 101). Thus, exploring identities as mathematical learners in relation to discourse in a context of transition becomes important since it can provide information on the conditions, and thus gain insights to how immigrant students' opportunities to learn mathematics may be affected.

Transitioning

Research on transitions between schools is here organized in two themes. The first, transitions for whole cohorts of students at specified times – designated by the relevant educational system – are labelled "regular transitions"; for example, transitions between primary and secondary school. The second, non-standard transitions – applicable for individual students – are labelled "irregular transitions".

Regular transitions

Transitions from primary to secondary school are often described as inherently risky (Ecclestone et al., 2009; Topping, 2011), because of a potential drop in achievement due to, for example, gaps in covering the subject content or socio-emotional issues like bullying (Anderson et al., 2000; Topping, 2011). Another risk when transitioning from primary to secondary school is related to a change in pedagogy. That is, going from collaborative learning in primary school to a focus on individual, independent learning and performance in secondary school (Williams & Boman, 2002), or from a task-oriented perspective to a performance-oriented perspective (Bicknell & Hunter, 2012). Also, students from low socio-economic backgrounds, or from disadvantaged schools, tend to experience less positive transitions in secondary school (Evangelou et al., 2008; Galton & Morrison, 2000; Topping, 2011).

Research on transitions has tended to focus on interventions to ease students' transitions (see for example Anderson et al., 2000), in which teachers play an important role (Ganeson & Ehrich, 2009). For example, the consideration and caring nature of teachers were of crucial importance according to the students in Ganeson and Ehrich's (2009) study.

There seems to be a difference in how students and teachers perceive transitions from primary to secondary school. Students think of transitions as complex in relation to socio-emotional issues like bullying, peer relations, and self-esteem, while teachers perceive transitions as complex in relation to attainment and curriculum issues (Topping, 2011). The best way to transition for most students is with a familiar group of peers (Lucey & Raey, 2000; Topping, 2011). Peer support reduces the effect of stress, such as worries about not belonging to a group when transitioning to secondary school (Topping, 2011). Attaining a sense of belonging in the new school is of importance when transitioning. Darragh (2013) examined students' perspectives on their learning experiences and identity constructions when transitioning to secondary school. The results showed that the students discursively constructed what it means to be a learner in the mathematics classroom. She concluded that confidence, belonging, and identity are closely linked within a mathematics learning situation and a sense of belonging can be seen as part of identifying with mathematics.

Although transitions may result in anxiety in the students, they may also create a feeling of optimism and expectations of new opportunities (Lucey & Reay, 2000; Topping, 2011; Pietarinen et al., 2010). For example, most students in Williams and Boman's (2002) study perceived their transition as positive. Research by Hernandez-Martinez and Williams (2013) showed how students from disadvantaged cultural and socioeconomic backgrounds have made successful transitions from school to college by being resilient; that is, students like "those who, in spite of their backgrounds that might put them at disadvantage in the educational field, are able to make their social and cultural capital resonate with new fields" (p. 56–57). C*apital* refers to the work of Bourdieu (2011). In short, social capital refers to family ties, networks, and contacts, and cultural capital refers to familiarity with so-called high culture, knowledge, education, and language (Bourdieu, 2011). This means that the students, through reflective processes, become aware of their need to break with what is taken for granted and therefore develop certain social, cultural, and educational capital that they make use of in the new context and thus can negotiate the transition successfully (Hernandez-Martinez & Williams, 2013).

Transitions in Swedish comprehensive school

In Sweden, the syllabi with the knowledge requirements for compulsory school are organized in three parts: grades 1 to 3, 4 to 6, and 7 to 9, which means that transitioning from grade 3 to 4 and from 6 to 7 involves a change in the core content and knowledge requirements. As these transitions apply to all students, they can be described as regular transitions. Sometimes, regular transitions involve a change of school, but perhaps not a change of classmates. At other times, they involve a change of classmates and teachers, but not school, or the transition could involve a change of all three – classmates, school, and teachers.

Irregular transitions occur at irregular times and do not include whole cohorts of students. In Sweden, irregular transitions occur when: students are new to the country and start a school, or when students transition as a result of the *free school choice*. Since 1990, there has been a policy of free school choice, which means that parents have the right to choose a school for their children, subject to availability; otherwise, students are placed in the public school closest to where they live (Bunar, 2009). Parents can choose a public school or a private school that gets funding from the state and is thus free of charge.

The policy of free school choice affects students' opportunities for learning since students' academic achievement correlates with the school they attend (Skolverket, 2009). Further, the free school choice has contributed to school segregation in Sweden (Ambrose, 2016; Bunar & Ambrose, 2016). There is research showing that it is mostly parents with strong economic, cultural, and social capital who take advantage of the free school choice (Bunar, 2009; Kallstenius, 2010; Kjellman, 2001). Economic capital refers to, for example, material wealth and money (Kallstenius, 2010). There are different reasons for why immigrant students apply the free school choice and transition to "Swedish" schools. One reason is integration with Swedish students, thus gaining access to the Swedish language (Bunar, 2009; Kallstenius 2010). Another is to increase the chances to succeed in future studies (Kallstenius, 2010). A third reason is to obtain a better learning environment, which is based on the idea that it is calmer or less rowdy in "Swedish schools" than in "multicultural schools" (Kallstenius, 2010). However, research by Bunar et al. (2011) shows that the desired integration does not automatically occur because a physical integration is created. Instead, the students may be reminded daily of their place of residence, ethnicity, religion, accent, clothing, "weak parents", and educational needs, such as Swedish as a second language, when comparing themselves to the Swedish students in the new school. Thus, feelings of being "the other" and exclusion

may be generated, which may obstruct opportunities of future plans (Kallstenius, 2010).

Wigerfelt (2010) investigated the consequences of a forced transition imposed on a group of immigrant students when their school in a multicultural and low-socio-economic area was closed. All the students were relocated to one school located in a high socio-economic area with a low percentage of residents with migration backgrounds. The findings showed that a division between the students from the two schools still existed after the transition, although the students from both schools said that prejudices had changed, which helped them get along better. Several of the immigrant students from the closing school said that after the transition they spent more time studying than when attending their former school, and that the attitude towards studying was more positive in the new school. Furthermore, the immigrant students improved their grades after transitioning to the "Swedish school" (Wigerfelt, 2010). Thus, transitions for immigrant students may have both positive and negative consequences on their learning opportunities.

Researching identity formations

In this study, the transition because of the closure of a multicultural school meant that all students in years 6,7, and 8 were relocated to new schools. This is not a regular act in the educational system, but an irregular transition. I assumed that this transition was likely to prompt the relocated students to notice things they would otherwise see as normal when attending just one school, and thus be able to provide information about how identities as mathematical learners may be enabled by different discourses. Consequently, student interviews were conducted. Thirty-eight 9th grade students who were relocated to 11 new schools after year eight were asked to participate. Four girls volunteered, which resulted in three interviews: two individually and one in a pair. In this article, I focus on the interview conducted with Iman and Faiso (pseudonyms), to illustrate the relationship between their identity formations as mathematical learners and the discourses they draw on in the discussions about the school transition and mathematics to gain insights into what may affect their opportunities to learn mathematics.

The interview took place at the New School (pseudonym for the school they were relocated to, from now on NS) after the girls had attended the school for almost a year. Thus, they had the opportunity to reflect on what had happened in the past year, and contrast it to the Old School (pseudonym for the school that was closed, from now on OS).

The interviews were semi-structured and used a semi-structured interview guide (Kvale, 1997). Mostly open initiating questions were used in order to grasp issues relating to the research objective that I may not have been aware of. However, specific questions were also used to make sure that relevant issues were covered. For example, I asked the students to tell me about: the OS and NS and how the transition occurred, how they felt about it, what was good and bad about changing schools, how mathematics lessons were conducted at the two schools, and if the transition had affected their grades. The interview lasted 1 hour and 5 minutes and was audio-recorded and transcribed. I have translated the student quotes into English for this article.

Iman and Faiso are 16 years old and were born in Sweden. Iman's parents are Palestinians from Lebanon and Faiso's family is from Somalia. They are deemed immigrant students in the Swedish system because both their parents were born overseas. Until the transition, they had attended the OS from the first grade. They live in the area where the OS is located. The NS has approximately 60 percent immigrant students and approximately 50 percent of the students' parents have tertiary education (Siris Database, 2017).

The first step of the analysis consisted of careful and repetitive readings of the transcript with the aim of summarizing and organizing the students' utterances into themes. A theme is here viewed as something that captures something important in relation to the aim and research question (Braun & Clarke, 2006). Three themes appeared: a *social and relational dimension*, a *pedagogical dimension* and an *achievement dimension*. The second step consisted of identifying, in the themes, the discourses the girls drew on and relating them to how the girls formed their identities as learners in the discussions.

Results

Social relations with peers (Lucey & Raey, 2000; Topping, 2011) and teachers are known to play an important role for a successful transition (Ganeson & Ehrich, 2009) and this was also the case for the girls in this article. Therefore, the first theme is a *social relational dimension*, in which the girls drew on discourses about belonging and acceptance, learning environments, and teacher relations.

A transition is likely to prompt the transitioning students to notice things when it comes to the teaching and learning of mathematics that they would otherwise see as normal, and so provide important information. The second theme, a *pedagogical dimension*, refers to the teaching and learning of school mathematics. This theme provided an opportunity to

discursively explore the students' identity formations as mathematical learners enabled by the pedagogical discourses. Mathematics was the subject that the girls felt the most far behind, in regard to grasping the content knowledge compared to their new classmates.

Given that one of the reasons for closing the OS was low academic achievement, the theme an *achievement dimension* was unsurprising. Furthermore, mathematics had a certain role in the transitioning as it was a subject in which they did not raise their grades, which they had done in most of the other subject areas. Nevertheless, they felt they had gained more knowledge about it, since they started the NS.

A social and relational dimension

A discourse of acceptance and belonging

Feelings of belonging and identity have been shown to be of importance when transitioning and a sense of belonging can be seen as a component of identifying with mathematics (Darragh, 2013). In the discussions, the girls draw on discourses of acceptance and belonging when talking about the transition, which provide information about their identity formations. The girls expressed that they did not want to change school and that it was tough to change since they had attended the OS for eight years. When they visited the NS the first impression was not good:

I: When we came here the first week, we did not want to cross the schoolyard, we did not want to go inside at all.

F: It was like, why did we come to this school? But I don't know, the corridors and everything were together, everyone sat everywhere and we did not know them so we could not just sit next to them, people we do not know. And, like, we eat in the classroom, so we sat like a group and the others sat over there, and we sat here.

When describing their first time in the NS the girls form identities as being a stranger or outsider since they did not know the other students and the environment.

However, later in the interview the girls portray themselves as accepted by the new group and their new classmates.

I: Yes, we were by ourselves in the beginning.

F: But they are kind.

I: Yes, all the girls in the class are very nice.

F: We talk to them in the spare time.

Talking to someone in the free time can be interpreted as having become friends with their new classmates and thus as being accepted by the new group, which enable identities as accepted. Despite the acceptance, the girls talk about feelings of not belonging to their new school:

F: Though I felt at home when I was there [OS].

I: Yes, me too.

F: Here [NS], I don't know, it still does not feel quite like home, I can say.

Thus, they position themselves as being accepted by their new classmates, but do not seem to feel a sense of belonging, forming identities as accepted students but at the same time as the stranger/the other, since they do not feel at home in the NS and talking about the OS as their school.

Discourses about learning environments

In the discussions, the girls keep coming back to the learning environments. When comparing the two schools the girls talk about the learning environment as the largest difference between the schools. They talk about the learning environment in the OS as noisy and rowdy. This "discourse of noise" matches how the multicultural schools are portrayed in the public discourse: rowdy, with social problems and bad grades (Bunar, 2009). The girls seemed to have adopted the view that a discourse of noise was operating in the OS:

I: It is them that make the working environment better here than there, they are chattier in the OS, more rowdy.

However, in these discussions the girls also provided a counter story. It may be interpreted as a way of distancing the OS from the characteristics of multicultural schools in the public discourse, by saying that not everything was bad, like the physical environment at the OS:

I: When we came here, to the new school, in contrast the OS, our school was much nicer.

I: That is the OS was better if you talk about the building.

F: The [physical] environment was very nice.

This was backed up by referring to their new classmates' opinions:

I: They [their new classmates] have come a couple of times to visit us, we have been outside, we met at the OS. They wanted to go inside, but you couldn't, it was too late then. So, they were completely surprised because everything was nicer at our [OS].

I: They thought that our [OS] was nicer.

By giving an account for positive characteristics of the OS, justified by referring to their new classmates' opinions, they are able to show that not everything was "bad" with the OS even if it was rowdy and had to close. Furthermore, in these discussions the girls talk about the OS as "our" school, identifying themselves as belonging to the OS.

A discourse about teacher relations

Another large difference between the schools that the girls keep returning to is the teachers and their relationships with them. When discussing negative consequences of the transition, Faiso said:

F: That we like, we don't know the teachers as well as the others [at the OS]. The teachers didn't know what we know. Yes, like that.

Meaning that she perceives that their new teachers do not know them very well and did not have knowledge about their abilities and skills when they started the NS, which made their transition harder. Thus, the new teachers having knowledge about the students' knowledge in different subjects was perceived as important when transitioning, as well as an important part of the relationship between the students and the teacher. This is reinforced by the following:

F: That is, I don't know the teachers [at the NS]. I don't know, maybe I am a person that it takes a very long time to get to know, such a person. I don't know, maybe I don't trust them as much as I trust the others.

This is in line with previous studies, showing that relations with teachers are important for easing transitions for students (Anderson et al., 2000; Ganeson & Ehrich, 2009) and for school belonging (Booker, 2007; Goodenow, 1993; Libbey, 2004; Osterman, 2000). Furthermore, Faiso tries to find an explanation for this in her personality, thus creating an identity as an outsider or stranger who is hard to get to know. This enabled her to blame herself for the lack of good relationships with the teachers at the NS. They also discussed the quality of teachers at the two schools:

I: It was chaos during class [the OS]. It was not as good learning environment if you are going to compare. There was a lot of talking, yes a lot. But the teachers there, we liked the teachers there better because they explained more. They were better at explaining.

F: There were teachers that we had over there that are not even close, that is, the teachers here are not even close as good as the teachers in the OS, that is how it is.

The girls portrayed the teachers at the OS as better teachers than the teachers at the NS in both developing relationships and in teaching, where teaching was considered as providing good explanations. At the old school, the teachers were thought to explain well and knew their skills and abilities and these attributes were perceived as important for the students' sense of belonging to the school.

In summary, the girls' stories around the transition seem to be embedded in social and relational discourses, which indicated the importance of them when transitioning.

A pedagogical dimension

When discussing teaching and learning mathematics in the two schools, the girls drew on two somewhat different pedagogical discourses.

A traditional oriented pedagogical discourse

This discourse mostly seemed to focus on solving tasks with similarities to what is often labelled a traditional-oriented, pedagogical discourse (Boaler, 2002). This discourse also refers to a focus on instrumental understanding (Skemp, 1976), which means that the students were taught to do mathematical operations so they could work individually in the text book, which seemed to be the focus when learning mathematics in the NS:

I: Yes, just working in the textbook, nothing else [at the NS].

At the OS, they completed work sheets, which they preferred:

I: Otherwise, it is just to work individually in the textbook [at the NS]. Our old math teacher [at the OS] did not like textbooks, he thought they had a lot of unnecessary and a lot that we did not have to learn. So, he did his own work sheets.

I: Work sheets with tasks and stuff that he did himself or from pages in the book with the most important and the basics and such. So, we did not work with the textbook at all in OS the last semester or year. Here it is the opposite, almost only working in the textbook, nothing else.

P: Mm, which do you prefer then?

I: OS.

Working on work sheets at the OS and not in text books, and perceiving this as better, can be placed within a traditional discourse, with a focus on instrumental understanding.

A reform oriented pedagogical discourse

During the girls' talk about mathematics at the OS another pedagogical discourse emerged, a reform-oriented, pedagogical discourse (Boaler, 2002). This discourse focused, for example, on solving problems collaboratively, learning with each other, negotiating mathematical meaning and understanding together. This discourse focused on relational understanding (Skemp, 1976), in that the students were expected to understand by knowing what to do and why. Iman gave the following examples:

I: Yes, in the last year at OS, when we got a new math teacher we sat four and four in math-groups most of the time and then you could work together, you got to work in groups, discuss, talk. And when we were about to have the national standard test, orally now in maths, we had just one lesson when we got to talk and practice on it and if we had been in OS we would have received better practice in preparing for the national standard test.

I: We got to do things in the OS with our new math teacher, then, to find out pi, for example, then of a circle. We had to sit and cut and use rulers and work, so it was much more fun to learn that way.

When comparing the mathematics teaching at the two schools, the students reflected on their own roles and why they did not learn during mathematics class at the OS even if they perceived the teaching as better:

I: Yes, because it was us that did not listen more.

F: Yes, we did not listen.

I: We did not learn anything, but his lessons were...

I: Better teacher, if you say so.

F: He was kind of really kind.

When being asked what they meant by a better teacher, Iman says:

I: He explained better, he explained more, he explained until everyone in the class understood, so after every whole-class instruction everyone understood what to do and the pace was a bit slower so that we had time.

Furthermore, they said that they had more whole-class instructions in the OS:

I: We had more whole-class instructions in OS.

In contrast, whole-class instructions were scarce in the NS:

I: Once in every chapter, or if there is a task that hardly anyone understands.

The girls perceived whole-class instruction and teachers that explained well as important for their learning of mathematics. This indicates that the girls expected mathematics to be taught in a traditional way for them

to learn properly. However, they also seemed to appreciate the elements of a reform-oriented pedagogical discourse that occurred at the OS. Furthermore, they talked about the mathematics teaching at the OS as more fun because they got to do practical work, and, in contrast, more boring at the NS. As Iman stated, "It's boring lessons".

Thus, two different mathematical pedagogical discourses emerge from the discussions. The girls preferred the pedagogical discourses at the OS. Thus, it could be though that this would support their identities as engaged learners of mathematics. However, this did not seem to be the case since they blamed themselves for not paying attention to the teacher, for not doing the tasks at the OS, and for not achieving in mathematics at the OS. Thus, the discourses operating at the OS seemed to produce identities as un-engaged learners of mathematics. However, they approved of the pedagogical discourses operating at the OS. Therefore, it is possible that it was the learning environment and the discourse of noise that enabled identities as un-engaged learners of mathematics. Further, since the pedagogical discourses seemed to be somewhat different in the schools, the girls most likely had to reconstruct and negotiate what it meant to be a learner of mathematics to match the "new" pedagogical discourse. In this "new" pedagogical discourse, learning mathematics, first and foremost, means working individually in the text book and listening to the teachers' whole-class explanations, which were scarce. Even if they did not appreciate the way mathematics was taught at the NS and perceived the lessons as boring, there were no signs of resistance in their stories. Accordingly, a possible conclusion is that they had adapted to the discourses, which enabled their identities as adapted students.

An achievement dimension

According to the girls, their grades have generally improved since transitioning to NS. This was also the case for the immigrant students in Wigerfeldt's (2010) study, who were relocated to a new school when their school closed. However, the girls felt that their grades would have been even better at the OS if they had put in the same work effort as in the NS:

F: Though when I think about the grades here and at the OS, it's only because we didn't work as much as we work here, if we had kind of added, I do not know.

F: I would have gotten better grades there than I get here, I can imagine.

F: Like, we did nothing in OS.

Once again, they portrayed themselves as un-engaged students at the OS and did not do what was expected of them during class. In contrast, now at the NS they portrayed themselves as students who worked much more

than before, like the relocated students in Wigerfelt's (2010) study, and thus gained for themselves identities as engaged students who worked hard.

In contrast to other subjects, their grades in mathematics had not increased since transitioning, although they stated that their knowledge in mathematics had increased. When talking about mathematics grades, Iman switched discourses by talking about grades in other subjects. This enabled her to match discourses of successful transitioning students and protected herself from an imposed identity as a rowdy low-achieving immigrant student (Bunar, 2009). In this way, she could portray herself as an engaged, successful student who has raised her grades at the NS instead of a student who has not succeeded in raising her grades in mathematics.

I: But if we are talking about English, we have the highest in the class, Faiso and, we have different groups in English and the three of us have the highest in the class. And we have also raised our grades in other subjects, they (teachers in the NS) have also raised us. They raised us in the social sciences and they raised us in science and in art, crafts, and technology.

However, at the same time as Iman portrayed herself as an un-engaged and noisy student who did not pay much attention to the work during class at the OS, she also portrayed herself and Faiso as "able students" by saying that they could have raised their grades at the OS if they had wanted to because they could learn fast and easily.

I: We could, what was I going to say, we could have raised our grades, we could have gotten good grades because we learned fast, the two of us, if we are going to talk about us, we learned quickly, we learned easy, but it was us who didn't want to.

This can also be interpreted as a strategy for protecting herself and her friend from imposed identities as noisy and low achieving immigrant students, as positioned within discourses about the multicultural schools (Bunar, 2009).

Further, the girls portrayed themselves as students who had raised their grades a lot, in most subjects except mathematics, which enabled identities as good students at the NS.

I: We have raised our grades a lot in other subjects, perhaps at least 5 points in some subjects, 2.5 in others. So, we have raised our grades a lot and we have received much better grades.

In summary, the girls drew on different discourses when talking about achievement, which enabled identities as learners of mathematics, as un-engaged but able students, and as successful, hardworking, engaged students.

Discussion

Exploring the relationship between identity formations and discourses the girls drew on in the discussions about the transitioning, mathematics teaching, and learning provided information on what seemed to be important for the girls in the transition process. For example, teacher relations, feeling accepted, and having a sense of belonging in the new group seemed important. Furthermore, I showed how the girls drew on different discourses that enabled different identity formations in the two schools. For example, identities as accepted, as strangers, but also as engaged, successful learners of mathematics were enabled in the NS. In contrast, identities as un-engaged, noisy, but able mathematics students who learned fast and easily were enabled at the OS. Thus, it can be concluded that their identity formations were dynamic, fluid, and embedded in discourses, in line with the work of Stentoft and Valero (2009).

Furthermore, examining the mathematical pedagogical discourses in the girls' discussions shows how they perceived what mathematics teaching and learning was and how it should be conducted in order for them to learn. The pedagogical discourse at the NS, which seemed to match a traditional way of teaching, made the students perceive teaching and learning of mathematics as boring. However, they perceived that their knowledge in mathematics had increased at the NS, even if their grades had not, portraying themselves as engaged, hardworking mathematics students. In contrast, they preferred the mathematical pedagogical discourse in the OS, but they did not achieve which resulted in them portraying themselves as un-engaged students. This may be interpreted as contradictory. However, this may be explained by acknowledging that students' identity formations are a result of power relations constituted in different discourses (Foucault, 1980). Accordingly, the different discourses operating in classrooms govern the students' ways of acting and their identities as learners in different ways (Walshaw, 2013). Some discourses seemed to more strongly govern their ways of acting as learners of mathematics. Thus, a possible interpretation is that social relational discourses operating in the NS enabled them to move from identities as un-engaged learners of mathematics to form identities as engaged learners of mathematics, and not so much the "new" pedagogical discourse. Consequently, social relational discourses played an important role in identity formations as learners of mathematics when transitioning.

Despite having negative perceptions about mathematics at the NS and not feeling at home there, it seemed that the girls' opportunities for learning mathematics had increased with the school change. This indicates that they had gained identities as students who have adapted

to the new learning situation to increase their opportunities to learn mathematics. However, being a student that must adapt to a new situation in order to do better puts the responsibility on the student. This has the potential for students to blame themselves when the adjustments do not lead to the desired outcome. An important question then becomes *what do the transitioning girls have to give up in order to adapt to the new learning situation and become the desirable student in the new context?*

The situation of the girls being subjected to a forced school transition is complex. To increase their opportunities for learning by relocating them to a new school is not a straight forward matter or an easy task. For example, depending on the discourses involved, students may form different identities as learners since different discourses operate in different schools. Therefore, it cannot be concluded that the act of closing a school and relocating students because of low achievement and a rowdy school environment, is a solution for all immigrant students, since their grades and opportunities for learning will not automatically increase when transitioning.

A conclusion to draw from this is that it is important to listen to students who have experienced a forced school transition when evaluating the outcomes. If the experiences of the students are not considered, there would only be statistics on achievement. The statistics may show that it is a successful solution, on a general level, but would not say anything about the individual students and how they perceive the situation they are positioned in. Thus, to learn more about the effects of a forced school change, the conditions that enable for the transitioning students to form certain identities as mathematics learners need to be discursively addressed from the students' perspective.

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