Disciplined by tests

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This article reports on a Swedish research project [1] on the reintroduction of national tests in mathematics for nine- to ten-year-old pupils. Data were collected over a period of three years (2010–2012) by video recording test situations in different class-rooms and by conducting video-stimulated recall interviews with children. The aim is to explore and analyse the testing situation and how it creates different positions for children. We conclude that discourses of testing, caring and competition, sometimes strengthening and sometimes shadowing each other and thereby, produce knowledge in children about success and failure in mathematics, positioning children as "winners" or "losers". The tests are interpreted as a technology – a form of disciplinary power that functions at the level of the body (Foucault, 1980).

Standardised testing for young children is not new in Sweden. Between 1962 and 1972 most schools used standardised tests, although they did so voluntarily and then used the results to standardise the grading system. Individual assessment was downplayed and, when grading was restricted at the beginning of 1970s due to the decentralisation and deregulation of schools (Lundahl, 2002), the schools' interest in standardised tests also declined (Ljung, 2000). The idea behind the reintroduction of national tests is first of all to support teachers in their assessment of students' knowledge related to the knowledge requirements, and also to help teachers to develop their own teaching skills (Swedish National Agency for Education, 2012). Another of the Swedish government's main arguments for implementing national tests in mathematics is said to be the need for early identification of children at risk of falling behind, thereby reversing the trend of students leaving school with incomplete rating data in mathematics (Ministry of Education, 2007). This suggests that diagnosis can identify at-risk students rather easily and that students' mathematical misconceptions can be removed and replaced by more

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sustainable mathematical thinking. However, research shows that tests in mathematics can contribute to students' difficulties in, and negative attitudes towards, mathematics (Newstead, 1998; Sjöberg, 2006); this is particularly true for so-called "low-achieving" students (Magne, 2007).

Besides assessing the individual child's knowledge the national tests also assess the quality of the schools (SIRIS, 2012). In that sense the tests have become a means for checking up on schools and teachers as well (Hudson, 2011). This follows a neo-liberal logic that schools should compete for students on "the market", and that competition will stimulate school development (Bunar, 2008). In line with neo-liberal arguments, the Swedish minister of education (Björklund, 2012) asserts that bad results from national and international assessments such as TIMSS and PISA[2] can, in the long run, put the Swedish economy at risk and that national testing is a way to overcome comparatively bad results on the international level. That is, education has been made central to national economic competitiveness (Grek, 2009). Researchers in educational policy, for example Grek (2009) and Ozga (2008), clearly show how agents on the transnational level – OECD, for example – are "governing by numbers" through assessment programmes like PISA. The PISA assessment has become a "political technology", a "governing resource" that directly impacts on national education systems (Grek, 2009, p. 35).

In this article, however, we focus on how national assessment impacts on the individual level, that is, how national tests in mathematics are "governing" classrooms and children in Sweden. The aim is to explore and analyse the testing situation and how it creates different positions for children. Our research questions are: What does the testing situation look like? How do children act in the testing situation? How do children talk about the testing situation?

We draw on Foucault's concept of disciplinary power and interpret the tests as a technology, which, through the testing situations, discipline children. Foucault (1980) argues that unlike power on the macro level, disciplinary power functions at the level of the body:

> In thinking of the mechanisms of power, I am thinking rather of its capillary form of existence, the point where power reaches into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday lives. (p. 39)

Recent research in Sweden on national tests in Swedish in grade five also show how the tests impact on the daily work of teachers and regulate classroom discourse and behaviours of teachers and students (Lunneblad & Asplund Carlsson, 2012). Other researchers likewise show that young

children start referring to individual performance criteria such as quality, speed and correctness when comparative information is available to them in the school context (Räty, Snellman & Kasanen, 1999). It is also well known that their experiences and achievements in different school subjects shape children's perceptions of themselves (e.g. Kärkkäinen, Räty, & Kasanen, 2008). In a Finnish study, for example, children were either optimistic or pessimistic about their ability in mathematics. Optimistic children (mostly boys) believed in the power of practice and effort and described their ability as something they could develop, whereas pessimistic children (mostly girls) had a static view on ability and did not think it possible to improve their performance (Räty et al., 2004).

Subjected within discourse

Given that we want to explore children's actions and talk in the mathematics test situation, we use the notion of discourse. We use Foucault's (1971) interpretation of discourse, that is, that discourse is about knowledge production through language and practices in specific institutional settings. On the one hand, societal discourses frame discourse practices, and on the other hand, they are challenged by them. Since discourses are "practices that systematically form the objects of which they speak" (Foucault, 1972, p. 49), they have power to produce (rather than describe) reality. Therefore, when children act in the testing situations and talk about them, they build on discourses available to them in their specific school context (e.g. discourses of schooling, mathematics, testing, femininity, and masculinity); that is, they do and talk in ways that create meaning for them (Wetherell, Taylor & Yates, 2001). They are thus bearers of knowledge produced by discourse. However, individuals are also capable of exercising choice, or agency, in relation to discursive practices (Davies & Harré, 2001). Following Foucault (1983), we therefore set out to interpret how schoolchildren become subjected within different discourses, and also how they position themselves, that is, are formed as subjects (Laws & Davies, 2000).

Methodological approach

International school research concerning tests in mathematics has mostly used research methods such as questionnaires (e.g. Birenbaum, 2007) or diaries and interviews (e.g. Walen & Williams, 2002). However, we saw the need to take a different methodological approach since we regard the testing situation as complex and highly contextual. We therefore wanted to use methods that were able to capture at least some

of the intricate situations that we believe affect students' subjectification in relation to learning mathematics in school (compare with e.g. Mendick, 2006) and decided to do an ethnographic study, using multiple sources and perspectives.

We collected data through observations in classrooms and interviews with children. The tests were carried out as a series of seven short tests over a two-month period (scheduled from February to May). The fieldwork took place in eight schools in more than twenty different classrooms and within different school contexts over a period of three years (see table 1).

A first step was to become more familiar with the children, teachers, and the school situation at large. We used some time just to "be around" during classes and in the teachers' coffee room, observing and taking notes. When the tests started, we began video recording. We sat close to the camera and shifted between letting the camera sweep over the classroom and more randomly focusing on individual children. We also took field notes as a complement to the videos. The idea was that a camera records more subtle events, not verbally spoken, such as body language and facial expressions that might otherwise be difficult to capture (e.g. Heikkilä, 2006). The three-year cycle of collecting data allowed us to identify and develop our methods (see Silfver, Sjöberg & Bagger, 2013), to continuously reflect on our research and the data, and to "allow for the emergence of contradictory behaviours and perspectives" (Beach, 2010, p. 51).

Table 1. *Number of classroom observations, video-recorded test situations, and interviews 2010–2012*

Year	Number of schools	Number of school classes	Hours of observations / school class	Video-recorded tests / school class	Interviews
2010	8	10	15-20	4-6	134
2011	6	7	12-15	3-4	63
2012	2	5	2	-	-

The use of video cameras

The use of video as a tool in ethnographic studies provides closeness to the study object and opens up for a social analysis of critical moments (Heikkilä, 2006). Collecting data with a video camera is discussed extensively in research literature, which describes, for instance, the video camera's capacity to record details and to capture all events, not just those that are

readily noticed (Walsh et al., 2007). This would appear to be important since Gordon, Holland, Lahelma and Tolonen (2005) show how the gaze of the researcher easily orients towards movement and sounds, which often results in boys attracting more notice than girls, thus resulting in gender bias. The literature also describes some weaknesses of video-camera research. Sensitive situations can occur when recording, and it is therefore important to use gatekeepers, such as parents and teachers, who can interrupt recording as such situations occur (Sparrman, 2005). Children who were present during our research but who did not want to be involved or whose parents refused permission were placed out of sight of the video camera. We also discussed with the teachers involved what we should do should a sensitive event arise. We decided to adopt a reactive approach and to stop recording if we heard, saw or felt that someone was disturbed or frustrated.

The use of video-stimulated recall dialogues

The second step in our methodological approach was to use selected clips in video-stimulated recall dialogues (VSRD) with the children. The VSRD technique is applied to help children relive their experiences and to aid their recall of events (Morgan, 2007). We arranged our clips into three sections, specific for each school class. The video sequences showed the beginning of the test, the middle part of the test and a sequence from the end of the test situation (see table 2).

Table 2. *Three video sequences from the test situation and examples of what each of these show*

Video sequence 1 (start)	Video sequence 2 (middle)	Video sequence 3 (end)
Part of teachers' introduction to the test; Handing out of the test; Children start working on the test	Children working on the test; Children asking for help; Children thinking, resting, etc.	Children handing in their tests; Children beginning to work on other things; Children still struggling with the test

We planned our interview questions so that they corresponded to the respective sequences, and after each video sequence was shown we used it as a "starter" for a discussion about the test situation. Questions concerned, for example, how the children got to know about the test, what a test is, why they take tests, and what happens with the tests after the testing period is over. Children were also asked to describe how they felt

before, during and after the tests, and to describe sequences from the video clips. All children who wanted to participate were interviewed. Teachers and children decided on the interview pairs and, for practical reasons, we sometimes interviewed children in groups of three. Children who wanted to be interviewed individually were also welcome to do that. All the interviews, which were 20–30 minutes long, were also filmed.

Method of analysis

In a first analysis of the classroom videos we identified "critical incidents", that is, incidents that stood out as different from the more "normal routines" that are shown in table 2 above. Critical incidents could include children crying, laughing, cheering, quarrelling, teasing, arguing with teachers, and cheating. These incidents together with the more normal routines create the testing context. Although critical incidents did not occur during all tests that we recorded, they appeared more or less in all investigated classrooms over the seven tests that each group went through over a period of several weeks. In order to take the contextualisation of the testing situation a step further, we have therefore extended table 2 and added examples of the critical incidents in table 3.

Table 3. *Contextualisation of the testing situation*

	Test starting	Test going on	Test ending
Examples of common situations	Teacher introducing the test; Moving desks; Handing out the tests; Children start working on the test	Children working on the test; Teacher occupied with answering questions; Children thinking, resting	Children handing in their tests and starting to work on other things; Children leaving the classroom; Children still struggling with the test
Examples of critical incidents	Bob refuses to do the test; Oliver ticks off the tasks and says: "yes, yes, yes"	Peter and Lisa are caught cheating; Maria cries silently	Marcus is frustrated; Eddie performs a little happy dance when he hands in his test

The video-recorded interviews were transcribed within *Transana*[3], where we also noted children's body language and *how* children talked about things, for example, whether they laughed, seemed embarrassed or appeared relaxed while talking about their performance.

Thereafter, we carefully looked through the classroom video recordings and the interviews in parallel, back and forth several times in order to identify meaning-making patterns within the material.

Analysing discourse involves an exploration of meaning-making: how it is organised, or as Wetherell, Taylor and Yates (2001) put it, how meaning is "sedimented into certain formations and ways of making sense" (p. 3). We identified discourses in three steps. Firstly, we focused on what teachers and children were doing during the tests more generally; how they talked about the tests, and what they seemed to take for granted around the testing situation and its organisation. Each of us looked through the video films and field notes from our "own" classrooms, marked and made notes of sequences that were repeated over and over again – the more "normal routines". In the transcribed interviews we marked talk sequences with a content description, for instance talk about "silence", "cheating" or "competing". When we compared the data from our different classrooms we found similar patterns of talk and proceedings around the tests, which made up an overarching discourse concerning what the testing is and what it means. Secondly, we asked questions of the data about whether other talk or practices were going on simultaneously in the classrooms or interviews yet were not included in the testing discourse. Thirdly, we focused more in depth on these deviant findings concerning practices and talk by looking for similarities and differences between them, and what meanings they carried. Of importance here, is that the analysis is confined to the discourse rather than to the specific children who produced the talk; it is the not the subject but discourse that speaks and produces language and knowledge (Foucault, 1983; Taylor, 2001).

Once identified the discourses, we focused on subject positions and agency. The possibility of agency opens up for the teachers and school children to draw on different discourses, or choose different subject positions in different situations, although this is neither an entirely free, nor an entirely determined, process since there is a tension between agency and structures (such as gender, class and race structures) (Connell, 1987; Davies & Harré, 2001; Reay & Wiliam, 1999). We therefore asked questions of the data about (1) how the identified discourses subjected children (and teachers), and (2) how children (and teachers) through talk and practices positioned themselves.

Three different discourses

Three main discourses that together describe the testing situation were found: a *testing discourse*, a *competition discourse*, and a *caring discourse*.

We have chosen to interpret the testing discourse as the overarching discourse. The three discourses are described below.

The testing discourse

Practices that constitute the testing discourse are the many rituals around the testing situation, for example moving desks apart, removing books from the desktops, preparing pencils and rubbers, teachers reading the test instructions aloud, children working silently and on their own, teachers hushing and whispering, and so on (see table 3). The testing discourse is also produced and reproduced by children's talk in the interviews. The logic of the discourse is that pupils do the tests to show that they have learnt what they are expected to so that they can move on to next school year. This is articulated by Robert, Henry and David:

Robert: You do the tests 'cause you need to see what you can do and so on.

Henry: And you do it by yourself.

David: It's like a tradition ... something they have always done in school.

Children's talk further highlight that testing is a silent activity rather than about talking or arguing in the classroom:

Aysan: We never have it so quiet [as it were during the tests] It's mostly lively, lively, lively ...

Eva: Yes

Aysan: It's never silent more than a couple of seconds ... then somebody starts to talk or whisper

Eva: So it was pretty good then?

Aysan: Yes it was really good.

Our field notes and the video films also confirm this silence. In the interviews with children they repeat the guidelines from the teacher, saying that when pupils do a test they have to do it by themselves, and not compete or disturb others. They are not allowed to look at others' tests or help each other. The teacher cannot help them either, children say; she (it's most often a she) may give some hints, can help them to read the text and describe the question if they get stuck with a problem, but she cannot provide the correct answer:

> We move the desks and sit alone 'cause ... It makes it difficult to watch each other. So that you don't cheat, 'cause you have to do it by yourself. The teachers cannot say anything either ... They cannot help us to sort it out ... the maths problems. They can only tell us

> about what it [the task] is about. What they [the test maker] want to know. It's like if you don't understand the task. (Aysan)

Doing the tests means you need to concentrate, focus on the test, think of the test, and as Diza says: "use your brain", or as Alice notes, do the best you can:

> When you do tests you need to concentrate. Not talk so much ... and ... more ... like think of the test. And ... just sit there and do the test and ... Then you need to think of ... you have to think of doing it correctly and try to do it as well as possible and not do it too fast ... not as fast as you can do it but ... and you are allowed to take your time.

How much time is used to do the test is produced as unimportant in children's talk. Over and over again it is underlined that it is better to do it correctly than quickly. This is also what Hassan says:

> To me it felt like ... I just wanted to do it correctly. I thought: "I can use a lot of time as long as I pass the test".

In this way children's talk is not only talk about what the test is; it is also talk about what the test is not. It is not a competition of who can finish first. The test, children argue, is *not* a competition, because pupils are allowed to take the time they need to solve the problems in it.

Our analysis is that the children are carriers of the testing discourse and can give detailed descriptions about how to do tests and how they are expected to act as good pupils. All these "testing practices" seem to be taken for granted by the children, although for most of them the whole testing situation is a new experience. Therefore, the testing discourse, we argue, is already formalised and institutionalised in school, ready to be activated by teachers and children. In our analysis the testing discourse therefore becomes an overarching discourse.

Even if we want to argue that the testing discourse excludes testing as competition, (in the sense; someone winning and someone loosing a time-race) it still draws the line between success and failure for the individual child since it is necessary to pass, which obviously requires measuring, which in turn comes with ranking. Or as Hassan expresses it:

> Now you have to focus on what you've learnt in school ... and then you started to understand that ... the seriousness and that you do these tests 'cause you are now in grade three.

From the children's understanding, the testing discourse comes with the possibility that they might have to stay one more year in grade three while their classmates go on to grade four. This knowledge produces a lot of fear:

It felt like ... if you fail ... your whole life is destroyed [laughs]. (Celia)

When I heard about the tests I got frightened ... 'cause you think, you know, that you'll not be allowed to move on to grade four.

(Mohamed)

Sometimes I used to think, before the tests ... sometimes I was thinking, "What if I have to take grade three again" [laughs]. (Saba)

Even though many children view the tests as "nothing special", the overall impression is that the testing situation generates a lot of stress and nervousness. The feeling, or fear, of not being good enough or not knowing the correct answer also manifests in the body, for example as a headache, stomach ache, butterflies in the stomach, bodily tensions, and freezing. The next section discusses the competition discourse, which gives another meaning to the testing situation.

The competition discourse

Although the question of time – how much time is needed to do the test and who finishes in which order – stands out as a non-issue within the testing discourse, some talk and practices point in another direction. Some children express anxiety about the possibility of being the last child to hand in the test. Jean for example, expresses this:

Some children picked up their notebook quite early [after finishing the test], which was stressful. 'Cause, you know, you don't want to be the last one. That feels as if ... everyone's waiting for you. It feels wrong. Yes, it feels ... weird.

David also highlights the negative feeling of being the last child:

But ... [smiles] If others ... have finished, I don't want to be the last one [shows how he writes very fast]. It doesn't ... feel good.

Alice describes how the competition discourse affects her negatively, and this challenges the rhetoric within the testing discourse that the "finishing order" does not matter:

You know, you feel that... You feel a bit depressed if the others say like: "Oh, I finished first" and "I won the competition!" But it's not a competition and then you feel like: "I'm here – the last one because I don't know how to solve this maths problem!"

As Alice stresses, being the "last one" is directly connected to the feeling of not understanding, or even of "being bad" at, mathematics. Taking

much time to do the test, we argue therefore, comes with the possibility that you are doing poorly in maths.

In the classroom, children who finish their test also often make gestures indicating relief (for example catching a breath), happiness or victory (for example smiling or making excited hops), underlining that they have reached the finish line. Charles, for instance, stretches out his arms in a gesture of victory when the teacher picks up his test and allows him to work with his notebook [from video, 11-03-23]. Our analysis is that the order in which children finish the test as number one, two, three, and so on becomes meaningful within the competition discourse. The competition discourse has the power to produce in children feelings of being both successful and unsuccessful in mathematics.

The caring discourse

In the third graders' classroom, teachers are carriers of a caring discourse (compare also with Sunnari, 2003), and we noted that they are very aware of who needs extra support and who needs to be calmed down. They talk calmly to the children before the test and remind them that they can only do their best and that the test is not a competition. When they walk along the school desks they often kneel beside the child who asks for help, put a hand on the shoulder or place an arm around the child's neck and talk encouragingly to him or her. Several of the teachers had organised the classroom beforehand and decided who needed to have a space to themselves and who needed to sit with a special needs teacher or a mother-tongue teacher.

Help and care, normally smoothly integrated into teachers' practices, are best noticed in situations when teachers do not act in accordance with the discourse, for example when teachers tell children that they cannot help, that is, cannot give children the answer to a mathematical problem. This is something Aysan mentions when she describes how she felt about doing the tests:

> I was a bit nervous and ... [shakes her body] "Ohhh, I hope I will make it" and ... And I was also so let down when the teacher couldn't help at all.

This shows how the teacher moved between the caring and the testing discourses during the testing situation; from helping the children to pointing out that they had to work individually. How the different discourses co-exist, strengthen and weaken each other and how they produce different subject positions are discussed in next section.

Discourses co-exist and produce positions

Our analysis is that the three discourses co-exist and sometimes they strengthen and sometimes they counteract each other. For example, the testing and the competition discourses both help to highlight the individual child's performance and thereby produce knowledge in children about success and failure in mathematics, and position children as "winners" or "losers". However, the testing and competition discourses are in conflict about the time issue since, in the testing discourse, time is produced as irrelevant, whereas in the competition discourse it is the main component. Since the time issue is neglected in the caring discourse, however, the testing and caring discourses strengthen each other and thereby reduce children's stress and produce competition as a meaningless endeavour.

Furthermore, the testing discourse and the caring discourse produce different and conflicting subject positions for teachers. Within the caring discourse the teacher is supposed to care about and support the child (a "traditional" teacher-position), and within the testing discourse the teacher is supposed to control and monitor the child (a teacher-as-the-controller-position). When teachers take up the position as "controller" instead of "carer", it is the already vulnerable children in need of extra help who are most affected. Some children talk about this, describing how they found new teacher practices frustrating and how they felt abandoned during the tests without knowing how to handle the situation:

> You know, I got really nervous when I couldn't solve one of the problems and I raised my hand and ... Then she [the teacher] said "I cannot help you"! Then I got like super duper nervous and I said "What do I do now?" [laughs silently].   (Vivian)

There were also moments when children looked wide-eyed at their teacher, caught by the fact that their teacher, who had always been supportive and caring, had apparently now been transformed into another kind of teacher, who says, "Sorry, I can't help you with that" [from field notes 11-04-21]. This shifting between the different logics of a caring discourse and a testing discourse is further highlighted when teachers control and monitor children. For instance, when Per stands up from his desk prepared to hand in the test, he is physically hindered by his teacher, who orders him to sit down and continue to work [from video, 10-03-31].

Within the testing discourse children are positioned as test-takers who are measured and ranked based on their individual answers on the test, but when teachers activate the caring discourse, children are positioned as subjects who need help. Children in need of support or in

need of more time to solve the test are positioned as outsiders by the competition discourse since they don't play by the same rules as the others. When teachers discipline children, for example by forcing them to sit down and work more on a test, as described in the section above, children are subjected as undisciplined.

Children take up different positions

As we have described previously, the tests created a lot of stress among the school children (see also other research, for example Putwain, Connors, Woods & Nicholson, 2012). However, where some of our interviewed children talked about how they felt nervous before the tests started, and how they worried about having to stay in grade three another year, others did not seem to care too much. Our analysis of children's talk is that it positioned children differently – as "real" pupils, in an insecure position (maybe "not good enough"), and as "good" or "bad" in maths.

A position as a "real" pupil

Steven is an example of a child that talks about the tests as unproblematic. He says for instance:

> It's like ... nothing special ... I think ... like a normal maths lesson.

Similarly, Maggie and Robin describe the tests as business as usual: to them, doing tests is "like doing exercises in the book". Steven, Maggie and Robin's talk portrays tests as part of normal school activity and thereby they position themselves as "real" pupils who have acquired an understanding of what schooling is about.

An insecure position

For some children, the stress seemed to disappear when they discovered that the tests were not so difficult, while others continued to feel stress during, and also after, the tests. Elsie, for example, talks about the difficulty of not knowing how she performed:

Elsie: I believed the tests should be difficult. Like ... thousand times thousand [laughs].

Anette: So how do you feel after finishing the test?

Elsie: It feels a bit scary 'cause you don't know if you've passed

Anette: How do you feel about that?

Elsie: That I will be ... totally wrong [on the test] ...

The testing discourse, therefore, allows for a position where one fear that one is simply "not good enough".

A position as "good" in maths

Sandra is another child who talks about stress and nervousness, although she implicitly positions herself as good in maths:

> They all say, you know, mum and Maria [the teacher] ... they say that I perform very well at school. But during the tests it felt like I would have a heart attack. (Sandra)

Like Sandra, other children portray themselves implicitly as good in maths, by hinting that they "only made very few mistakes" on the tests. Others take a more pronounced position as good in maths. Alex, for example, who is often the first to leave the classroom during the tests, connects his quick thinking with his abilities in maths:

> You know, I feel like maths ... I'm doing great so ... I feel like ... it takes no time for me. (Alex)

Oliver is another example. His body language suggests how pleased he is during the test situation, which he also admits later in the interview. For example, he says that maths is fun and that he had been looking forward to the tests. When we look at the video clips together, he laughs out loud when he sees himself on the video quickly checking the task sheet to see whether he can solve the problems or not. In the clip he looks very happy – ticking off the tasks, saying: "yes, yes, yes".

Eva: So, what did you think when you saw the test sheet and all the maths problems?

Oliver: Ding, ding, ding – easy, easy, easy! I was sure to solve all tasks.

Further on in the video, when Oliver has finished one of the tests, still sitting behind his desk, he lifts his arms high and performs a funny little dance. Even though Oliver does not talk about himself as being good in maths, our interpretation is that he expresses such a position through the way he acts. The way Oliver acts in the classroom also brings meaning to other children (although this might not be Oliver's intention) – seeing one child succeed, others might position themselves as less successful. Romeo indicates this:

> Well you know ... one felt like "Shit, all the others leave, I have to finish so that they don't think I'm bad" you know.

A position as "bad" in maths

Some children talk explicitly about themselves as "bad" in maths. Peter and John are examples of that:

> I'm *so* bad at maths [laughing]   (Peter)

or:

> I'm probably *the lousiest* of all the kids in maths. I *really* suck. [...] It was specifically one test that was difficult [describes the problem]. But then, then, then ... I didn't do it ... [Shakes his head].   (John)

Another, more implicit way to say "I'm bad in maths", where found in interviews with children using supporting material, sitting with an extra teacher during the tests or leave the classroom for a special room. There is a form of silence around these children; they do not make any noise in the classroom (for example, we almost overlooked a crying girl because she hid her crying so well), and they do not seem happy to speak up about their experiences with the tests. One of them says with a serious voice:

> I don't want others [kids] to see [my test].   (Miriam)

Another child sighs deeply when she talks about her performance on the tests:

> I felt like, a frustration ... Like ... "No, now I've failed ..."   (Aysan)

Still another girl does not seem willing to talk about her performance on the tests. Instead, she highlights her reaction when she was informed about the testing period:

> I was shocked when I heard that we were going to do tests ... (Amy)

Drawing on Davies and Harré (2001), this leads us to the conclusion that some children more actively have agency to *take up* the position "bad in mathematics" while others rather, passively are *given* the position "bad in mathematics". Or as Mendick (2006) states; in the subjectification process children are both acting/and acted upon.

Disciplinary power

In their further talk, children also connect test results to grading, and grading to the possibility of getting a good job. For instance, both Saba and Andrew talk about this:

> If you get a good grade in school you can get a good job.   (Saba)

> I think like ... I hope to succeed with my tests 'cause then I can get a good education and get good job. (Andrew)

Another example of the connection between test results and job prospects in the future comes from Anette's interview with Eddy:

Anette: Why do you have tests?

Eddy: Well ... to get a good job

Anette: What happens if you fail a test then?

Eddy: Well ... you can get a job ... but maybe not a job or a salary that is so good ...

In our reading of this talk, and of talk where children take a position as being responsible for their own success on the tests, we draw on Foucault's (1980) theory of power/knowledge and how disciplinary power affects individuals' bodies, actions and attitudes. So, when Ali, for example, claims that: "It's up to you if you do good or bad on the test", or, when Tania argues that the demand to work hard to succeed comes from her rather than her mother or teacher, we interpret the talk as a result of disciplinary power. Likewise, when Seroud says that the test results depend solely on each pupil's own will to succeed, it must be concluded that those who fail have only themselves to blame:

> It is you who takes responsibility for working hard and such. There is nobody else that compels me, you know. Like: "No, you cannot be here and work". But it's me who says like: "I want to do something else [instead of preparing for the tests]", or: "I want to stay here and work". [...] It's I who must use the time in the best way. (Seroud)

That is, failing the tests becomes the individual child's problem (cf. Lunneblad & Asplund Carlsson, 2012).

Discussion

A starting point for this article is that national tests can be seen as a technology used for disciplining children. We have explored and analysed the testing situation on classroom level and the data shows how the testing situation affects children at the level of the body (Foucault, 1980). We have seen that the test situation affects children in different ways. To some children, the tests become a tool that helps them to work hard at understanding and concentrating on mathematics. To other children, however, the disciplining means coming to understand, or believe, that they are not good enough in mathematics, a position met with silence,

or resistance. The silence can be interpreted as resistance but also as acceptance of being positioned as someone who is "bad" in mathematics.

One of the ideas with national testing in mathematics for young children is early identification of pupils who need help developing more sustainable thinking within the subject. However, one can question whether the tests come with new information for teachers – sometimes they might, but sometimes they probably only confirm what teachers already know. With support from our data, we argue that it is the same for children – some of them already know that they need more support than their classmates while others know that they do maths in school more quickly and easily than others. Notwithstanding, what we suggest in this article is that the tests profoundly affect how children understand themselves as pupils and learners. For some children this means that they run the risk of viewing their test performance as a proof of a weak, and maybe also static (Räty et al., 2004), ability to perform in mathematics, or at least, it may make them sceptical about the possibility of developing more sustainable thinking in mathematics.

If it is necessary to test children in the early ages, then it is important to study the context where the testing happens in order to develop a testing situation that minimizes feelings of stress, anxiety and helplessness among the children. The disciplining is often a subtle process that nonetheless produces powerful messages to children about who is "good", "bad", a "winner" or "loser" in the game of the test, and in the future.

Considering children's future, we also suggest that children are disciplined by the tests as they seem to believe that getting good grades means getting a good job in the future. Children connect the test results to grading and grading to future job possibilities. Therefore, some children argue, it is the responsibility of the individual child to perform well in order to have a good future. To us it seems unfair to young children that they grow up with this belief when we know that the way schooling is organised impacts heavily on children's chances of success. It is rather we as adults who need to organise schooling in a way that supports children fully.

We join with other researchers in critiquing standardised testing that focuses solely on individual performance and thereby obscures how structures and hierarchies in society are played out in schools (Bernstein, 1996). Or, as Au (2008, p. 639) points out, national testing and assessment tends to "reproduce race-based and class-based inequalities". For example, we have seen how some children have more agency than others to resist a "being bad in maths" position and suggest that this has to do with the tension between agency and structure (compare with Reay & Wiliam, 1999), an area for coming studies.

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Notes

1   The project *What does testing do to students?* is funded by the Swedish Research Council.

2   In PISA 2003, where mathematics was the main area, Finland out-scored the other Nordic countries and Sweden did not do as well as Denmark and Iceland in mathematics.

3   A qualitative analysis software for video and audio data.

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