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Textbooks as actors in the transformation of the intended curriculum

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Teachers are central in the process of making learning situations out of intentions expressed in governing documents, such as the national curriculum. However, there is no straight line from intentions to learning situations – the teacher actively designs the planned curriculum and the enacted curriculum. In the process of planning, the teacher interacts with the material, and her decisions are also influenced by, for example, textbooks. This study aims to explore in what ways the textbook participates in the process of planning, i.e., the transformation from intended to planned curriculum. Based on focus group discussions with primary teachers, results show a variety in teachers’ relations to the textbook, which have consequences for how the textbook participates in decisions. Results also show that students’ positive feelings about the textbook influence the planning and that textbooks sometimes function as “emergency exits” in the process of planning.

Keywords: Curriculum, planning, teachers, textbooks, issues.

Introduction

Often curriculum materials are seen as ways to implement reform and influence teaching. However, teachers do not just transfer the content in them; they rather interact with the curriculum material (Remillard, 2005). Hence, teachers are central in the process of transforming ideas in tasks and pedagogical recommendations into events in the classroom (Lloyd et al., 2009), which means that the teacher – rather than being a transmitter or an implementer – is an active designer of curriculum. Consequently, there is a need to distinguish between the intended and the enacted curriculum (Remillard, 2005). The intended curriculum can, for example, be described as “the overt curriculum that is acknowledged in policy statements as that which schools or other educational institutions or arrangements set out to accomplish” (Kridel, 2010, p. 489). In a Swedish context, this would mean that the national curriculum and other policy documents such as national tests in school years 3, 6, and 9, and the mandatory tests in pre-school class and school year 1 can be seen as the intended curriculum. According to Remillard (2005, p. 213), the enacted curriculum is described as “what actually takes place in the classrooms (Gehrke et al., 1992).”

Taking teachers’ active role as curriculum designers seriously and using the terms intended and enacted curriculum means that what is stated in the intended curriculum is processed by the teachers and transformed into the enacted curriculum. However, there may be reasons for dividing the process further. Teachers seem to be active designers and make decisions of importance for their teaching both in the process of planning and in the process of transforming the plan to classroom events, which means that there in addition to the intended and the enacted curriculum there is also a planned curriculum (Grundén, 2022). When teachers construct the planned curriculum, they are influenced by actors and structures on different levels – one such actor is the textbook which in a focus group conversation with primary mathematics teachers about planning, emerged as a prominent actor related to the teacher and her decisions (Grundén, 2022). The textbook as a prominent actor means that although the teacher is central in the construction of the planned curriculum – she is the one
making the decisions – the textbook influences the decisions to a fairly large extent. A common notion about textbooks is that the use of textbooks increases the older the students get, which is supported by results from the latest national review of mathematics teaching in Sweden (The Swedish School Inspectorate, 2009).

Research on textbooks is a common theme in mathematics education research. According to Rezat et al. (2018), the research field has moved from focusing on the textbook itself to focusing on the design and use of textbooks, and textbooks are seen as one resource among many. Several studies focus on understanding processes involved in teachers’ textbook use (Rezat et al., 2018). However, textbooks have consequences for teaching based not only on how they are used and how teachers interact with them but as previously mentioned, also on how they participate in the process of planning – the curriculum transformation. Hence, textbooks’ role in the transformation from intended to planned curriculum might be one of the keys to understanding more about why intentions in the intended curriculum do not always reach all the way into the mathematics classroom. This paper aims to shed light on in what ways textbooks as actors participate in transforming the intended curriculum to the planned curriculum in primary school and to discuss possible consequences and implications for mathematics teaching.

Background

Mathematics teaching

There is a diversity in what is meant by mathematics teaching, and depending on how teaching is conceptualized, researchers can contribute in various ways to the expanded understanding of mathematics teaching and learning. In this paper, mathematics teaching is seen as a social, cultural, and political practice, which according to Fairclough (2015), means that there are situated and habitual actions and interactions going on. In a practice, there are people and relations involved, and the people involved act among other things by using language. Included in a practice is also the material world (Fairclough, 2015). In a practice, such as mathematics teaching, actors participate in the actions and interactions, and structures are influencing them. However, the structures are also influenced by the actors in the practice (Fairclough, 2015).

When the intended curriculum is transformed into a planned curriculum it is done within the practice of mathematics teaching. Hence, the process is influenced by structures as well as by actors. An actor is, according to Oxford University Press (2021), “a participant in an action or in a process” and according to Enserik et al. (2010), an actor is “able to act on or exert influence on a decision” (Enserik et al., 2010, p. 79). Leaning on a definition of practices as including the material world (Fairclough, 2015) opens for actors as physical objects. In this paper, this means that planning involves several actors. Some actors are human, such as colleagues and school leaders. Some are organizational, such as the National Agency of Education. Others are material, such as textbooks or templates for planning. When a group of primary teachers talked about planning, textbooks were one of the most prominent actors that influenced decisions by virtue of how often they showed up in the discussion (Grundén, 2022).
Textbooks in Sweden

In Sweden, there is no national control of curriculum materials. The national curricula state that each principal is responsible for students having access to and conditions to use teaching materials of good quality (The National Agency of Education, 2019). Although no recent national large-scale studies focus on textbook use, results from prior studies might give indications. TIMSS 2007 and 2011 show that teachers in Sweden use textbooks as a base for mathematics teaching to a high degree compared to other countries. However, there seem to be differences depending on school years. In a national review of mathematics teaching students in school years 1–3 work with tasks in the textbooks 11% of the time in the observed lessons, in school year 4–6 31%, and in school year 7–9 47% of the time (The Swedish School Inspectorate, 2009). Although these numbers indicate that younger students work less with textbooks than older students, textbooks seem to influence teachers’ planning (Grundén, 2022).

Traditionally, textbooks in Sweden do not consist of detailed lesson plans or instructions (Van Steenbrugge, & Ryve, 2018). However, as Van Steenbrugge and Ryve point out, a prior study by Boesen showed that teachers follow the content as it is sequenced in textbooks.

Method

This paper builds on four focus group discussions with teachers who teach mathematics and other subjects in school year 1–3. The teachers that participated in the four groups worked in three different schools. In total, the groups consisted of 17 teachers.

In focus group discussions, participants interact with each other in the conversation, which often leads to greater insights into experiences, and hence, richer data than individual interviews would have given (Carey & Asbury, 2012). In the discussions – where teachers were asked to freely talk – the theme was planning for mathematics teaching. At the beginning of the discussion, pieces of paper with words written on them (aspects identified in an earlier study) were placed in the middle of the table and used as stimuli. The words were students, school management, national tests, template/forms, parents, and textbook. The teachers could remove aspects or add things they thought were missing. My role during the discussion was to – by small words and gestures – confirm that I was hearing. I also asked follow-up-questions on themes already introduced by the teachers and invited all participants into the conversation, for example, by asking: “What do you think when you hear her say …”?

Analysis

Before the analysis, passages in the transcript of the four discussions where textbooks influenced considerations and decisions in the process of planning were extracted. This phase can be seen as the first step – getting familiar with data (Braun & Clark, 2006) – in the thematic analysis that followed. Each extract was coded with respect to what it was about. The next step in a thematic analysis is to collect extracts together within each code (Braun & Clark, 2006), and the different codes were sorted into sub-themes. Relations between codes and sub-themes were considered, resulting in four main themes: Teachers’ relations to textbooks, Students’ relations to textbooks, The teaching and textbooks, and Governing documents and the textbook.
Results

In this section, the four themes that represent the core content of how textbooks influence decisions in the process of planning are presented. Not all teachers or all groups of teachers talked about everything that is in the results. However, some issues came up in all discussions and when those are presented in the result, I emphasize that they came up in all discussions. When only one teacher, or a few teachers, say something, that is marked in the text as well.

Teachers’ relations to textbooks

When textbooks are actors, i.e., participate in decisions in the process of planning, teachers’ relationship to the textbook has an impact on how the textbook’s participation looks like. Many teachers in the study seem to see the use of the textbook as something negative that they would rather avoid. Although mentioned in all the groups, especially teachers in one of the groups talk a lot about “dare to let go of the textbook.” In this group, the teachers agreed on that they need something that supports them with the structure, but they are not satisfied with the way the textbook does that. One teacher expresses: “I think we will have to do such thing by ourselves,” and another teacher continues, “We simply write a textbook,” and the other teachers in the group agree.

All groups agreed that textbooks give teachers confidence – following the book is, according to some of the teachers, a way to ensure that nothing is left out and that students learn everything in the right order. The more experienced teachers get, the more they can let go of the book, and according to one of the teachers, the critical evaluation of textbooks comes with experience.

According to one of the teachers, planning is first and foremost about coming up with fun activities. When the teacher does not have enough energy to do so, she turns to the textbook and lets the students work in it. The teacher ends her post by saying: “But fortunately, the periods that you are so tired are not that long.”

Students’ relations to textbooks

Students’ relationship to textbooks also plays a role in how textbooks participate as actors in teachers’ process of planning. In the planning, students’ individual work in the textbook seems to be considered an alternative that often brings out positive feelings in students, which is an argument for planning to use it in teaching. The teachers talk, for example, about how the students love their textbook and how they enjoy working with tasks in the book. One teacher says: “They – most of them – can tackle them [the tasks in the book] with life and desire because they think it is so fun when they come to the stop”. However, some teachers talk about the importance of thinking about when and how they use the textbook with students in the early school years. For example, how to plan so that students who cannot read the tasks themselves can work independently. Some teachers beforehand choose tasks for individual students while others in their plan think that students shall work with some pages and adjust the plan for those who cannot keep up. When teachers use the textbook for planning, it seems common that they do it with their students in mind. They evaluate the tasks based on their knowledge about the students and decide what students shall do. However, there are also examples where teachers express that the goal is that students do all tasks, for example, when a teacher says: “You can skip these tasks and go back and do them later if you have time.”
One of the reasons for students’ positive feelings that teachers consider when they plan is that when students work in their textbook they can see a result – what they have done – while when they do other things there is no visible evidence of what they have done. One of the teachers points to her head and says: “The only thing left is in here.” This means, for this teacher, that when she plans for activities outside the textbook, she also needs to plan how to make visible for students what they have learned.

**The teaching and the textbook**

This section presents results concerning the textbook and its relation to the teaching that comes out of the planning. Teachers in the study agree that what textbook is used influence the teaching. Most common seems to be that teachers are the ones who decide what textbook to buy, although there are examples where the school district has decided that all teachers must work with the same book series from year 1 to 9. A reason for keeping the same book for several years is that when teachers have worked with the same textbook for several years, planning gets easier. The book used must not be too advanced; the students must be able to work on their own. However, one teacher talks about how she has her students working in pairs to communicate and figure out together how to solve the tasks.

Some of the teachers talk about textbooks as an obstacle to teach the way they want. According to many of the teachers, using the textbook as a base for planning implies a focus on procedural skills. In one of the groups, teachers agreed that the best would be to make a structure and a plan together. A teacher expressed one of the reasons they emphasized: “I want to decide by myself when and how much procedural training I do [with the students]”. However, all groups emphasized the textbook as a source for structure and tasks. Textbooks facilitate the planning work, and by following the book’s structure, the teaching is about the same things in parallel classes at the school.

There are also examples where a teacher talks about how she turns to a specific textbook for specific mathematical content, for example, when teaching algorithms with regrouping. One textbook covers this content and has better tasks and activities than the others. Some of the teachers express that when they use the textbook in their planning, they choose what to do in the textbook based on their experience about what students need. For example, one teacher says: “Now we will work with multiplication. There are endless ways to work outside the textbook. You still see all the parts [in the book], but we pick this part out and work experimentally with it. And I think you can actually do that without having to feel that ‘oh now we have not done these pages’”. Another teacher who advocates that she as a teacher can be flexible when she plans, i.e., the textbook does not decide what she does and when. She talks about how the students she has now need more challenges than other groups she had. She decided to introduce algorithms in year 2, although it was not in the textbook until later.

Teachers in the study seem to agree that procedural skill training is an important part of mathematics learning, and when they plan for that, they use the textbook. When teachers need to keep students busy, for example, when the teachers are absent or when they know some students will work faster than others, they also plan for students to work individually with tasks in the textbook. As one teacher expressed it: “It [the textbooks] is self-propelled. The students know what to do”. Several teachers express that the textbook functions as an “emergency exit” they can use when the energy is running
low or when the teacher is to be absent. Then the planning becomes “the students shall work individually in their books.”

**Governing documents and the textbook**

When textbooks participate as actors when teachers plan, the relation between governing documents and the textbook plays a role. In the discussions, teachers refer to the governing documents: national curriculum, national tests for school year 3, and mandatory assessment material for school year 1, and how they influence decisions in the process of planning. However, references to the national curriculum are rare and sometimes implicit. There are differences in how the teachers in the study think of the textbook in relation to the national curriculum. For some of them, it is obvious that textbooks do not cover everything in the national curriculum, while others state that textbooks are approved by the National Agency of Education and aligned with the national curriculum. Many of the teachers agree that the textbook needs to be evaluated against the national tests and mandatory assessment material when planning. What is not in the book, the teachers need to supplement with. According to several teachers in the study, there are differences in what students need to know to manage the mandatory assessment material and the national test and what is in the textbooks for that age group. Hence, following the textbook’s structure might make students less likely to pass all the tasks on the tests.

Some teachers state that the national curriculum is where the goals for teaching are presented, and the textbook is just a resource among others that the teachers can choose to use in their teaching. According to teachers in one group, textbooks participate in planning by offering the “what” – the content – while the “how” – which according to one teacher is the abilities [stated in the national curriculum] – is what teachers need to come up with by themselves.

**Discussion**

The purpose of this paper is based on results showing that for teachers in one of the focus groups, the textbook was an actor in the process of planning (Grundén, 2022). The results of this study confirm that the textbook participates in the planning for the other groups of primary teachers as well. In this section, the most prominent results about in what ways textbooks are actors in primary teachers’ process of planning will be discussed. The discussion will also highlight some possible consequences and implications for mathematics teaching.

Firstly, the structure and the content of the textbooks are often used to do rough planning. However, teachers in the study see the influence of textbooks as negative, as an obstacle to teaching the way they want. At the same time using the textbook when planning gives a feeling of confidence. This can be interpreted as teachers wanting support when they plan their teaching. The national curriculum with its overarching goals and content that should be covered during three years (National Agency of Education, 2019) is not enough. Or at least, it is not enough when teachers plan on their own. Several teachers in the study expressed that during the in-service teacher development program *Matematiklyftet*, textbooks did not participate in the planning as much as they usually do. Instead, the teachers cooperated with colleagues, which raises questions about whether collegial work with transformation using textbooks as resources is a way to develop the support.
Secondly, there is a great deal of variation in how textbooks participate in planning – from using them as a “smorgasbord” to seeing the textbook as an extension of the national curriculum, from choosing what tasks to work with to working from page to page. Sometimes, the textbook function as an “emergency exit” in the process of planning. These results are not surprising given previous research on textbooks (e.g., Van Steenbrugge & Ryve, 2018). However, looking at them in the light of textbooks as actors in the transformation from intended to planned curriculum gives new insights. The variation raises questions about what would be the best support in the transformation process? Is it to go the way some countries do – detailed textbooks and teacher guides teachers can follow? According to Remillard (2005), the answer is no, which also the results in this study indicate. The use of textbooks in the process of planning is not just a practical operation for teachers but is deeply associated with assumptions about mathematics and the learning of mathematics. It seems reasonable to believe that these assumptions remain although the textbook is changed. Hence, instead of “teacher-proof” textbooks, results indicate that teachers would benefit from support in another way. In addition to various textbooks, perhaps discussions with colleagues where assumptions are made visible and challenged is one alternative support.

Thirdly, students’ positive feelings about working individually with their textbooks is an argument for planning for such work. However, the positive feelings teachers refer to do not build on an idea that students learn more when working in textbooks, but rather that students gain good self-confidence by working on tasks they can manage to do on their own. The teachers also emphasize the evidence of “what has been done” that the textbook offers. One may wonder if this has to do with a tension between performing mathematics and learning mathematics, and one of the teachers might sense this tension when she emphasizes the importance of making visible to students what they have learned when working with other activities than textbooks – what they are able to do and talk about that they could not do before. When students’ positive feelings about performing mathematics are an argument for the participation of the textbook when planning, this might build on students’ ideas about what counts as mathematics and mathematics learning that might not benefit their learning. Hence, rather than letting the textbook be the planning to meet the students’ preferences, teachers can involve them in discussions about learning and signs of learning.

This study indicates reasons for learning more about the transformation from the intended to the planned curriculum. In this paper, the focus is on the textbook as an actor. However, there are also other actors – and perhaps other assumptions - that somehow participate in the transformation and might be obstacles to intentions formulated to benefit students’ learning.

References


