Assessment in Transformation: Teachers' Perceived Opportunities and Challenges in the Assessment of Multimodal Texts

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Using data from focus group interviews, this study aims to analyze the perceived opportunities and challenges encountered by groups of secondary school teachers regarding the assessment of multimodal texts. Previous research has shown that digital technologies introduce new kinds of texts in the classroom. The possibility of combining verbal text with image, sound, and movement has an impact on students' text production. However, the changing role of writing on the screen has left teachers uncertain of how to assess these new forms of texts. Apart from attending to digital competence, assessing multimodal texts may involve following writing conventions and organizing text using different resources and components. Quality in multimodal texts may concern using multimodal components to communicate complex ideas effectively, which may or may not be noticed by teachers. The data is based on group interviews with 11 secondary school teachers at two different schools. The study conducted a thematic content analysis using

the analytical concepts of *transformation*, *recognition*, *design*, and *form and meaning*. Findings show that teachers find it challenging to acknowledge certain qualities in students' multimodal texts without support from the steering documents. On the other hand, they notice opportunities to follow students' learning processes. In addition, they stress an increased opportunity and need for shared assessment across school subjects. The article concludes with a discussion of tensions regarding opportunities and challenges when assessing students' multimodal texts in relation to the different subject syllabuses.

1. Introduction

In technology-dense classrooms, students use different media and modes to express their knowledge, resulting in multimodal texts. Multimodal texts are representations that consist of more than written words on a piece of paper or a screen; they combine different modes such as writing, speech, image, moving image, gestures, tables, music, et cetera. Writing on the screen may also involve choice in terms of font, font size, and color (Jewitt, 2003). A central idea regarding multimodality is that different resources have different affordances, and these affordances can change from one situation to another. A multimodal perspective on text and text production clarifies that we make meaning and communicate with various semiotic resources, each offering opportunities and constraints (Kress et al., 2001; Kress, 2010). Thus, quality in multimodal texts may concern the use of multimodal components to communicate complex ideas effectively.

In contemporary classrooms, teachers can use digital tools to support multimodal text creation practices. Previous research shows that written text in the traditional sense of writing letters, sentences, and so on is challenged by the use of digital technologies (see, for example, Edwards-Groves, 2011). Further, previous research highlights the difficulties for teachers to assess these new forms of texts that students produce (Godhe, 2014; Cederlund & Sofkova Hashemi, 2018; Jakobsen & Tønnessen, 2018).

Digital competence and multimodality are understood in the light of the tradition of the written text as the dominant carrier of information in education. Textbooks are also strongly associated

with facts and credibility regarding learning about a subject or domain (Selander, 2018). The availability of digital tools in education, such as tablets and digital textbooks, challenges the written text. Students can now search and find information outside the printed textbook, bringing new opportunities to the teacher's work in the classroom. With this, the classroom can be expanded or stretched concerning the outside world, which can change the traditional, intermediary, and knowledge-assertive teacher role (Lantz-Andersson & Säljö, 2014; Smith et al., 2016). Further, the fact that students now use technologies to represent and share their knowledge poses a challenge in assessing students' skills. Students may express their knowledge in, for example, an image, a video, or a podcast, but knowledge requirements or grading criteria do not always consider different modes. Therefore, it is essential to ask questions about how students' multimodal knowledge representations can be understood and assessed.

In this study, we focus mainly on formative assessment (Black & Wiliam, 1998, 2009). We are aware of the extensive discussions of the definition and use of formative assessment (Wiliam, 2011). However, further research is needed to investigate and problematize formative practices in relation to the qualities in students' multimodal texts (Borgfeldt, 2017). Previous research in the Swedish context has shown that teachers lack tools for assessing students' multimodal knowledge representations (Björck, 2014; Hernwall et al., 2016; Godhe, 2014; Åkerfeldt, 2014; Cederlund & Sofkova Hashemi, 2018; Magnusson & Godhe, 2019; Stenliden & Nissen, 2019). While the students use different modes as carriers of meaning, the teachers regard speech or written text as the primary carrier of content. At the same time, teachers see images and sounds as mere illustrations (Godhe, 2014). When assessing, teachers find it challenging to consider the combination of different modes as well as recognizing qualities in students' multimodal text (Borgfeldt, 2017).

The study aims to deepen the understanding of teachers' assessment of multimodal texts. To do so, we have conducted focus group interviews with secondary school teachers. As a case example, we discuss the opportunities and challenges that Swedish teachers perceive when they discuss the assessment of students' multimodal texts.

2. Multimodality in the Swedish school context

Multimodality, as a field of application, has evolved along with technology. The Swedish curriculum for compulsory school was revised on July 1, 2018, to clarify the school's mission to strengthen the students' digital competence. General clarifications were given in the curricula regarding students' opportunity to develop their ability to use digital technology: "The educational program should thus provide students with conditions to develop *digital competence*" (National Agency for Education, 2011, p. 8). Furthermore, the main content in several individual subjects in the compulsory school curricula was revised regarding digital competence. In upper secondary school, changes have been made to both syllabuses and knowledge requirements. However, neither the concept of multimodality nor multimodal texts are explicitly mentioned in the compulsory school's steering documents. Previous versions of the curriculum included an expanded definition of text, but the expanded text concept was removed in the revised curriculum from 2011.

The national curriculum for compulsory school in Sweden emphasizes that the forms of knowledge are multidimensional and that students should be given the opportunity to express their skills and abilities in various ways (National Agency for Education, 2011). The overall goals and guidelines also stress that the school should take responsibility for ensuring that each student completing compulsory school "can use and understand many different forms of expression" (p. 12). Examples from the syllabus in the subject Swedish include the following: "Students should be given opportunities to communicate in digital environments with interactive and changing texts. Students should also be encouraged to express themselves through different forms of aesthetic expression" (p. 262). A core content in the subject Swedish is "[c]reating texts where words, images, and sound interact, both with and without digital tools" (p. 264). In this study, teachers discuss the assessment of multimodal texts that were produced in several different subjects.

2.1 Social semiotic multimodality

Our analysis of teachers' perceptions and experiences is based on a multimodal perspective on communication and learning, which points out that different resources (such as images, written text, music, gestures or sounds, or combinations thereof) have different meanings in different

learning situations (Kress et al., 2001; Kress, 2010). The topic of this article is intertwined with the question of what can be acknowledged and valued as knowledge in a context where there is a strong emphasis on assessment – in terms of large-scale international assessments like PISA and TIMSS, more mandatory national tests, or grades further down the ages. Although we do not deepen the discussion in this article, it is essential to emphasize that regulation and requirements regarding assessment govern teachers' agency (Mickwitz, 2015; Black & Wiliam, 2009).

How the concept of multimodality is used varies within different disciplines and research traditions. This study adopts a selection of concepts from multimodal social semiotics (Kress, 2010): *transformation*, *recognition*, *design*, *form*, and *meaning*. Multimodal social semiotics is primarily a theory about representation and meaning-making that concerns the construction and regulation of the social world. A central assumption in multimodal social semiotics is that the social world is created through many resources, even outside the framework of language (such as movement, gestures, images, etc.). The focus is on *design* as a material realization of social conditions and as a representation of knowledge. From a multimodal perspective, meaning is communicated through a wide range of semiotic resources. With our contemporary digital technology and the demands of digital competence in the curriculum (National Agency for Education, 2011), students are required to read and design knowledge representations multimodally. Even teachers, who have the task of designing teaching and assessing students' knowledge representations, need to develop further knowledge and competencies about how meaning can be represented in different modes and media.

Learners show their understanding and interest by representing their world to others. Signs of learning demonstrate how students have *transformed* available resources and represented their understanding (*meaning*) in a *form* available to others. Using the term *design*, we emphasize how students realize their interest in the world (Kress, 2010). Their designs are based on selections and arrangements of resources for making specific meanings.

Assessment, which is of central concern for education, has to do with showing what has been learned. However, learning processes are difficult to predict and to be able to make assessments, it

is essential that teachers attend to their students' work during the learning process. We argue that a core challenge for today's teachers is to *recognize* students' signs of learning (Kress, 2010). A multimodal social semiotic approach recognizes students' resources, their interests, and their agency. We are interested in developing and utilizing the connections between formative assessment and a multimodal framework to draw attention to the complexity of the assessment practice (Black & Wiliam, 2009).

Access to and use of digital tools makes it possible to create semiotic texts such as movies, photos, and music without specialist skills or advanced equipment. In this context, Aagaard and Lund (2013) discuss how the emergence of the network community has created demands for other types of competencies, where reflection and critical thinking are considerably more important than the conquest of predefined factual skills. Further, Stenliden (2018) emphasizes students' ability to read and use visual representations in classrooms. However, Stenliden (2018) shows that the students are struggling to transform and formulate their knowledge into written texts. The texts that are handed in show fragmented knowledge about the subject in relation to what has been discussed when using visual representations. Stenliden (2018) suggests the need to develop new assessment practices where formative assessment becomes increasingly essential.

On the other hand, Grönlund (2014) states that teachers lack the knowledge to construct tasks and tests adapted to a contemporary school. One reason is that there is not yet any professional language to speak of grades for students' multimodal texts and that teachers lack proven tools to assess students' knowledge when expressed in multiple modes simultaneously (Björck, 2014). Previous research also shows that contemporary education and assessment practices cannot embrace complex abilities when communicated digitally and multimodally (Hernwall et al., 2016; Åkerfeldt, 2014). Stenliden and Nissen's (2019) study shows that teachers include various uses of modalities when they are planning their lessons. Nonetheless, when planning for the assessment, the teachers base their instructions mainly on that the students should hand in verbal or written text.

Several researchers emphasize the importance of developing tools as well as strategies for assessing multimodal texts while simultaneously recognizing the opportunities for dynamic and formative assessment focusing on learning processes (Jewitt, 2003, 2005; Godhe, 2014; Åkerfeldt, 2014; Svärdemo Åberg & Åkerfedt, 2017; Cederlund & Sofkova Hashemi, 2018; Magnusson & Godhe, 2019; Stenliden & Nissen, 2019). A more dynamic assessment cannot be based on fixed criteria or matrices (i.e., Jewitt, 2003).

3. Method

The empirical material in this study is based on focus group interviews (Stewart et al., 2007) with a total of 11 teachers in secondary school at two different K–9 schools (F–9 in Swedish), here named the South and the North school. Focus group interviews were conducted at each school with five or six teachers to increase knowledge about teachers' perceived opportunities and challenges when assessing students' multimodal texts.

This group of teachers is part of a social setting in which thoughts and ideas are being shaped and developed. In the interviews, conversations and interactions contribute to representing different perceptions that prevail within the studied field.

The strategic selection of teachers took place as their schools participated in a professional development program (PDP) regarding digitalization in school. Eight different Swedish municipalities and schools participated in the program, which focused on developing students' learning using digital tools. In the program, the teachers were encouraged to design digital tasks that would include the production of multimodal texts. Students in secondary school demonstrated their knowledge multimodally and digitally, for example, by creating a film or an audio-visual presentation. The researchers were given the opportunity to send a request for participation in the study to the schools participating in the PDP. Two groups of teachers at two different schools were selected for participation. The selection of the two schools was guided by a geographical spread and their participation in the PDP.

The interviews took place in the spring of 2015. At the South school, the group of teachers consisted of five teachers representing the subjects of English, German, Mathematics, Science, Social Science, Physical Education, and Swedish plus a teacher candidate in Social Science (teachers 1 to 5). From the North school, six teachers participated. They represented the school subjects of Mathematics, Science, Social Science, Physical Education, and Swedish (teachers A to F). The teachers from both schools selected two examples of student assignments that included multimodal texts. According to the information we sent them beforehand, the selection should be at least one multimodal text that the teachers experienced as easy to assess in relation to the syllabus and one text that the teachers experienced as difficult to assess.

At each school, two researchers led and documented the focus group discussions. The documentation of the interviews was in the form of audio-recordings and notes. The conversations revolved around the multimodal texts that the teachers themselves had chosen. At the North school, there was an assignment in Biology and one in Religion that formed the basis of the conversation. In Biology, the students had made multimedia posters about genetics, and in Religion, they had made audio-visual presentations about Hinduism. At the South school, the teachers chose an assignment in History with two separate student texts: two animated films about Industrialism.

Initially, the teachers were asked to discuss multimodal digital text production in general terms. What possibilities and challenges do you perceive when working with multimodal text production? In the next step, the focus was on the two specific multimodal texts selected by the teachers. The teacher groups first looked at the text and then discussed the assessment of it. What subject-specific and general qualities can you identify? What judgment about the students' achievements would you like to formulate?

A thematic content analysis (Vaismoradi et al., 2013; Braun & Clarke, 2006) was conducted to identify possible patterns (themes) within the data in relation to the research question of this study. The teachers' conversations were first transcribed, and the transcriptions were read multiple times to obtain a sense of the whole. Interesting features were coded and inductively collated into the

following themes: (1) *Increased opportunities for teachers to follow the students' learning processes*; (2) *Teachers' shared assessment across school subjects*; (3) *Design of the task*; and (4) *Form and meaning.* For instance, the following extract was coded and sorted into *the first theme*: "I think when your role is more like a tutor and you ask them to send in their work every now and then, you have the possibility to go through the work beforehand and provide comments such as 'you can improve this.'" *The second theme* included extracts such as this: "When they have Social Science, they can record themselves when presenting their work. The recorded presentation can then be shared with the teacher in Swedish and be assessed as a task in that subject." *The third theme* included extracts like the following: "I cannot assess their oral abilities on one or two lines, it is completely impossible. So, in the end, they have put a lot of time into recording and getting it right, done several takes, committed themselves to their work, made the cafeteria to make different scenes, and so on." Extracts like the following were sorted into *the fourth theme*: "In English [the teacher's subject], there is no support. It is not expressed in the curriculum [Lgr11]. If we are supposed to work like this, it has to be more explicit. [...] Otherwise, the students will not do work using digital resources as this work does not count." In the next stage, the analytical concepts of *transformation*, *recognition*, *design*, *form*, and *meaning* were used as a theoretical lens through which the material was interpreted.

Before the focus group interviews, the teachers were informed about the purpose and aim of the study. They were given the opportunity to ask questions about the study and choose to decline to participate without any reason. Informed consent was signed by the participants that took part in the focus group discussions. The schools' and the participants' names have been coded.

4. Findings

The analysis of teachers' perceptions about assessing students' multimodal texts is presented in four overarching themes: When students produce multimodal texts, there is (1) an increased opportunity for teachers to follow students' learning process, and this might support a more valid grading of not just the product but also the process. In using multimodal tools supported by digital technology, learning processes can become more visible and shareable, supporting (2) teachers' shared assessment across school subjects. A particular challenge is then the (3) design of the task,

as the assessment might include such varied modes as writing, moving images, and sound. Thus, even if (4) form and content are intertwined in multimodal texts, the assessment practice traditionally tends to separate form and meaning in a way not necessarily suitable for multimodal texts. Based on these findings, we conclude by discussing possibilities and constraints as tensions rather than separate units.

4.1 Increased opportunities for teachers to follow the students' learning processes

When multimodal texts are produced in classrooms with digital resources, the teachers emphasize that there are increased opportunities to follow students' learning processes systematically. Teachers can track a student's semiotic work of designing and *transforming* meaning. It has become possible since the use of digital systems documents the progress of the students' work, allowing the teachers to access the data and return to earlier versions of the students' work. When the learning processes can be followed, the teachers also see that it increases the possibility to give the students more accurate grades based on the production of representations as a whole, not only based on verbal or written texts. Through the documentation of the students' work, the teacher can create an extensive understanding of why the final product ended up the way it did. They can see that students have acquired knowledge and abilities that might not have been visible if they had only assessed the final product. For example, because teachers can follow the process when the students are working on an assignment, they have the possibility to see which choices the students make when it comes to which argument or text they should include. The final product might not necessarily include all the aspects, but the teachers know that the students have made a deliberate choice earlier in the process and that is why some aspects do not appear in the final product. In the interviews, the teachers mentioned that the students sometimes feel uncomfortable talking in front of the class and prefer to use the possibilities to present their work through film.

With the assignments at hand, teachers can follow and give students formative feedback during their work. This is another aspect that the teachers emphasize. One of the teachers believes that when it is time to set grades, the teacher already knows which grade the student should receive. Further, the teachers argue that the assessment becomes more flexible, dynamic, and formative

because they have access to the final product and can see how the product takes form and can comment on and influence the product to a greater extent.

> Teacher A: I think when your role is more like a tutor and you ask them to send in their work every now and then, you have the possibility to go through the work beforehand and provide comments such as "you can improve this." [...] Some students' assignments I had already graded before they were handed in as I had been able to follow along all the time during their work. (North school)

When students' work becomes documented through digital systems while creating multimodal texts, the opportunities for teachers to assess the quality of the texts increase. They also have the possibility to write shorter comments that the students can later use in their upcoming work. For example, through the recordings, teachers can spend more time on the presentation that has been handed in and go through the presentation more thoroughly than if it had been presented only verbally in the classroom.

> Teacher B: I think the opportunity is the possibility to formatively assess the students' work. (North school)

> Teacher C: And also that they can bring knowledge with them into their next work. Compared with a test, I often find that they think of the test as a final product because when they get the test back, no matter how many comments you have written, they are just looking for the grade. (North school)

Teachers emphasize that when they use digital tools, systems, and resources, the assessment tends to be present throughout the work process. When the work is complete, the teachers already know its qualities and how to grade the students' work.

Although teachers point out that they see the possibilities of supporting students in their learning via formative feedback and insights in the work process, it is time consuming. In this context, the teachers bring up an increased need for opportunities to work collegially and collaborate on assessments of the students' multimodal work to share the workload. Each student's work has qualities that can be assessed in different subjects.

4.2 Teachers' shared assessment across school subjects

When the students create multimodal texts by using digital technology, their learning processes can become more visible and shareable with peers. In turn, this gives the teachers increased opportunities to collaborate across school subjects when assessing the students' performance so that students' signs of learning can be *recognized*. Specifically, this could imply that the same performance from a student can provide a basis for several supplementary assessments in different school subjects, which, taken together, provide a deeper and richer picture of the student's knowledge in various subject areas. Although the tasks often focus on a specific school subject, multimodal representations can provide input for assessing skills and abilities in other school subjects as well, some teachers say. The tasks that the students work with combine not only several modes but also several topics or subjects. For instance, in a task in the subject Religion, the students also represent knowledge or abilities in the subjects Visual Arts and Swedish through combinations of written and spoken language, moving images, and music. A specific example comes from the teachers at the North School, who discuss the potential for assessment of multimodal texts during the group interview. They emphasize that the collaboration in assessment could be systematized and developed further so that the signs of learning that the students show during and after the process could also be interpreted and recognized to a greater extent. Consequently, teachers could create more assessment opportunities, formative and summative, in their daily work, which can also result in an equal assessment.

> Teacher A: But that's where we have to get better at choosing our assignments and sharing information with one another. [...] If we now do a visual assignment in Social Science or Science, then we have to be much better at handling them here to you [refers to the Visual Arts-teacher] and that you should also know that teachers X and teacher Y take care of […] because that is where we can save incredibly much time. (North school)

Later in the conversation, one of the teachers highlights and discusses how digital tools enable documentation of, for example, students' multimodal texts. These can be shared with several teachers in different subjects. Further, the students can document their work process via, for example, a film camera on a touchpad, which can constitute an important resource for the teacher.

The teacher can use this documentation to produce evidence for his/her assessment of the students' learning and knowledge within a subject area. The documentation can also be passed on to teachers in other subjects to support their assessment:

> Teacher B: When they have Social Science, they can record themselves when presenting their work. The recorded presentation can then be shared with the teacher in Swedish and be assessed as a task in that subject. (North school)

The teachers see that by working with digital tools, they have more significant opportunities for collaboration in assessment, where students are recognized for the knowledge they have shown in other subjects. Although this collaboration can be challenging to achieve in practice, the teachers who participated in the focus group interviews see this opportunity for coordinated assessment as a significant potential in relation to multimodal representations.

4.3 Design of the task

When discussing the assessment of multimodal texts, the teachers reflect on the *design* of the assignments on several occasions. There are foremost two aspects that are brought forward: (1) the length/extent of the representation and (2) the balance between how rigid the frames should be and how much freedom the students should have to form their representations.

As stated above, the teachers discuss assessment of the multimodal texts as time-consuming work. When the students work to create multimodal texts, for example, a film, they tend to be creative, and in that process, they get "carried away." One teacher mentioned that the high-performing students are the ones that often lack the ability to express themselves concisely. One reason for this seems to be that they worry about missing any of the assessment criteria when communicating their knowledge in the format of moving images.

> Teacher C: So I think that when students are so ambitious, they want to include everything in their work and are afraid to miss some aspect, and then I do not think they think that they say the same thing over and over again like forty-four times in their work. (North school)

One English teacher gives an example from a previous assignment where the students were tasked to produce a film about bullying. The students had been assigned to write a script, rehearse the script, and then record it. The teacher says that the students had worked hard with the task for several lessons with the planning, scene selection, et cetera.

When assessing the representations, the teacher found it hard to assess the students' work as the students communicated visually rather than verbally.

> Teacher 2: When I looked at several films, someone just said one or two lines. I cannot assess their oral abilities on one or two lines; it is completely impossible. So, in the end, they have put a lot of time into recording and getting it right, done several takes, committed themselves to their work, made the cafeteria to make different scenes, and so on. It was really good. [...] Next time, I would especially like to stress [to the students] that you must have at least five lines each or that you put in some sort of boundary. [...] And maybe control it a bit more, and check that it is sustainable. (South school)

In this case, it is essential to reflect upon and take into consideration how students interpret and solve the given assignment. In the example, the teacher's purpose with the assignment was to assess the students' verbal ability. However, the students chose foremost to communicate in a visual mode, which created problems for the teacher. Various modes became visible in the students' work, offering different affordances. Further, the students might have chosen different roles while recording, editing, filming, and so on, which may have resulted in some of the students not speaking that much in the film. In this case, a podcast might have opened up for more orally oriented student work.

4.4 Form and meaning

When the teachers discuss students' multimodal texts, they often separate *form* from *meaning*. For example, the images are not taken into account by the teachers and therefore not considered as a possible resource for carrying the oral presentations. In turn, this results in that the image is not recognized as a carrier of the students' knowledge about a topic. One teacher explicitly states that it is the oral presentations that are important and that the text should not include too many images. This is contrary to a multimodal social semiotic perspective, where content always has a form and

can therefore become visible, understood, and recognized as knowledge. How something is shaped and designed is not a separate dimension of the subject content in this perspective but a very tangible expression of how the thing can be understood and explained. With this backdrop, the student's understanding of the subject at hand is displayed both in the process, through the choices the students make, and in the result. In the teachers' discussions of assessment, this connection is profoundly absent. The teachers do not talk about the importance of seeing form and content as united in order to assess students' representations. One of the teachers argues that assessing students' multimodal texts is not supported by the curriculum.

> Teacher 1: In English [the teacher's subject], there is no support. It is not expressed in the curriculum [Lgr11]. If we are supposed to work like this, it has to be more explicit. [...] Otherwise, the students will not do work using digital resources as this work does not count. (South school)

What counts as valid knowledge representations and can be used as a foundation for grades relies on the teachers' view, which is preferably written texts and oral presentations, despite the increased use of digital tools. The content and knowledge requirements in the curriculum are essential when the teachers design assignments for the students, but how these should be formulated to make visible the dimensions of knowledge such as, for example, collaborative skills, problem-solving, and creativity seems to be more challenging to grasp. There is also a lack of support and tools to construct and assess students' knowledge when expressed in different combinations of modes and media. One first step could be for teachers to develop a common language to talk about the qualities in students' multimodal representations. The following quotation illustrates how students' multimodal texts, with their complexity, are considered elusive.

> Teacher C: It is a bit tricky because, actually, it is not within my subject an ability to ... being able to orally present work; on the other hand, analyzing and arguing are the abilities [...]. However, I can't really judge for myself ... I can't grade the students' tone of voice; it's not (laughter) ... but it's probably more outside the knowledge requirements, but still it is a personal development ... so in the actual assessment, I have tried to focus on the skills that I should assess in correspondence with the curriculum. (North school)

In the teachers' assessment, the knowledge requirements are largely governed by the subject matter, which results in only the expected recognition and assessment. Teachers have difficulties assessing the quality of the students' multimodal texts regarding the students' choice of media and modes. One teacher says that the teacher's profession is not to assess how well the students master producing a film and editing moving images. Only that which can be assessed – in a narrow subject-specific sense – is assessed. Consequently, the more general competencies emphasized in the first part of the curriculum (the school's fundamental values and tasks) and the second part (overall goals and guidelines) risk being given less attention.

5. Discussion

This study analyzes the perceived opportunities and challenges encountered by a group of teachers regarding the assessment of multimodal texts. The analysis of the empirical material demonstrates both opportunities and constraints for teachers' assessment. The teachers find the assessment of multimodal texts a time-consuming, complex task that lacks the language to communicate the qualities of student's work, which is in line with previous research (see, for example, Godhe, 2014; Borgfeldt, 2017; Cederlund & Sofkova Hashemi, 2018; Jakobsen & Tønnessen, 2018). Without support from the steering documents, the teachers find it difficult to acknowledge students' multimodal texts. There is also the uncertainty of how to assess these kinds of texts. On the other hand, teachers notice that multimodal digital text production provides them with an increased opportunity to follow students' learning processes more efficiently. It also offers an increased opportunity and need for collaboration when assessing students' multimodal texts.

In this section, we discuss this as a set of tensions:

- Teachers are given access to the students' learning process, but teachers lack a language to assess multimodal texts.
- The teachers' lack of digital competence needed for multimodal assignments influences both the construction of the assignment and the assessment.

- Multimodal assignments are, by definition, inter- or multi-disciplinary, but the syllabuses tend to limit the possibilities as understood by the teachers.

The first tension relates to assessment and the learning process. Often, the teachers emphasize that students working with digital resources and multimodal texts give them access to information that helps them to better understand the students' learning processes. However, assessing students' multimodal texts is challenging in numerous ways. For example, these texts involve a complex ensemble of modes that have distinct ways of communicating meaning, which is hard to measure with the tools provided by the policies and curriculum. Another reason is that multimodal text creation has been foremost seen as a method for learning and not as an ability and a skill to assess (Nihalani & Robinson, 2012; Svärdemo Åberg & Åkerfedt, 2017). This means that teachers recognize that their assignments are multidimensional and require multiple competencies and qualities from the students, but they do not have a language to talk about multimodality and modal affordances beyond the verbal and written text. Even if the national curriculum emphasizes that the students are to be familiar with different ways of communicating besides the written text, there is no support in either the national curriculum or any other steering documents on how this should be done – particularly not in relation to assessment. Teachers that participated in the study expressed that they did not have the language to speak of the grammar of visual design (c.f. Kress & van Leeuwen, 2006) when making assessments.

The second tension lies between the profession and the possibility to develop adequate digital competencies to teach in a school where digital tools are used ubiquitously. On the one hand, being a teacher in our contemporary society opens for using a variety of modes, and on the other hand, teachers are being constrained by policies and a curriculum that does not support the assessments of multimodal texts. One way to understand this tension is to consider that each text used by the students has its own grammar and reach (Kress, 2010), but the assessment practice is based on the written and (to a certain degree) oral text.

The third and final tension we would like to address is about inter- or multi-disciplinary assignments and the teachers' self-expressed need for clear demarcations of the assignment. We

argue that a multimodal assignment is by definition inter- or multidisciplinary, emphasizing the need for recognition and possible collaboration between teachers and subjects. This stands in contrast to how some of the teachers, when they talk about assessment, find assurance in the steering documents and the subject-specific knowledge expressed in the syllabuses. Even though the initial chapters of the national curricula (the fundamental values and tasks and the overall goals and guidelines, see National Agency for Education, 2011) open up for assessment practices that are more in tune with a multimodal perspective, this is not reflected in the syllabuses. The syllabus for each subject has its own aim, core content, and knowledge requirements. The syllabuses then tend to be normative, giving little room for exploration and new ways of realizing teaching and assessment practices.

6. Conclusions

Based on the findings, we argue that teachers should not just assess student performance based on predefined goals or knowledge requirements. They should also better understand and recognize student's signs of learning. The multimodal text opens up for this by inviting the student to use different forms of expression, combined in different ways, and by giving the teacher access to both the process and variety of multimodal expressions provided by the student. Therefore, it is important to widen the understanding of what assessment may be so that the assessment made becomes more democratic (Johnson & Kress, 2003) – thereby embracing the variety of students with different backgrounds, different ways of learning, and different ways of presenting their knowledge. Here we want to stress the fact that no teacher in this study mentioned that multimodal texts can give students an opportunity to voice experiences and competences in multiple ways and, thus, are more inclusive. Instead, what was mentioned and framed as a problem was that students tended to put their attention on something other than what the teacher had imagined.

There is an interest from researchers as well as from teachers to develop tools for teachers to assess students' multimodal representations (for example, Bearne, 2017; Cederlund & Sofkova Hashemis, 2018). Bearne (2017) uses a framework to analyze and assess students' multimodal representations. She concludes that using the framework includes and recognizes "all voices" from the students,

not only verbal and written modalities. This is a question of "equitable assessments that can adequately describe the achievements of all students" (Bearne, 2017, p. 82).

In this study, we have highlighted and put forward possibilities and challenges and contributed with knowledge about the teachers' perception regarding the assessment of students' multimodal texts. This work can be used in policy discussions surrounding adding and making changes to steering documents as well as teachers' discussions on how to assess students' multimodal texts. For example, this study shows that there is a lack of framework and tools to work with assessment of this kind. Further, these representations are not legitimate and clearly put forward in the knowledge criteria in the steering documents in Sweden; therefore, they fail to recognize all students' voices that are represented in the classrooms. Consequently, revisions to the steering documents need to be done highlighting the importance of clearly formulated assessment criteria and recognizing students' multimodal texts, as this is a question of equity (see Bearne, 2017). For teachers, this work has shown that there needs to be a continuous discussion about how to assess multimodal texts and further explore the opportunities to follow students' learning processes as well as making shared assessments across school subjects. With the constant development of digital tools, it is important to continue this line of investigations. Research may concern the affordances and qualities of digital media in general and multimodal texts in particular. It may also concern the experiences and practices of teachers in their use of multimodal texts and in their development of assessment practices. The low number of teachers as informants in this study can be seen as a limitation, and further research is required. Although we only used a small sample for the analysis, our findings indicate an avenue for further research and offer useful insights for teachers, teacher educators, and government agencies.

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