Creating and assessing multimodal texts -
Negotiations at the boundary

CREATING AND ASSESSING MULTIMODAL TEXTS
Negotiations at the boundary

ANNA-LENA GODHE

Doctoral Dissertation

UNIVERSITY OF
GOTHENBURG

Department of Applied Information Technology
University of Gothenburg
SE-412 96 Gothenburg
Sweden

ABSTRACT

Digital technologies are becoming increasingly common in educational settings. The availability of such tools facilitates the creation of multimodal texts in which several kinds of expression are combined. In this thesis, the activities of creating and assessing multimodal texts in the subject of Swedish at upper secondary school level are analysed in order to illuminate how these activities relate to established practices of creating and assessing texts in educational settings. When the tools that the students work with, as well as the outcome of their activities are altered, the meaning of these altered activities in the educational setting needs to be negotiated. Encounters between new ways of working and educational environments require modification and appropriation of both the technologies and the educational settings.

Literacy and assessment are central concepts in this thesis. Spoken and written words have been central in conventional perceptions of the concept of literacy. However, as the communicational landscape has changed, there is a need to broaden this concept. Likewise, the necessity to broaden the concept of assessment has been discussed. When literacy and assessment are regarded as situated, the settings in which they occur have to be considered, because the concepts both affect and are affected by the environment. The aim of this thesis is to illuminate the relationship between technology, literacy and the educational setting by exploring the activities of creating and assessing multimodal texts.

The empirical foundation of the thesis comprises four articles, in which the empirical material has been analysed to answer questions of how the multimodal texts are created and assessed. The empirical material has been collected in an iterative research process in which classroom interactions

and interviews with students have been video and audio recorded. The theoretical framework of Cultural Historical Activity Theory (CHAT) has been utilized in the analysis, focusing on how the components of activity systems affect and constitute each other. Tensions and contradictions in and between the different components, as well as between different activity systems, may lead to transformations. By studying these tensions and contradictions, insights can be gained into what enables and constrains transformations.

The analyses show that it is mainly the spoken word that is negotiated and assessed in the multimodal texts. This mirrors conventional conceptions of the kinds of expressions that are regarded as valuable in language education. In the subject of Swedish, there is a hierarchy in the subject culture where the spoken and written words are regarded as primary in meaning making. Other kinds of expressions are largely overlooked when the multimodal texts are assessed. Thereby, the multimodal texts may reinforce the primacy of the written and spoken language in educational settings, instead of contributing to the evaluation and incorporation of different ways of expressing meaning in language classrooms.

ACKNOWLEDGEMENTS

CONTENTS

PART TWO - THE ARTICLES

ARTICLE 1
Creating Multimodal Texts in Language Education –
Negotiations at the Boundary

ARTICEL 2
Negotiating assessment criteria for multimodal texts

ARTICLE 3
Assessment-talks and talking about assessment –
negotiating multimodal texts at the boundary

ARTICLE 4
Tensions and contradictions when creating a multimodal text
as a school task in mother tongue education

APPENDIX

Part one

_____

CREATING AND ASSESSING MULTIMODAL TEXTS

CHAPTER 1

INTRODUCTION

Tools and technologies have always been part of the educational setting, from the use of ink to write with to pencils, from the blackboard to the interactive white board, and from writing on individual slates to writing on individual laptops (e.g., Säljö, 2000). Human activities, including learning and acquiring knowledge in different environments, are mediated by both material tools and by intellectual tools, such as language (Wertsch, 1991). Language is one of the most important tools in most activities because we use it to communicate with each other through words, spoken or written. Other signs, such as gestures and images are also employed in order to share information and to understand each other and the activities we engage in. The introduction of new tools in educational settings is often accompanied by expectations of how the new tools or technologies will change education, as well as questions about their appropriate use in education (e.g., Lankshear & Knobel, 2008; Karlsohn, 2009). There is a tendency to either exaggerate the dangers connected to the use of the new tools (e.g., Dunkels, 2007), or to overemphasize the positive effects they will have on learning and education (e.g., Karlsohn, 2009). When the

anticipated positive changes do not occur, the educational system tends to be regarded as reluctant to change and negative towards incorporating new tools for teaching. In order to understand the possibilities, as well as the difficulties that may be faced when appropriating new tools in this environment attention should be paid to the expertise of the teachers and to the educational setting, rather than contining to consider teachers and schools as having a negative attitude towards change (e.g., Cuban, 2001). To reach an understanding of the meaning of new tools in educational settings, it is necessary to consider the possibilities and the constraints that they cause in this particular setting. Moreover, the tools, and the activities involving these tools, need to be considered in a wider context in which structural and societal aspects are taken into account.

In recent decades, there has been a general change in how we communicate, largely through the increased use of digital technology. How these general changes in society should or could affect education in general and literacy in particular, is one of the issues explored in this thesis. Because language subjects include different ways of communication, such as literature, film and media, they are sensitive to changes in the communicational landscape and will be affected by these changes (Jewitt, Bezemer, Jones & Kress, 2009). The increased availability of digital technologies in educational settings mirrors broader societal changes where these technologies have become an important way to communicate in everyday life (cf., Säljö, Jakobsson, Lilja, Mäkitalo & Åberg, 2011). Students need to know how to use digital technologies productively for both learning and communicating. As most of the tools used in educational settings are also used in society at large, issues relating to education and to more general societal issues are intertwined. They also influence each other, so it becomes difficult to discern whether or not an issue derives from educational concerns.

Although access to digital technologies in classrooms has increased, reports state that the technologies are not used extensively, and when used, their usage is mainly in connected to activities, such as searching for information and writing typographical texts (Skolverket, 2013a). These activities have been part of educational practices for a long time but they have previously been carried out with other technologies. Hence, digital technologies do not appear to give rise to 'new' activities in classrooms to any great extent.

Education, as an institution, has its own history and certain ways of being and doing, which is mirrored in peoples' actions as well as in their perception of educational settings. The aims and goals of the educational system, as stated in the national curricula, influence classroom practices. The subjects to be taught, the core content of each subject and the grading criteria are all indicators of the expected focus of teaching and learning.

Material tools in language education are generally used to enable, enhance or present the intellectual tool of language. Whereas the ability to read and write written texts has long been valued in educational settings, other ways of expressing meaning, such as images or sound, have not conventionally had the same status. Students have traditionally been able to demonstrate their ability to handle the written language by writing with pen and paper (cf., Säljö et al., 2011). Hence, this is a task that is known to be practiced and assessed in educational settings. However, because texts containing several modes are becoming increasingly common in society in general, creating and interpreting such multimodal texts are capabilities that need to be recognized and practiced in education (Kress, 2010).

Material tools, such as computers, facilitate the creation of texts consisting of written and/or spoken language as well as other kinds of expression, such as images and sound. Nowadays, it is plausible, and fairly easy to engage in activities, such as the creation of multimodal texts in a classroom. If the word 'text' is interpreted broadly, several kinds of expression may be included. In this thesis, these texts are sometimes referred to as multimodal texts, and at other times, as texts consisting of several kinds of expression. Because written and spoken words are the primary focus in language education, both students and teachers are used to creating and assessing these ways of expressing meaning. However, when texts also contain other kinds of expression, uncertainty may arise as to how to create and assess these multimodal texts in the educational setting. Thus, students and teachers have to negotiate what is involved in creating and assessing such a task. Established practices in language education regarding written or spoken texts continue to guide and influence students' and teachers' actions and affect the activities carried out in classrooms. However, emerging practices influence established ones and may, over time, alter or change what is considered to be established (cf., Lemke, 2000).

The questions raised in this work are concerned with how emerging and established practices of creating and assessing texts in language education relate to each other. Insights into the tensions between emerging and established practices will contribute to an understanding of how change occurs in educational settings and what factors constrain and enable such changes.

1.1 AIM AND RESEARCH QUESTIONS

The thesis is concerned with the creation and assessment of multimodal texts in mother-tongue education. The multimodal texts contain several kinds of expression, such as spoken and written language, images and sound. The broad focus of the study is the use of technologies that enable a multitude of expressions in texts and how these technologies can be incorporated into a course in Swedish at upper secondary school level. The encounter between the educational setting and new ways of working enabled by the use of digital technology calls for modification and appropriation of both the technology and the educational setting. In order to study what such an encounter entails, the research has been carried out in an iterative design process focusing on the emerging practice of creating multimodal texts in language education. In the iterative process, salient findings in one intervention inform the design of the next one. This allows for emergent questions to become the focus in subsequent designs. Furthermore, the iterative process makes it possible to develop informed perceptions of the aspects that are crucial to the understanding of how the educational setting and the digital technologies need to be modified and appropriated to each other.

An integral part of education is the assessment and grading of tasks done by students. In this thesis, assessment is regarded as a process in which students and teachers negotiate both what is going to be assessed and how it will be assessed. The curriculum prescribes the goals students are expected to achieve in the courses that constitute upper secondary school programmes, as well as the criteria upon which the assessment should be founded. However, tasks and the assessment of them are situated, so what they entail needs to be negotiated during the process of performing and assessing these tasks (cf., Gipps, 2002). Assessment, as

well as learning in general, is done in social settings where decisions about what is assessed or taught and for what reasons reflect the practices in the environment within which it is situated (Broadfoot & Black, 2004).

The empirical material on which the analyses are based consists of interaction between students, and between teachers and students during the process of creating and assessing the multimodal texts, as well as interviews with the students after they have completed the assignments. As the research has been carried out over an extended period of time in an iterative design process, the questions have changed and developed during this process (Joseph, 2004). Based on the findings in the first cycle of research, questions focusing on certain aspects, such as assessment, emerged as important for the understanding of the activity of creating multimodal texts in an educational setting.

The thesis comprises four articles in which the empirical material is presented and analysed. In three of the four articles, the empirical material is analysed to answer three questions.

- How are contextual references from outside the educational setting negotiated when creating multimodal texts?
- What aspects of the multimodal texts do the teacher and the students negotiate as important in relation to assessment?
- How do the students and teacher relate to the explicit grading criteria for the assessment of the multimodal texts?

Excerpts from the empirical material are presented as case studies in these three articles. The excerpts are taken from interactions and interviews and are presented to enlighten and substantiate the findings.

In the last article, the complete empirical material is synthesized in order to answer the fourth question.

- How does the activity of creating and assessing multimodal texts relate to the established practices of creating and assessing texts in language classrooms?

As the aggregated empirical material is referred to in the last article, the key findings of the complete iterative design process are compiled in this article, which thereby functions as a conclusion to the empirical studies.

The questions in the articles can be regarded as an outcome of the iterative process of determining which aspects affect the activity of creating multimodal texts in an educational setting, as well as how these aspects

relate to each other and the components involved in the activity. The explication of these aspects elucidate the broader and overarching questions.

- What tensions arise when digital tools are introduced in language education and students create texts containing several kinds of expression?
- How do these tensions in and between emerging and established practices contribute to and/or constrain change?

1.2 OUTLINE OF THE THESIS

In this first chapter, a broad introduction, followed by the research questions gives a general introduction to the subject of the thesis. In the second chapter, the subject is further augmented by elaborating on the concept of literacy and its expansion, as well as on how it is influenced by the changing ways of communication. The importance of studying how literacy practices in classrooms are affected by communicational changes in society at large is substantiated by elucidating how different approaches to the concept of literacy relate to the subject of the thesis. Moreover, the second chapter introduces and elaborates on the central concepts of assessment, the subject of Swedish, and multimodal texts or digital stories. These are presented in order to further elucidate the interests that underpin the studies. They give the reader an understanding of why these concepts are regarded as central to the studies and how they are seen to relate to each other. Previous research is also related to these concepts and to the central themes in the thesis.

In Chapter 3, the theoretical framework that has informed the research is presented. Central concepts are explained and related to the theoretical grounding of the thesis. Chapter 4 is concerned with the empirical material on which the thesis is built and on the methodology used when collecting and analysing the empirical material.

The four articles are summarized in Chapter 5. In Chapter 6, the empirical findings are further discussed in relation to the overarching questions of the thesis, the components of the activity system, and the theoretical concepts of the middle level and boundaries. This discussion also illuminates the central concepts of literacy and assessment, based on the empirical findings. Furthermore, Chapter 6 discusses how the find-

ings relate to the expansion of the concepts considered in Chapter 2. At the end of this chapter, issues such as the didactical implications of the studies and suggestions for further research are considered. Chapter 7 is a summary of the thesis in Swedish.

The second part of the thesis consists of the following four articles;

1. Godhe, A-L., & Lindström, B. (2014). Creating multimodal texts in language education – negotiations at the boundary. *Research on Practice in Technology Enhanced Learning, 9*(1), 165-188.

2. Godhe, A-L. (2013). Negotiating assessment criteria for multi-modal texts. *International Journal of Assessment and Evaluation, 19*(3), 31-43.

3. Godhe, A-L., & Lindström, B. (2014). Assessment-talks and talk-ing about assessment - negotiating multimodal texts at the bound-ary. In M. Searson & M. Ochoa (Eds.), *Proceedings of Society for Infor-mation Technology and Teacher Education Conference 2014* (pp. 483-494). Chesapeake, VA: AACE.

4. Godhe, A-L. (2013). Tensions and Contradictions when creating a multimodal text as a school task in mother tongue education. *Nordic Journal of Digital literacy, 8*(4), 208-224.

CHAPTER 2

BACKGROUND TO THE STUDY, THE CENTRAL CONCEPTS AND A REVIEW OF PREVIOUS RESEARCH

The central concepts of the thesis are expanded upon in this chapter, in order to explain the reason why it is of interest to study the creation and assessment of multimodal texts. Therefore, the way that these concepts relate to the aim and the questions of this thesis are the focus of the chapter. Since these concepts are interpreted and investigated in various disciplines, no extensive or exhaustive account of them is attempted in the following review.

As pointed out by Warschauer and Ware (2008), technology and literacy are words that are contentious and that can be framed in a number of ways. Even though both technology and literacy have constantly changed, the pace of change has not been as rapid as it is in contemporary societies. These changes have generated interest in research from numerous disciplines, such as cognitive science, sociolinguistics and media and communication studies (cf., Coiro, Knobel, Lankshear & Leu, 2008). Differ-

ent terms, such as 21st century skills, digital literacies, information literacy and computer literacy are terms that have been used to refer to the term which, in this thesis, is called 'new literacies' (ibid.).

Warschauer and Ware (2008, p. 216-233) discern three frameworks that dominate the way researchers and educators think about technology and literacy. They call these frameworks 'learning', 'change' and 'power'. In the learning framework, the main concern is how technology can enhance learning in general and what impact it has on literacy outcomes. In this framework, quantitative studies are common, and literacy is largely measured through scores on standardized reading and writing tests (ibid.). The change framework can be regarded as a critical response to the learning framework. Warschauer and Ware (ibid.) write that this framework considers new technologies to transform communication and the production of knowledge. This framework seeks to reform education, because schools are seen as conservative institutions that have not recognized the radical change in literacies (ibid.). Research within the change framework often focuses on out-of-school literacy practices which are not typically valued in education. Ethnography is the preferred methodological approach, as it allows for the exploration of the environment that surrounds the use of technologies (ibid.). In the power framework, the focus is on the relationship between the access and use of technology and social equity. According to Warschauer and Ware (ibid.), several methodological approaches are employed in this framework and interdisciplinary perspectives have been proposed to illuminate power structures.

These three frameworks can be thought of as corners of a triangle, in which an individual's perspective is "likely to fall on a continuum within the triangle rather than at one of its vertices" (Warschauer & Ware, 2008, p. 233). The perspective in this thesis falls mainly within the change framework but it is also influenced by the other frameworks. Assessment, which is a central issue, is mainly considered within the learning framework. However, whereas the learning framework predominantly considers assessment to be high-stakes examinations, in this thesis assessment is regarded as a process that is negotiated in the interactions between students and teachers. Issues of power are not directly addressed, but they may become discernible in the interactions in the classroom. In an educational setting, historically developed ways of being and doing may reflect

power structures. However, these structures can also be questioned and challenged at the local level of the activity when students and teachers negotiate what the creation and assessment of multimodal texts involves in particular situations. When the relationship between technology, literacy and the educational setting is explored in the studies, critical questions may arise, which, in turn, may lead to changes in educational practices. However, critical aspects and questions are not taken as a premise for the studies, but may be a result of investigating and exploring new or possible activities where Information and Communication Technology (ICT) are utilized. By exploring the activities of creating and assessing multimodal texts and how they relate to the educational setting, the studies aim to illuminate the relationship between technology, literacy and the educational setting in these activities. However, there are a number of activities that students and teachers can engage in when using ICT in the classroom. In this thesis, the creation and assessment of multimodal texts serve as an example of such activities, but does not claim to exemplify how activities should or ought to be done.

2.1. LITERACY

Literacy is a contested concept and the underpinning of different approaches needs to be considered in order to understand different conceptualizations of literacy (Street, 2009). The definition of literacy has changed, both historically and in relation to educational contexts. Before the 1970s, the term literacy was predominantly used in relation to adult, non-formal education, which offered illiterate adults basic skills in reading and writing (Lankshear & Knobel, 2008; Street, 2009). In formal education, the main focus was on reading and, to a lesser extent, writing. Reading and writing were seen as basic outcomes of formal education and they were considered to be the means for learning (Lankshear & Knobel, 2008). Cognitive assumptions are also related to the term literacy, since these connect the ability to write with cognitive advances in society (Street, 2009). Policy and media debates about literacy often make general claims based on these assumptions (ibid.). Everyday literacy practices have been devalued in educational settings because the literacy practices connected to education dominate these settings (cf., Barton & Hamilton,

1998; Edwards, Ivanič & Mannion, 2009). However, there is no clear-cut division between literacy practices in and outside of education. Instead, they can be regarded as a continuum (Street, 2005). Reading and writing practices that incorporate academic language can be seen as a family of literacy practices that have been dominant in education and in society in general for gaining access to power and economic success (Gee, 2004). The family of literacy practices related to academic language continues to be important and necessary, but these practices are no longer sufficient for success (cf., Gee, 2004; Jenkins, Clinton, Purushotma, Robison & Weigel, 2006). Tensions may occur between established and emerging practices if an expanded concept of literacy is regarded as challenging to or questioning of the conventional literacy practices of reading and writing.

The definition of literacy in educational contexts has changed, from being mainly the ability to decipher, to copy and to memorize typographical texts, to being able to understand and summarize a large number of textual resources (cf., Säljö, 2010; Myers, 1996; Blau, 2003; Resnick, 1987). Conceptions of literacies and learning nowadays have less to do with reproducing what is already known and more to do with producing something new that is relevant for a specific purpose (Säljö, 2010). Production and performance, thereby, become increasingly important in literacy practices.

For a number of reasons, an expansion of the concept of literacy has been promoted. What the expansion entails or why an expansion is necessary varies to some degree, but the causes for the expansions are also similar because they stem from general changes in society. In particular, four approaches to the concept of literacy are expanded upon in this thesis. These argue for an expansion of the concept based on different premises and refer to literacy as 'new' in different ways. Moreover, each approach proposes necessary changes in education based on its standpoints. Arguing for an expansion of the concept of literacy can be based on a perception of literacy as social practice (e.g., Scribner & Cole, 1981; Barton & Hamilton, 1998; Street, 1998). This approach argues for the necessity to pay greater attention to vernacular literacies in education. An expansion of the concept of literacy may also be contended, based on aspects of multiplicity in contemporary societies (e.g., The New London Group, 1996; Cope & Kalantzis, 2000). Furthermore, an expansion of the concept of

literacy may be argued for, based on a multimodal approach, in which the claim is that all modes are meaning-making devices. This, in turn, means that language, spoken or written, can no longer be seen as central but as one way, amongst others, to express meaning (Jewitt & Kress, 2004). Lastly, an expansion of the concept of literacy may be contended, based on changes in practices that involve the use of digital technology and that facilitate new ways of creating texts as well as receiving and sharing them electronically (Lankshear & Knobel, 2008, p. 25). In this approach, the term 'new' does not necessarily refer to chronological order but rather to a 'new' mind-set, which is considered to be more collaborative and participatory than the conventional one (Lankshear & Knobel, 2008, p. 38). The 'new' mind-set is similar to practices that Gee (2004) calls affinity spaces and Jenkins et al. (2006) refer to as participatory cultures.

These four approaches are all relevant when considering how multimodal texts are created and assessed in a school setting, and therefore, they are important aspects to bear in mind in relation to the studies presented in this thesis. Questions and concerns about the relationship between technological changes in society and literacy practices in society at large and in educational settings are often intertwined and draw upon each other. Discussions about how technological advancements affect and change society are sometimes mirrored in discussions about the use of technologies in education and how these could or should affect education (cf., Säljö et al., 2011). The distinction between questions concerning technology and society at large, and questions concerning technology and education, can be difficult to discern. Despite the difficulty of distinguishing between these questions, attempts will be made to do so when considering the four approaches to the concept of literacy in the following sections.

2.1.1. LITERACIES AS SOCIAL PRACTICES

According to Gee (2000), a social turning point has occurred across a wide variety of disciplines, with the result that social aspects, rather than individual behaviour or cognition, have become central. New Literacy Studies (NLS) is part of this movement and claims that literacies must be studied in context. Seeing literacies as social practices means that literacies are always situated, and various literacy practices enable people to participate

and function in different settings in society (e.g., Street, 1998; Barton & Hamilton, 1998). Barton and Hamilton (2000) explain literacy practices as "general cultural ways of utilising written language which people draw upon in their lives" (ibid., p. 7). As such, these practices involve attitudes, feelings, values and relationships as well as observable behaviour (ibid.). In another definition of literacy practices, Barton & Hamilton (1998) see them as links between activities involving reading and writing and the social structures in which these activities are embedded. Literacy practices, thus, relate to, and are affected by, the environment in which they take place. Street (1995) writes about literacy practices as containing "social and cultural conceptualizations that give meaning to the uses of reading and writing" (ibid., p. 2). Although the multiple character of literacy practices is emphasized (e.g., Street, 1995), this multiplicity generally concerns the variety of social settings in which the practices occur, rather than the different ways of expressing meaning. Literacy practices are referred to both by Barton and Hamilton (1998, 2000) and Street (1995) as practices that are concerned with reading and writing. Other ways of meaning-making are usually not considered explicitly.

A paradigmatic change in how to research literacy is the result of an approach to literacy as a social phenomenon and this approach results in a need to re-evaluate how literacy is conceptualized, taught and assessed (e.g., Johnson & Kress, 2003). By studying situated literacies, both conventional and emergent, across different local environments, it is possible to empirically describe the complexity of literacies as historically, socially and culturally situated practices (Jewitt, 2008). A qualitative approach is required in order to be able to describe these literacy practices and how they relate to, and are affected by, the setting in which they take place (Street, 1998). Therefore, 'new', in connection to NLS, refers primarily to how we understand and describe literacy practices (Lankshear & Knobel, 2008). This 'new' approach, which treats language and literacy as resources that we use in social settings, differs from a description of language and literacies as "a set of rules, formally and narrowly defined" (Street, 1998, p. 1). Therefore, it becomes possible to describe and relate to literacy practices on the premise of either of these conceptualizations. Furthermore, the conception of what literacy is and how it is described may take its point of reference in the different approaches. These different approaches

make it possible for researchers to conceive of literacy practices as developing and spreading, even though there are reports of falling standards and a lack of literacy skills (Street, 1998).

In a study on the pluralisation of literacy practices and the possibilities they have for educational practices, Ivanič, Edwards, Satchwell and Smith (2007) have focused on how the literacy practices required of college students' relate to the students' own wide range of literacy practices. The study aimed to support literacy practices from the vernacular and informal so that they could become resources for learning in a college setting and across the curriculum. In this case, it becomes crucial for educators to build relationships between everyday literacy practices and those required in the curriculum (ibid.). The students in the study engaged in a sophisticated and complex variety of literacy practices outside of college. These practices were not mobilized into college-related literacy events. Differences identified in literacy practices in and out of college were partly attributed to the preoccupation of educational institutions with assessment (ibid.). The majority of the writing tasks in college focused exclusively on the demonstration of knowledge, understanding, and competence through writing, in order to provide evidence of what had been learned. College teachers felt constrained by factors beyond their control, such as the timetable, assessment criteria, and available resources in the classroom. Ivanič et al. (ibid.) state that the creativity in peoples' everyday literacy practices needs to be recognized so that these practices become resources for learning. The authors conclude that contrary to the crisis narrative about the decline of literacy, there is an abundance of literacy practices in most people's everyday lives (ibid.). Seen in this way, there is no growing 'literacy deficit'. Instead, the perceived falling standards relate to the fact that this multitude of literacies cannot be reduced to a single standard against which all else is measured. To measure and assess literacy as a set of narrowly defined skills, such as spelling, is easier than assessing literacy as a social practice, such as a wiki or a discussion on a blog. Thus, skills connected to emerging literacies may fail to be accredited in an assessment.

The paradigmatic change in how to research literacy is concerned with the literacy practices that are connected to an educational setting as well as to other literacy practices. The research done by Ivanič et al. (2007)

focuses on the relationship between everyday literacy practices and the literacy practices required of college students. As such, it deals with pedagogical issues concerning literacy practices. In the conclusions, Ivanič et al. (ibid.) relate to more general issues of literacy practices in society, and argue against concerns for falling standards of literacy. The conceived falling standards of literacy are regarded as dependent upon how literacies are assessed in educational settings. This links general concerns in society with education in general, and with assessment practices in particular, so that the conceived literacy deficit becomes a product of educational assessment practices.

2.1.2. MULTILITERACIES – DIVERSIFYING LITERACY

The proposal for a 'pedagogy of multiliteracies' raised by The New London Group (1996) sought primarily to broaden the understanding of the concept of literacy by incorporating aspects of multiplicity. This multiplicity was concerned with the diversity and globalization of contemporary societies as well as with the variety of texts associated with information and multimedia technologies. The need for students to be able to make meaning by using and selecting from the many different resources available to them is stressed in the concept of multiliteracies (ibid.). A 'pedagogy of multiliteracies' is concerned with a wide range of modes and is thereby similar to a multimodal approach to literacy (see section 2.1.3). However, in the muliliteracies-approach, local diversity and global connectedness are stressed, and there is a more explicit focus on social issues (Cope & Kalantzis, 2000). Globalization of the communications and labour markets has made dealing with linguistic, as well as with cultural, differences central issues (The New London Group, 1996). Multiliteracies share some assumptions of NLS but the core ideas of multiliteracies include a socially and culturally responsive curriculum (Jewitt, 2008).

The key concept in a 'pedagogy of multiliteracies' is 'Design', in which people are referred to as active designers of meaning as well as of social futures (Jewitt, 2008). To conceive of education and learning as a process of designing meaning is distinctly different from conceptions of learning as a process of transferring knowledge from teachers to students (cf., Säljö, 2010). When designing meaning, patterns and conventions are

inherited, but at the same time, meaning is actively designed by the individual. The New London Group (1996) see 'Design' as the answer to what students need to learn, and teachers are regarded as the designers of the learning processes and their environments.

The proposal for a 'pedagogy of multiliteracies' is an attempt to re-conceptualize knowledge and learning in connection with educational and pedagogical issues. This approach regards societal changes, such as globalization, as the main reason why a re-conceptualization of the concept of literacy is necessary. Thus, global changes in societies are connected to educational issues, and the need to mirror these global changes in education is stressed.

In a study carried out with university students studying English at a Taiwanese public university, Hung, Chiu and Yeh (2013) used a theory-driven design rubric from the multiliteracies-approach to assess students' design of multimodal texts to support new, assessable literacy practices. The design rubric was developed as a formative assessment tool and entails five design modes: linguistic, visual, gestural, auditory, and spatial. These design modes were established by the New London Group (1996). Hung et al. (2013) claim that the students engaged in an active design process where they made choices concerning which available, meaning-making modes to utilize. The students were taking a skill-based course, which aimed to improve their communicative strategies for delivering English presentations in classroom settings. During the study, the students made three presentations and they were given formative assessments in the form of oral feedback and evaluation sheets based on the design rubric (ibid.). The focus of assessment is commonly on the oral fluency and accuracy of language-use and little attention is paid to non-linguistic modes of meaning (ibid.). Prior to the study, the students did not pay much attention to gestural, auditory and spatial design elements, and it was in these design elements that the greatest improvements were made. Hung et al. (ibid.) conclude that the students' understanding and ability to cope with multi-modal texts is less developed than with printed texts. However, the study reveals that teachers can assist students in developing multimodal literacy through formative assessment that provides explicit instructions on the meta-language of multimodal texts. It is therefore vital for teachers to develop adequate instructional strategies for the demands of contempo-

rary literacy as well as appropriate assessment practices that reflect and measure the students' literacy performance in relation to the multimodal nature of contemporary texts (ibid.).

Similarly, Cope, Kalantzis, McCarthey, Vojak and Kline (2011) state that educational settings and what is measured in literacy assignments has not caught up with profound changes in communication, where it is no longer enough to use words alone for representation. They consider the World Wide Web to be an accessible space that is ideally suited for representation and assessment of knowledge. The social writing environments of the Internet, with portfolio-spaces, such as Wikis and Google apps, are considered to be ideal for obtaining multiple forms of feedback (ibid.). However, none of these sites are specifically designed for educational purposes and "the specific educational potentials of web-based technologies have barely been explored" (ibid., p. 81). Cope et al. (ibid.) imagine a technology-mediated writing environment in the near future which, among other things, will provide continuous and specific feedback to learners and, in which multimodal formats can accommodate different expressive needs. However, there may be reasons to be cautious, so as not to replace "one bundle of texts and techniques for another: pro-verbal becomes pro-digital" (Shipka, 2011, p. 11). Shipka (ibid.) stresses the importance of studying the writing process and the fact that it is, and always has been, multimodal in nature. Furthermore, she warns against an overly optimistic view of technology as the medium where multimodality can be realized.

Societal changes are taken largely as a premise in this approach, when arguing for the need to diversify literacies and the literacy practices engaged in, in educational settings. It is considered important for education to adapt to the societal changes of diversified global societies, as well as diversified means of communication. Again, assessment practices in education are perceived as being vital for such changes to occur. Formative assessment processes are considered as facilitators of the development of multimodal literacy practices and the need for teachers to develop contemporary instructional practices is also emphasized. (Hung et al., 2013).

2.1.3. A MULTIMODAL APPROACH TO THE CONCEPT OF LITERACY

Although no communication is monomodal, the modes of speech and writing are commonly assumed to be primary in meaning making (Jewitt & Kress, 2004). A long tradition of seeing language as sufficient for making meaning means that the affordance of other modes often become invisible (Kress, 2010). In a multimodal approach, it is stressed that all modes carry meaning and that meanings are made, as well as distributed, interpreted and remade through many communicational resources (cf., Jewitt, 2008, Kress & Van Leeuwen 2001). In communication, modes such as image, writing, layout, music, gesture, speech and moving image are used. Kress (2010) states that mode "is a socially shaped and culturally given semiotic resource for making meaning" (ibid., p. 79). However, what constitutes a mode is not fixed but instead, is decided both socially and theoretically (ibid.). Kress (ibid.) sees the concept of literacy as problematic because he considers it to be a blunt instrument when it comes to paying attention to the variety of meaning that surrounds us. He claims that the concept of literacy is an obstacle that brushes over the distinctive affordances of modes, so that they become invisible. Instead, he argues for the development of new tools that are precise in analysing and describing contemporary communication (ibid.).

The multimodal approach stems from the theory of social semiotics. This theory is concerned with how signs, which exist in all modes, are used to make meaning (e.g., Kress, 2010). There is an interest in the sign-maker, the environment in which meaning is made, and in the semiotic resources available to materialize meaning as a motivated sign (ibid.). Since the studies in this thesis are concerned with the creation and assessment of texts consisting of a number of meaning-making modes, the multimodal approach to the concept of literacy is considered important. The multimodal approach also questions the primacy of the written or spoken word in society in general, and in education in particular. Other kinds of expression are increasingly important in today's communicational landscape, and this change influences the conception and evaluation of literacies in education. However, the analyses of the empirical material in this thesis are not based on social semiotic theory.

In a study on computer-mediated learning in an English classroom, Jewitt (2003, 2006) explored questions raised when the curriculum moved from being language-based to a multimodal approach. Jewitt (ibid.) shows that when students 'read' a novel on a CD-ROM, what is to be learned is re-shaped and she asks what this means for assessment. In literacy policy, ICT is seen as being a useful tool for learning, but "how the multimodal character of computer mediated learning reshapes traditional (print-based) concepts of literacy are not addressed" (Jewitt, 2003, p. 85). Skills, such as handwriting and spelling, are emphasized in conventional forms of assessment, but skills, such as finding, selecting and presenting information from different sources are not given credit and thus, can be seen to stand outside of literacy (ibid.). The notion of 'character' in texts is a core entity in The English National Curriculum programme and assessment schema. The study focused on how the visual option of the CD-ROM reshaped the re-presentation of the characters and presented the students with different resources for the construction of character (ibid.). Key features of the characters are visually realized and the changing relationships between characters as well as emotions are displayed in the images (ibid.). This reshapes the "entity character by shifting the 'high' literacy aesthetic of 'Novel', to the popular, textual genre of comic and film" (Jewitt, 2006, p. 130). Jewitt (ibid.) concluded that the multimodal reshaping of the curriculum and classroom practices, particularly computer-mediated learning, have important consequences for literacy and assessment. However, the multimodal outcomes that are produced with ICT-based work are not recognized by the current assessment criteria (Jewitt, 2003). Moreover, according to Jewitt (2006), a focus on the assessment of rule-governed and formally defined skills may make it difficult to connect the literacy required in school with the 'after-school worlds' of many youngsters. Literacy needs to move beyond language to accommodate the complexity of a multimodal classroom environment. Additionally, assessment needs to be re-focused to include the full range of modes involved in learning and literacy (ibid.).

By comparing datasets from classrooms collected in 2000 and in 2005-6, Jewitt et al. (2009) explored the changes in policy and technology that have occurred between the observations, and discussed their impact on the practices of secondary schools. Their intention was to integrate the

micro-interactions of the classrooms into a broader macro and policy context. The main concern of the study was change: a process of transformation "brought about in part by technological change and product availability and in part by a wider project of educational modernisation that has affected educational purposes, roles, regulation and affordances" (ibid., p. 9). The authors identified change on three levels: the digital landscape of the classroom; a broader cultural and technological framework; and a government-driven project of educational modernization. At the level of the classroom, there has been a shift from print to digital technologies, with an intensification of digital practices and changing forms of communication. Understanding the positive and negative effects of this shift is crucial to the future design of teaching, learning and curricula (ibid.). In a broader cultural and technological framework, the communicational resources have changed considerably. With broadband access to Internet in a majority of homes, and with many students carrying a mobile phone, music, image and video have become part of a student's daily repertoire. This, in turn, meant that the resources available to students had multiplied and the communicational forms of re-mixing and redesigning had become emerging practices (ibid.). Simultaneously, the pace of introduction of governmental policies that regulate education had accelerated dramatically. Jewitt et al. (2009) wrote that these policies have led to more standardized teaching and assessment of curriculum subjects. Changes in the communicational landscape of the classroom are tied to broader changes in technology and society in general. However, policy interventions to modernize education often appear to move in contradictory directions (ibid.). While the available resources for students have expanded, policies often work to regulate these resources. These authors concluded that what was being learned was reshaped by teachers' and students' use of multimodal resources and digital technologies. Writing and speech were important in the classroom of 2000, but image, colour and layout, along with writing became the central pedagogical resources some five years later (ibid.). During lessons, it was common to show digital video clips or to display images that had been downloaded from the Internet. This connects the subject of English with out-of-school practices and "question the boundaries of canonical knowledge and what counts as socially valued" (ibid., p. 18). These changes mean that curriculum knowledge needs

37

to connect to out-of-school practices in order to become relevant to students, and their engagement needs to be increased through interactivity (ibid.).

From a multimodal perspective, the changed relationship is stressed between the modes of reading and writing and other modes, such as images and sound. The balance between the modes is said to be shifting so that images and sounds are becoming more important in meaning making (cf., Kress, 2010). This relates to both the educational setting and to how meaning is expressed in society in general. From this perspective, societal changes in literacy practices, such as in the multiliteracies-approach, are regarded as a premise for arguing for the need of these changes to be mirrored in the literacy practices that are addressed and assessed in educational settings. However, in the multimodal approach, the focus on social issues is not as prominent. Instead, the central issues are the actual modes and their affordances and constraints.

2.1.4. LITERACY AND ICT – 'NEW LITERACIES'

An increased use of digital tools in classrooms enables students and teachers to engage in tasks and activities that were previously not possible. Technologies, as mediating tools, impact the way in which learning is mediated, and also impact the potential practices available for those who use them (cf., Wertsch, 1998). This, in turn, challenges the conventional meaning of school tasks, as well as our understanding of what it means to be literate in the 21st century.

Lankshear and Knobel (2008) state that 'new' in association with literacies, is used in a paradigmatic and an ontological sense. The paradigmatic sense of 'new' is related to NLS, in which literacy is considered to be a social phenomenon that has to be researched within the setting in which it takes place (cf., Street, 1998). The ontological sense of 'new' is considered to be "the idea that changes have occurred in the character and substance of literacies that are associated with larger changes in technology, institutions, media and the economy" (Lankshear & Knobel, 2008, p. 24). This can be related to two aspects. One concerns the nature of texts and how they have become increasingly 'post-typographical', both in form and in production. 'New' literacies are then considered to be significantly differ-

ent in nature and in the way they are distributed and shared, compared with conventional print-based literacies.

> Established social practices have been transformed, and new forms of social practice have emerged and continue to emerge at a rapid rate. Many of these new social practices involve new and changing ways of producing, distributing, exchanging and receiving texts by electronic means. (Lankshear & Knobel, 2008, p. 25)

The second aspect concerning the ontologically 'new' literacies is the differences in ethos or mind-sets (ibid.). In this sense, 'new' literacies are different from conventional literacies because they are more participatory and collaborative. They are also less connected to an individual view of learning and less centred on authorship and centralized expertise. In 'new' literacies, knowledge is considered to be collective and expertise is seen as distributed (ibid., p. 38).

New media, such as the Internet and social media, can be said to alter the notion of literacy as they offer diverse forms of interactive engagement and participation (Livingstone, Bober & Helsper, 2005). Whereas older media, such as the TV, fostered consumers and spectators, new media encourage participation as well as production (Livingstone, 2004). Moreover, digital technologies enable sharing what has been created with large audiences. Connecting to and interacting with large numbers of people, regardless of their location, is facilitated through the use of the Internet. In such participatory cultures, the boundaries between producers and consumers of media are blurred, since production and participation are both encouraged (Jenkins et al., 2006). Producing one's own media and consuming what others have produced is similar to being able to read and write. In order to be considered literate, both abilities are important (Jenkins, 2006). To engage in participatory cultures, it is not only necessary to be able to read and write, but also to use several modes when producing media. New media literacies also involve social skills that are developed through collaboration and networking. Therefore, the focus of literacy has shifted from individual expression to community involvement (ibid.). The creation of text has increasingly become a collaborative activity. Participants in digital communities are encouraged to share their own material as

well as engage actively in the formation of texts by commenting on what others have written (Jenkins et al., 2006). In contrast, texts written in classrooms are usually addressed to the teacher. When sharing texts digitally, there are a vast number of potential recipients of the text. As digital multimodal texts are easily shared, the students who create them will possibly address a larger audience than just the teacher. They may also respond to other similar texts, which they have encountered outside the classroom.

In a study conducted by Livingstone et al. (2005), how and to what extent youngsters in the United Kingdom engaged in activities on the Internet that could be considered as participation were studied in order to find out how and why some participate more than others. The group that were most active on the Internet, the 'interactors', also gained the most from their participation. The members of this group were predominantly boys with a high rate of access to the Internet. They used the Internet widely, developed online skills, and discovered the advantages of the Internet for communication, gaming, news, and content-creation (ibid.). The group who used and gained the least from their participation were called the 'disengaged'. These visited few websites, communicated less online and could be regarded as marginalized or excluded from online participation (ibid.). It was mainly girls that belonged to the group of 'civic-minded', who used the Internet to pursue specific interests that they had developed offline (ibid.). Livingstone et al. (2005) concluded that online interactivity and creativity can be encouraged through the very experience of using the Internet.

The perspective of the 'new' literacies approach takes its point of reference largely in media studies and includes practices facilitated by technology, but which have little or no connection with an educational setting. These practices, which are seen as promoting production as well as participation, are put in contrast to the educational setting. What youngsters do outside of education in online environments is taken as a premise for what should or could be done in educational settings. Based on this premise, the educational setting is regarded as in need of changing and adapting to out-of-school practices.

2.2. ASSESSMENT

The relationship between ICT and assessment in education can be explored at different levels within the educational system. In this thesis, the focus is on how assessment is enacted at classroom level in terms of negotiations about the meaning of the assessment and what it involves. Assessment practices are an integrated part of education and influence how teaching is organized as well as signalling which knowledge is important (Erstad, 2008, p. 182). Gipps (2002) defines assessment as a general term that "incorporates a wide range of methods for evaluating pupil performance and attainment, including formal testing and examinations, practical and oral assessment, and classroom-based assessment carried out by the teacher" (ibid., p. 73).

The perspectives and theories of assessment and grading practices in education underwent a paradigmatic shift in the late 20th century (e.g., Gipps, 1999; Lundahl & Folke-Fichtelius, 2010; Klapp Lekholm, 2008). A psychometric view of assessment had previously been prevalent. This view focused on the replicability and objectivity of tests and did not generally allow for engagement with the individual or an understanding of the context in which the tests took place (Gipps, 1999; Klapp Lekholm, 2008). According to Gipps (1999), the paradigmatic shift has meant that "the focus has shifted toward a broader assessment of learning, enhancement of learning for the individual, engagement with the student during assessment, and involvement of teachers in the assessment process" (ibid., p. 367). Moreover, a shift towards designing assessment that supports learning and that provides more information about the students and their educational progress came with the new paradigm. Gipps (ibid.) stressed that there is an interrelationship between purpose and design, which means that the balance between reliability and validity needs to be considered in different kinds of assessment. In internal assessment in classrooms, the main focus is on validity, whereas in external assessment, at a system level, reliability is the key concern (ibid.). External assessment is typically used to evaluate educational systems in contemporary societies, and often comes into conflict with internal assessment as well as with other goals of education (Lundahl & Folke-Fichtelius, 2010).

External and internal assessment is considered by Lundahl and Folke-Fichtelius (2010) as one of the dilemmas present in the institutionalized logic of assessment. Another dilemma relates to the fact that assessment tends to illuminate certain aspects while others are made invisible. For example, the processes of socialization and learning tend to be overshadowed when the focus in schools is on results that are easy to access and understand, such as grades. Lundahl and Folke-Fichtelius (2010) consider international assessment studies to reveal yet another dilemma. The performance of students in large-scale international assessment studies has "become the legitimate currency for judgements of the quality of the educational process itself, as well as of individual merit" (Broadfoot & Black, 2004, p. 13). A globalized view of assessment in education can affect schools at a local level. However, Lundahl and Folke-Fichtelius (2010) argue that though assessment can be regarded as an aspect of globalization, it is also largely a local construction, which can be influenced.

Since the results of Swedish students in international comparisons, such as PISA and TIMSS have been reported to have decreased (Skolverket, 2013c), questions have been raised as to what has to be done to improve the Swedish educational system. A new curriculum, legislation, and national tests in earlier years and in more subjects have been introduced as ways to raise the performance of Swedish students. This can be seen as part of an increasingly 'test-driven' culture that has emerged in several parts of the world (Hargreaves & Shirley, 2009; Sahlberg, 2011). Broadfoot and Black (2004) criticize governments for quickly seizing on headlines, and paying little attention to the dependability of the data or a range of possible explanations. Subtle influences of culture and tradition are often overlooked in international comparisons and a context-blind response is made to data that attributes apparent success or failure to curriculum design or pedagogic strategies (ibid.). These authors stress that the increased focus on standardized tests is likely to lead to 'teaching-to-the-test' as well as to anxiety amongst the less successful students. This may result in turning many youngsters off formal education forever. Ball (2003) considers that the performative aspects of education are becoming increasingly important and this is one of the key factors in contemporary reform policies in education. The central function of performativity is to translate complex social processes into simple figures or categories of

judgement (ibid.). Ball argues that "what it means to teach and what it means to be a teacher (a researcher, an academic) are subtly but decisively changed in the process of reform" (ibid., p. 218). Alongside increased testing, an agenda that encourages life-long learning has emerged. Broadfoot and Black (2004) stated that there are apparent tensions between these two agendas and that they are difficult to achieve together.

External assessments focus largely on comparisons between students' grades at different schools as well as in different countries. However, there is also a focus on formative assessment in internal assessment. Formative assessment, or assessment for learning, has become a common way to describe assessment that aims to improve student learning. The use of formative assessment appears to have a positive impact on students' learning (e.g., Leahy & Wiliam, 2009). Taras (2005) sees the promotion of formative assessment as a way to claim that the negative aspects of assessment all adhere to summative assessment. According to Taras (ibid.), however, formative assessment both encompasses and justifies summative assessment. Thus, summative and formative assessment should not be seen as separate. Instead, the centrality of summative assessment, as the basis of formative assessment, needs to be acknowledged (ibid.). If the process of assessment is seen as a single process, in which judgement is made according to standards, goals and criteria, then the process of summative and formative assessment are the same (ibid.). However, feedback is required in formative assessment. This feedback has to relate to the gap between the actual level and the required standard, as well as to give an indication of how to improve the work in order to reach the required level (ibid.). Therefore, Taras (ibid.) states that formative assessment needs to be preceded by summative assessment in order to give feedback. This can be done implicitly or explicitly.

Sadler (1989) stressed the need for feedback to be future-oriented. He stated that few skills can be acquired simply by being told about them. Instead, a supportive environment is required where the skills to be learned are described, where fine performances are demonstrated, and where indications of how a poor performance can be improved are indicated (ibid.). Likewise, William (2013) wrote about the importance of co-construction rubrics with students, and about how the teacher needs to provide examples of work of varying quality in order to identify the

features that distinguish strong work. As pointed out by Sadler (1989), an important condition for improvement is that students and teachers hold a roughly similar concept of quality.

Assessment and literacy are both contested, and diverse terms and models of literacy relate to and follow a similar continuum to models of assessment (Gipps & Cumming, 2005). Different types of assessment are based on different conceptions of knowledge and learning. At one end of the continuum, assessment is based on measurement models of testing, which can be compared to a view of literacy as being the acquisition of a set of skills, such as spelling and grammar. At the other end of the continuum assessment is seen as an integral part of the learning process and relates to the view of literacy as being social and situated (ibid.). Recent developments in assessment see it as a way to support learning and also to draw attention to assessment as being value laden and socially constructed (eg., Gipps, 2002). The recognition that assessment is carried out within a particular social context means that the setting is reflected in decisions about what and who to assess, as well as for what purpose and by what method (Broadfoot & Black, 2004). When Gipps and Cumming (2005) compared assessment policies and practices across several nations, they came to the conclusion that a wider range of assessment practices is needed because the conception of literacy changes and expands. Even though many system-level assessment practices incorporate innovations that extend assessment beyond standardized tests, this detailed information is generally 'collapsed' into a score for reporting purposes (ibid., p. 709).

According to Gipps (2002), teaching, learning, and assessment are inextricably interrelated (ibid., p. 73), which, in turn, means that assessment operates in social settings. If curricula are viewed conventionally as a distinct body of information that can be transmitted to the learner, assessment involves making sure that the learners have received and absorbed the information (ibid.). Knowledge then becomes a collection of facts that the student needs to memorize. If, on the other hand, knowledge and meaning making are considered to be complex and diverse processes, then assessment also needs to be diverse in order to capture the depth and quality of students' understanding and reasoning (ibid.). When regarding assessment in a sociocultural perspective Gipps (ibid.) concludes that

processes as well as products should be assessed, and attention must be paid to the social and cultural setting of both the creation and the assessment of the task. The meaning and assessment of tasks is situated, so the requirements for tasks and their assessment are discussed, clarified, and negotiated during the process of performing the tasks (ibid.).

In a study that aimed at finding out what assessment may entail in a digital learning environment, Kjällander (2011) recorded lessons in social science in classrooms in Sweden where students at lower secondary school level use ICT to do a presentation of a country. Their work was formatively assessed in the classroom while the students created their presentations using information and images from different websites. When the students made their presentations in front of the class, the teacher made a summative assessment of their work immediately after their presentations. Kjällander (ibid.) concludes that "what is to be learned in the digital learning environment is constantly new and assessment becomes a matter of grading something unknown" (ibid., p. 119). Another conclusion is that the pupils actively engage in the images, colours and layouts of their presentations, but these aspects are not recognized as learning in the classroom. Kjällander (ibid.) argues that assessment should be exploratory, in order to recognize and assess the complexity of learning when students use digital technologies. Otherwise, innovation may be inhibited by assessment.

Oldham (2005) discerned a rift between teaching and assessment in her study on teaching and assessment practices in English, as a mother-tongue subject. The study concerns what Oldham (ibid.) refers to as 'moving-image media (MIM), which largely use the principles of film narrative and production. Three teachers at secondary school level used MIMs to teach English literature and the case study concerned both the planning, teaching and assessment of and through texts. Though the teaching practices were multimodal, the assessment practices were not.

> A hierarchy of modes exist in curriculum and assessment with representation of language at the top. This limits teachers' ability to recognize and reward students' communicative repertoires in modes other than those concerned with the representation of language. (Oldham, 2005, p. 181)

Oldham (ibid.) draws the conclusion that "taught literacy practices are more complex than the existing assessment arrangements allow" (ibid., p. 183). Oldham (ibid.) considers the teaching of English in school to be caught between two conflicting paradigms of literacy. Beyond school, it is difficult to discuss literacy in isolation from media, because other modes have been juxtaposed with written text and thereby have changed what it means to be literate. However, inside education media is considered irrelevant, or possibly detrimental to literacy, because great emphasis is put on the representation of language alone (ibid.). Oldham (ibid.) also states that literature is significant in the subject of English and because literature, by definition, is perceived as printed texts, any MIM adaptations of literature are excluded from the definition of literacy. Furthermore, teachers' use of different media is "linked in complex ways to how they define literacy and how they interpret the requirements of curriculum and of assessment" (ibid., p. 180). Similar to Cope et al. (2011), Oldham (2005) concludes that taught literacy practices are more complex than existing assessments, which recognize only speaking, listening, reading and writing as valid modes in English. This, in turn, means that aspects that are taught, are excluded in assessment. Furthermore, it means "that students may actually be more (or differently) (multi)literate than assessment suggests" (ibid., p. 185).

2.3. THE SUBJECT OF SWEDISH

The history the subject in question and the curricula, are aspects that need to be taken into account when considering the creation of multimodal texts by students in a classroom. Considering these aspects, it is also possible to illuminate the tensions in the relationship between the established practices of creating texts in language education and the emerging practices, such as the creation of multimodal texts.

Swedish, as a mother-tongue subject, has a history in which literature and skills in the language, for example, grammar and spelling, have been regarded as the main components of the subject. Until 1994, students were given two grades in the subject of Swedish, one in literature and one in language skills. Even though the division into two grades has been abolished, there is still a notion of 'high' and 'low' subjects of Swedish, where

the study of literature is connected to the 'high' notion of the subject. To work with language skills and with content that is more closely connected to the interests and motivation of the students is regarded as a 'low' subject of Swedish (Malmgren, 1999; Bergman, 2007).

In the Swedish national curriculum, there are both the subject of Swedish and the subject of Swedish as a second language (see section 4.1.1). Students who are not native speakers of Swedish can attend the subject of Swedish as a second language. Whether you have grades from Swedish or Swedish as a second language does not matter when you apply to upper secondary school or to higher education. The subjects are similar but not identical, and in a commentary on the latest curriculum and the subject of Swedish as a second language, Skolverket (2011c) stated that whereas the subjects were very similar previously, Swedish as a second language now has a distinct character of its own. In a comparison of the syllabuses of the subjects, Economou (2013) discerned a difference in the descriptions of the subjects, where the subject of Swedish is portrayed as more important and with more substantial aims as well as more knowledge requirements. Economou (ibid.) saw a resemblance between what has been characterized as the 'low' subject of Swedish and the description of the subject of Swedish as a second language. The aim of Swedish as a second language is for students to develop a functional command of the language that correlates to an implicit standardized norm that native speakers are assumed to possess (ibid.). Furthermore, Economou (ibid.) pointed out a difference in the syllabuses concerning the students' ability to use technology for presentations. This is stated as core content in the first course in the subject of Swedish (Svenska 1), which is compulsory for all students attending upper secondary school. In the subject of Swedish as a second language, on the other hand, it is stated as core content in the third course (Svenska som andra språk 3), which is only required for a much smaller proportion of the students.

Bergman (2007) wrote that since the 1970s, there has been a tendency to broaden the scope of the subject of Swedish to include film, theatre and media as well as an increasing acceptance of popular and youth culture in the description of the subject in the national curricula. When taking in historical aspects of how popular culture has been regarded by schools, Persson (2007) wrote that, at different points in time, schools have seen it

as part of their function to prevent influences from popular culture and to protect the traditional. However, maintaining a negative attitude towards new media becomes problematic because the world of youngsters today and, to a large extent, their identities are shaped by contemporary media- and popular culture (ibid.).

An expansion of modes to be considered as meaning-making devices was introduced in the Swedish curricula in the year 2000 as a broadened concept of text. In the description of the character of the subject of Swedish and its structure, it stated that a broadened concept of text includes written and spoken texts as well as images (Skolverket, 2000). "To acquire and work with texts does not always need to involve reading but also listening, film, video etc." (ibid., p. 5). There are, however, indications that texts in educational settings remain mostly typographical texts. In a research summary made by Myndigheten för Skolutveckling[1] (2004), objections are made to the generally negative attitude towards 'new media' within schools and instead the potential of 'new media' is brought into focus. "The new media and popular culture offer ample possibilities for active, creative, and differentiated meaning making" (ibid., p. 18). In their definition of a broadened concept of language and text, popular culture is included, as well as different media, such as TV, video and computers. The broadened concept of text has, however, been removed from the 2011 curricula (Skolverket, 2011a).

In the current Swedish language curricula at the upper secondary school level from 2011 (Skolverket, 2011a), a broadened concept of text is not mentioned. Even though the broadened concept of text did not have a prominent position in the previous curricula and was, for example, not mentioned in the goals that students should attain in the course of Swedish, other modes than written and spoken text are largely invisible in the current curricula for upper secondary schools. In a commentary to the 2011 curricula, it says that the kinds of texts are now specified (Skolverket, 2011c, p. 3). This specification consists mainly of the word 'literature' being accompanied by 'and other types of texts' and the word 'film' being

---

1   Myndigheten för Skolutveckling [The Swedish National Agency for School Improvement] was closed down in 2008 and its functions were partly taken over by Skolverket [The Swedish National Agency for Education].

accompanied by 'and other types of media' (Skolverket, 2011a, p. 160-162). When it comes to the students' own creation of texts, the word writing is used and other ways of expressing meaning are not mentioned.

Comparing the current curricula for Swedish compulsory school (*grundskolan*) and upper secondary school, there is a significant difference in the extent to which modes other than written or spoken text is mentioned. In the curricula for Swedish compulsory school it is repeatedly stated that students should create texts where different modes are included and that images and sound can be used as a resource for students (Skolverket, 2011b). Vincent (2006) wrote about a similar situation in Australia but he argued for the necessity of continuing to work with multimodal texts in the later grades. He concluded that "the interest in multimedia ends before the assessment standards come into play. All assessment standards are monomodal" (ibid., p. 2). In connection with this, it is interesting to note that in research carried out in Sweden on younger students' creation of texts, there is a tendency to accommodate for, and focus on the multimodal nature of communication (e.g., Hermansson, 2013, Thuresson, 2013). When it comes to research concerning older students, however, the focus is predominantly on reading and writing typographical texts (e.g., Nordenfors, 2011; Norlund, 2009; Bergman, 2007; Parmenius Swärd, 2008). Younger students are encouraged to work with several modes, but at a certain level, in Sweden the upper secondary school level, the emphasis shifts to spoken and written language. This reflects the literacy practices in society in general, and education in particular, where these modes are considered to be primary.

Within the subject of Swedish in compulsory school, there has traditionally been a clear tendency for students to write mainly narrative texts (cf., Nordenfors, 2011). Norlund (2009) discerned a possible similarity, in that there is a tendency to start with narrative texts, in both lower (*högstadiet*) and upper secondary school in the subject of Swedish. This could prevent students from developing skills in writing other types of text, for example argumentative texts. Nyström (2003) wrote that argumentative texts are considered difficult to write and are therefore introduced late in the Swedish school system. However, they are well established as a type of text that students at the upper secondary school level are required to master (Östlund-Stjärnegårdh, 2002). In argumentative texts, the author needs

to be able to consider a phenomenon from at least two different perspectives, which calls for some degree of abstract thinking and de-contextualization (ibid.). With an increased focus on argumentative and exploratory texts at upper secondary school level, the texts the students are expected to produce become more abstract and decontextualized. The ability to distinguish between claims made by the author and those made by others by referring to the original source is a characteristic of academic discourse (Blåsjö, 2004). This is an aspect that is prominent in the national tests in Swedish at upper secondary school level, since students are expected to make references to any external sources they have used in their essays.

Berge (2002) has studied the hidden norms in the assessment of essays written by Norwegian upper secondary school students. He writes about text norms as "a cluster of socially developed criteria defining which qualities can be expected from an utterance, uttered in a specific situation in a certain culture if it is to be considered as a text in that culture" (ibid., p. 459). One of the conclusions that Berge (ibid.) draws is that traditional school essays, where students are supposed to reproduce the knowledge of others, are popular amongst the examiners because, in these essays, the students represent what is referred to as maturity by the examiners. If, on the other hand, students write short stories, these tend to be regarded as being too personal (ibid.). Immature students are considered to have nothing to write about, to be disengaged, or to be unable to organize their ideas or to express themselves in passably rich and flexible language (ibid., p. 483). These different studies about which kinds of texts are produced and evaluated in education indicate a hierarchical order where more abstract and decontextualized texts are more highly valued.

The study of Parmenius Swärd (2008) concerns writing activities at upper secondary school and the conditions for writing, as well as how these conditions influence students' self-conception in relation to writing. One aspects that is considered is how students react to teachers' assessment and how that affects their conception of writing. Parmenius Swärd (ibid.) wrote that the teacher is the obvious authority in the classroom when it comes to assessment, because the teacher can make adjustments to the texts and suggest amendments. Therefore, the teacher decides which texts are approved in accordance with established cultural rules (ibid.) Students always have to relate to the requirements on written text to which the

teacher adheres. In order to avoid negative feedback and low grades, some students attempt to satisfy the teachers' wishes, while others oppose the assessment given by the teacher. Parmenius Swärd (ibid.) discerned that the assessment of the students' text focuses mainly on its shortcomings. She is concerned by the focus on assessment and the lack of actual teaching of how students could improve their texts. Parmenius Swärd (ibid.) considered that working with creativity in connection with writing and engaging in dialogue between students and teachers are possible ways to avoid the authoritarian and normative framework that is associated with writing. The study gives a general picture of the conditions for writing at upper secondary school in Sweden, but it does not relate to the possibility of creating texts that include several ways of expressing meaning to any considerable extent.

However, this is done to a larger extent in Bergman's study (2007), which is concerned with the content of the subject of Swedish in different programmes at upper secondary school. Vocational programmes generally consider the subject of Swedish as a skills subject, even though this varies depending on the interest of individual teachers (ibid.). In the higher education preparatory programmes, the focus is on literature and historical epochs. Bergman (ibid.) concluded that the subject of Swedish did not attempt to encompass the text worlds that students meet outside of school in any of the four classes where the data was collected. Bergman (ibid.) also discerned a hierarchy of values that influences the choices made by teachers regarding the content of the subject. In this hierarchy, texts of cultural heritage and literature rank the highest. Other media are considered less serious and are, therefore, not as strictly monitored or assessed (ibid.).

Likewise, Olin-Scheller (2006) came to the conclusion that the students live in different text world and that there is a lack of coherence between texts encountered in and outside of school. The study concerns upper secondary school students' encounters with and reception of fictional texts in and outside of school. It aimed to find out how the teaching at upper secondary school succeeds in meeting both the students' expectations, and their previous experience of fictional texts. Similar to Bergman (2007), the study reveals that the teachers largely conceptualize the subject of Swedish as concerning the reading of literature from different epochs. Both

Olin-Scheller (2006) and Bergman (2007) wrote about how the medium of film is used in the subject of Swedish. Bergman (ibid.) came to the conclusion that, after fictional texts, films were the most common medium in the teaching of Swedish. However, they were often "used for comparison, illustration, as a complement to works of fiction or in order to motivate the pupils in their study of literature" (ibid., p. 349). Olin-Scheller (2006) reached similar conclusions but also pointed to the fact that movies were rarely approached analytically and were worked on considerably less than fictional texts. Both studies conclude that films were more extensively used in the vocational classes where movies were used in a compensatory function, as they tended to replace the reading of printed texts (Bergman, 2007; Olin-Scheller, 2006). The treatment of different texts and media in the subject of Swedish illuminates a hierarchy, where literature and printed texts have a higher status than 'post-typographical' new media.

Olin-Scheller (2006) also studied the students' reading outside of school and how experiences of various texts affected the students' expectation on fictional texts. In an educational setting, the students were mainly exposed to literary fiction in the shape of typographical texts with which they were not particularly involved emotionally. The biggest difference between the texts encountered in and outside of school was the emotional involvement. Since this was stressed as important by the students, it became an obstacle, particularly for the male students. Olin-Scheller (ibid.) comes to the conclusion that literary instruction in upper secondary schools needs to match the literary repertoire of the students to a greater extent. That typographical texts are the norm in attitudes connected to the consideration of texts as being "high" or "low", need to be discussed. Another conclusion is that the teachers' qualifications for working with an expanded notion of text are limited (ibid.). Therefore, teacher education and teachers' development of competence need to focus on how to read fiction from new perspectives in order to successfully meet the needs of the students (ibid.).

In a study of English as a mother-tongue subject, Oldham (2005) perceived similar notions where film is associated with pleasure, not work. The teachers in Oldham's study regarded the curriculum as too remote from students' experience, in particular in relation to print. However, whereas

their teaching was multimodal, assessment was not (ibid.). For example, assessment of film adaptations of literary texts was avoided altogether.

Both Bergman (2007) and Olin-Scheller (2006) showed that the connection is weak between texts that students consume and produce outside of school, and the texts they encounter in school. Creating multimodal texts in language education could be a way of bridging the gap between the different text worlds, in which students seem to live, and may enable the students to make use of abilities they have learned to use in their activities outside of the classroom environment (Erstad & Silseth, 2008). However, as several studies have shown (cf., Olin-Scheller, 2006; Bergman, 2007; Elmfeldt & Erixon, 2004), there appears to be a tendency in the subject of Swedish to use other forms of expression, such as films, as a complement to or an illustration of literature. This implies that the focus on literature has been interpreted as the main aim of the subject of Swedish.

Widespread use of computers in the classroom has not contributed to the use of different kinds of expression in texts to any considerable extent. However, it has altered the process of writing considerably. In a study of how technological literacy influences students' writing, Turner and Katic (2009) came to the conclusion that with the use of three main tools - computers, the Internet and word processing programs – students come to create texts in a non-linear way. To create typographical texts with the aid of technology has become an activity which, to a considerable degree, has been incorporated into language education. In a recent study made by Skolverket (2013a) about the use of ICT in Swedish schools, it is clear that the students use computers[2] mainly to find information and to write texts. Computers were most often used on a regular or even daily basis in the subjects of Swedish and social sciences. About nine out of ten students at upper secondary school level say that they often or almost always use computers to search for information and write texts, while approximately six out of ten say that they use computers often or almost always to work with images, sound, music and film (ibid.). At schools where the students have individual computers, they use them to a greater

---

2   Computers here refer to stationary computers, laptops and tablets (Skolverket, 2013a).

extent, and use them to carry out a wider variety of tasks in different sub-jects (Skolverket, 2013a, p. 70-72).

In the same study, teachers were asked whether the use of ICT affected the motivation of the students. While 33% of the teachers at compul-sory school thought that ICT motivated their students to a great extent, only 17% of the teachers at upper secondary school level thought likewise (ibid., p. 77). Compared to the other levels in the school system, teachers and students at upper secondary school level and their parents were less positive about an increased usage of ICT in school (ibid., p. 78). The num-ber of upper secondary schools where the students are given their own personal computers in one-to-one-projects has increased in recent years in Sweden, and this may be one explanation for the differences in opinion. With the everyday use of digital technologies, in and outside of educa-tion, they become ubiquitous and, therefore, their motivational power may decline (cf., Stockwell, 2013).

In a study of one-to-one-projects in Swedish schools Fleischer (2013) came to the conclusion that having access to digital technologies in this way stimulates digital competence. However, Fleischer (ibid.) saw the focus on skills as part of an increased performativity in education. Fast formation of knowledge and the ability to present largely reproduced sources of information appealingly, tends to be in focus (ibid.). In order to prevent shallow formation of knowledge, Fleischer (ibid.) argues for the need to balance the performative aspects with reflective aspects. There-fore, the negative effects of performativity, which Ball (2003) sees as part of contemporary educational reforms, appear to influence how ICT is used in education (see section 2.2). Rather than facilitating new concep-tions of learning, where the focus is on producing relevant knowledge for particular situations (Säljö, 2010), an increased focus on performativity risks turning these activities in education into the reproduction of easily accessed information.

2.4. MULTIMODAL TEXTS OR DIGITAL STORIES

The texts that the students are creating in the studies are called multimodal texts. The multimodal texts consist of still images, which are accompa-nied by a soundtrack where the author's or authors' own voice/voices are

heard. Sometimes music is included and movement may be added to the images by the use of transitions between them. Furthermore, writing can be included by adding a preface, an epilogue and/or texts on the images. Another name for these multimodal texts is digital stories. That term is not used in the thesis, as it tends to be associated with narrative texts. The texts that the students create in the empirical material are of different genres, narrative as well as argumentative. Digital stories also tend to be created in environments outside the educational setting (e.g., Hull, 2003; Hull & Katz, 2006). The focus on telling a personal story is less prominent in a classroom setting (Lowenthal, 2009). Being created outside of classrooms means that the setting is different from that in the classroom and the activities are less likely to be influenced by institutional aspects, such as assessment. (e.g., Heap, 1989; Erstad, 2007). Some aspects that are prominent in educational settings, such as time constraints (Parmenius Swärd, 2008) may not be relevant in other settings (Lowenthal, 2009).

In a model for digital storytelling developed by The Center for Digital Storytelling (CDS) in the early 1990's, digital storytelling is defined as "a short, first-person video-narrative created by combining recorded voice, still and moving images, and music or other sound" (Center for Digital Storytelling, 2010). Lowenthal (2009) saw the CDS tradition of digital storytelling as appealing to educators since "it combines traditional storytelling with modern-day pop culture and technology" (ibid., p. 253). Alexander (2011) wrote that the discussion about digital storytelling in education and how to integrate it in curricula "represents a subset of a broader conversation concerning the meaning of technology in education and the importance of making digital work evidently part of the learning mission" (ibid., p 220). According to Erstad and Wertsch (2008, p. 36), these relatively new ways to express and share stories can be considered to create a new performance space, particularly for young people.

In a study of lower-secondary school students and the digital stories they create, Erstad and Silseth (2008) were concerned with how new technologies challenge the educational setting for literacy and learning. They regarded the creation of digital stories as challenging to the conventional perspective of knowledge-building in education, because it offers an opportunity for the students to blend informal and formal codes when they engage in practices of production. Digital technologies potentially

give students greater opportunity to produce and distribute their own content, because they are the producers, rather than the consumers when they are creating their digital stories. Erstad and Silseth (ibid.) stress the democratic potential in digital storytelling because it challenges conceptions of formal and informal learning, and may also teach students how to express themselves. The analysis focused on a digital story about the online game, World of Warcraft, created by three boys. The digital story contained signs of multivoicedness, as the students took on a formal voice when making a factual description of the game, but they also included their own informal story of why they enjoyed playing the game (ibid.). The boys, who were considered low-achieving students by their teacher, were engaged in an activity where they could draw on their interests outside the educational setting. In the digital story, the boys could express their own story in a formal setting and may therefore "challenge and change how practices in that formal setting are made" (ibid., p. 226). In the interviews, the boys stated that the technology made it easier for them to actually present their views, as they did not feel comfortable with, for example, reading a text they had written. Hence, their threshold for expressing and communicating was lowered with digital storytelling, compared to conventional writing tasks (ibid.). In the interviews, the students also stated that if they had done their digital story outside of the classroom, they would have "made more out of it". Hence, the students "consider their own cultural codes as more complex and comprehensive than the more formal ones" (ibid., p. 225). Erstad and Silseth (ibid.) only mention the assessment of the digital stories briefly when they state that it is likely to have implications for the stories since the grades and criteria are defined in the formal institutionalized context of school.

Several articles have analysed a project called DUSTY (Digital Underground Storytelling for Youth), in which young people create digital stories as an after-school activity (eg., Hull 2003; Hull & Nelson, 2005; Hull & Katz, 2006). The goal of the project was for the participants to tell stories about themselves and their community, but also for them to position themselves as agents who can articulate the needs of their communities in order to alter them (Hull, 2003). The authors argued that to create digital stories will soon "constitute an expected part of a person's literate repertoire" (Hull & Katz, 2006, p. 72). Furthermore, creating multimodal

texts should be regarded as a means to enrich, not impoverish, traditional ways of composing texts since their power may be in the melding of new and old genres as well as media (Hull & Nelson, 2005). Digital stories are seen as contrasting to the primarily alphabetic texts predominate in educational institutions (Hull, 2003). Difficulties in an educational setting are acknowledged, in particular in relation to the increased focus on meeting standards, which, in turn, means that "teachers and schools are now very hard pressed to find space and time to think expansively about the interface of literacy, youth, culture, multi-media, and identity" (Hull, 2003, p. 233). Hull (ibid.) states that alternative learning spaces, centred on new media and literacies as well as youth culture, are needed both inside and outside of school since the design of meaning is currently done in complex ways by combining, juxtaposing and manipulating different forms of expression.

2.5. SUMMARY

The concepts of literacy and assessment have both undergone recent paradigmatic changes in how they should or could be understood in society at large, as well as how they could or should be perceived in educational settings. Societal changes relating to globalization and changes in communicative patterns have meant that earlier conceptions and practices have been questioned and new ones have emerged. As the educational system is supposed to educate youngsters to partake as citizens in contemporary and future societies, larger societal changes will eventually have an impact on education (cf., Kozma, 2003). Just as education is supposed to convey what is and has been known and considered important in earlier and contemporary societies, it is also supposed to prepare the students to partake actively in a future society, which we may not know much about at present (cf., Säljö et al., 2011). Therefore, educational systems can be regarded as bridges between former, contemporary and future societies. These bridges connect as well as divide, which means that contradictions relating to societal changes over time are mirrored in educational systems and vice versa.

The new paradigms stress the situatedness of literacy and assessment practices, but although there has been a shift in how literacy and assessment are perceived, previous conceptions still remain and affect how the

concepts are related to in educational settings as well as in society at large. A view of literacy as the acquisition of a set of skills corresponds largely to a psychometric view of assessment. Neither the acquisition of literacy nor the testing of these skills takes the individual student's process of learning into consideration to any great extent. Nor does it relate to how the skills are performed in different settings (e.g., Gipps, 2002). Tensions relating to literacy also relate to assessment and how assessment is perceived and utilized in educational settings, as well as in society at large. A paradigmatic shift in the focus of assessment has meant that formative aspects have gained more attention. These formative aspects reflect a conception of assessment as being situated and part of the process of learning. At the same time, an increased focus on external assessment and comparisons between educational systems in different countries tends to promote a view on assessment that does not account for its 'situatedness' or the processes of learning to any great extent (e.g., Gipps, 2002; Lindahl & Folke-Fichtelius, 2010).

Changes in communicative practices, largely due to technological development, mean that communication today is less dependent on time and space and is increasingly digital and mediated through different technological channels (e.g., Jewitt et al., 2009; Lankshear & Knobel, 2008). Tensions arise in relation to literacy and assessment as well as between the two as a result of these changes. The broad focus of this thesis is how 'new literacies', such as multimodal texts consisting of images, sound, written and spoken language, relate to the concept of literacy and the assessment of such literacies in educational settings. The empirical studies were designed as interventions, in which activities relating to 'new literacies' were studied to discover how they were enacted by students and teachers in classrooms. Bringing in tools and activities not usually employed in conventional literacies can lead to tensions and contradictions between emerging and established practices, but may also lead to change and innovation (Engeström, 2009). By exploring these tensions and contradictions, it is possible to illuminate how emerging practices relate to the institutionalised practices of education both at the local level of the classroom but also to the systemic level of education when digital technologies are used as mediating tools and where students engage in activities enabled by these tools.

2.5.1 HOW THIS THESIS CONTRIBUTES TO THE FIELD

There is a lack of empirical studies that connect literacy practices related to the use of digital technologies in educational settings with assessment practices in this setting (cf., Forsberg & Lindberg, 2010). This thesis attempts to address this gap and contributes to the field by relating the analyses of the empirical material to aspects at the local level of the classroom, and also to systemic factors that influence activities carried out in the classroom, such as rules concerning assessment.

In a review of empirical research findings, Hew and Brush (2006) examined the barriers faced by schools around the world to the integration of technology into curricula. They came to the conclusion that six main barriers exist: resources, knowledge and skills, institution, attitudes and beliefs, assessment and subject culture. Selwyn (1999) has shown that subject culture affects what teachers as well as students perceive as the content and the nature of the subject. This, in turn, influences how and to what extent ICT is utilized. Because assessment and subject culture are particularly relevant to this study, it is noteworthy that Hew and Brush (2006) detected a research gap in relation to these two specific categories. According to an overview of research on assessment in Sweden, not much research concerning assessment has been done in the Nordic countries (Forsberg & Lindberg, 2010). The studies that have been done have mainly dealt with developing and evaluating different kinds of assessment methods (Korp, 2003). Therefore, there appears to be a lack of empirical studies of Swedish assessment practices in general, and in particular, a lack of studies on how the use of ICT in the classroom relates to assessment practices and grading criteria (Hew & Brush, 2006; Forsberg & Lindberg, 2010).

Studies of the creation of texts in classrooms have previously been undertaken at different levels of the educational system (e.g., Nordenfors, 2011; Bergman, 2007; Olin-Scheller, 2006; Parmenius Swärd, 2008; Hermansson, 2013). However, there is a research gap when it comes to studying the creation of multimodal texts at upper secondary school level in general, and, in particular, to focusing on the assessment of these texts. The empirical material in existing studies are predominantly observations in classrooms, combined with interviews with students and/or teachers

as well as the texts that the students create, or with other written material, such as lesson plans (e.g., Bergman, 2007; Nordenfors, 2011; Olin-Scheller, 2006; Parmenius Swärd, 2008). An actual analysis of the interaction between students and teacher during the process of creating texts is less common. The process of negotiating assessment in the interaction between students and teachers is rarely analysed when assessment issues are in focus, particularly not for multimodal texts. This thesis attempts to contribute to fill this gap.

CHAPTER 3

THEORETICAL FRAMEWORK

In this chapter, the theoretical framework that has governed the analyses of the empirical material is explained. Theoretical concepts are utilized to reveal the origins of tensions and contradictions in the empirical material, in order to explain how these affect the activities of students and teachers.

A sociocultural perspective on learning is adopted in this thesis, where learning is considered to originate in social actions and is mediated through interaction and the use of various cultural tools or mediational means. In practice, knowledge is used as a resource for solving problems and managing situations appropriately (cf., Säljö, 2000; Wertsch, 1998). When humans engage in activities, they typically employ mediational means, such as tools and signs (Wertsch, 1991). Wertsch (1998) regards analyses that focus only on individual agents as limited, or even misguided. Instead, he advocates, attempts to 'live in the middle' by focusing on mediated actions. He stresses the importance of the mediational means in shaping actions, and subsequently, he points out that individuals should be regarded as 'individual(s)-acting-with-mediational-means' rather than just 'individual(s)' (ibid.). When studying how people make use of mediational

means, the focus is on the interplay between the individual and the tools they use (cf., Ivarsson, Linderoth & Säljö, 2008, p. 211). The unit of analysis in this thesis is situated and mediated actions, where the meditational means used by the students includes tools, such as computers and pens, and signs, such as language and images. As well as being mediated, actions are also situated in particular settings, which affects actions and interactions. For example, how youngsters use computers varies depending on the setting they are in. When used in educational settings, the computer may be used primarily for writing and searching for printed texts, whereas, when it is used in other settings, it may be used to listen to music and play games. How mediational means are employed also depends on the activity in which they are used. When tools are used in different settings and for different purposes, they may serve as bridges, since how they are used in one setting affects their use in other settings. Therefore, mediational means can facilitate, but can also constrain, the crossing of boundaries between different settings and the creation of coherence between settings. When situated, mediated actions are the unit of analysis, it is vital to take into account the individuals, the mediational means they employ and the sociocultural setting in which the actions are performed. Thus, sociocultural perspectives are concerned with interactions as well as with "the role of longer timescale constancies and how they constrain, afford, and intrude into moment-to–moment activity" (Lemke, 2001, p. 19). All mediational means enable actions but also constrain them. Though new tools may free us from earlier limitations, they also introduce new ones (Wertsch, 1998). However, the constraints of certain tools are usually only recognized in hindsight, once a newer version has been introduced. By comparing them, the limitations of the earlier tools are recognized (Shipka, 2011). For instance, the mobile phones used in the 1990s appear very simple and restrained, compared to the smart phones of today, but when they were new, it was a novelty to be able to make a phone call wherever you were located.

The process of appropriating mediational means has been described by Wertsch (1998) as "taking something which belongs to others and making it one's own" (ibid., p. 53) and thereby integrating it in one's own repertoire. Appropriation is not about transmitting knowledge or skills from one person to another. Instead, the process of appropriation is regarded

as intrinsically dialogic, as it involves a meeting between collective knowledge and individual experiences (Wertsch, 1998). In this meeting, something partially new is created which is dialogic and multivoiced since it originates in social, communicative processes (Wertsch, 1991). Wertsch (1998) separates appropriation from mastery, because "the appropriation of mediational means need not be related to their mastery in any simple way" (ibid., p. 57). Although the use of cultural tools can be characterized by a high level of mastery, this does not mean that the tool, per se, is appropriated by the user. Instead, using the tool may be characterized by resistance or feelings of conflict, which means that the person using it does not consider the tool as their 'own' (ibid.).

In dialogism, as conceptualized by Linell (2009), 'other-orientation' is considered to be a characteristic, since dialogism emphasizes that people are social beings who are thoroughly interdependent. Responsivity and addressivity are concepts that relate to the responsive and projective aspect of actions and utterances. Responsivity refers to those communicative actions that are "selectively responsive to (a complex array of) contextual conditions, often including particular communicative actions by others" (Linell, 2009, p. 167). As well as responding, communicative actions are addressed *to* somebody. Addressivity involves the speaker's anticipated responses. This, in turn, influences what speakers say and how they phrase their utterances (ibid). For the speaker, the responsivity could be said to work in two directions, since utterances are shaped by the anticipated response, but also by the preceding utterances to which they are a response (Wells, 1999).

Though the focus in dialogism is on the interactional level, Linell (2009) writes about double dialogicality as a notion that relates to both situated interaction and situation-transcending practices. Interactions and practices are located on different time-scales but they are features of the same communicative project (Linell, 2009, p. 52; Lemke, 2000). In order to understand interactions in a classroom, it is necessary to take into consideration the sociocultural practices developed over time in that setting. The students, as well as the teacher, relate to these sociocultural practices when negotiating activities. Therefore, there is a double dialogicality in their negotiations since both are involved in the particular situation and the sociocultural practices of the educational setting (Linell, 2009).

Activities both respond to and address this double dialogicality. Emerging practices may affect and alter established practices but alterations of such situation-transcending practices generally take place on a longer timescale.

> Participants in situated interactions contribute over time to sustaining or changing the more long-term, situation-transcending practices. These practices are dynamic too, and may be altered, most often due to the cumulative effects of many small adjustments, but in exceptional cases as a result of abrupt, "revolutionary" changes. (Linell, 2009, p. 52)

When individuals engage in activities, they do so based on their knowledge and experience of how these activities are performed in a particular setting. Therefore, that the sociocultural setting of a classroom shapes the activities and the interaction, constitutes a premise for the analyses of the negotiations. In educational settings, communicative or discursive practices have developed historically. Hence, when interacting in a school, participants tend to participate in accordance with the established discursive practice in that setting (Säljö, 2000, p. 137). These discursive practices can be regarded as cultural tools that are appropriated by participants in order to make meaning in particular sociocultural settings. As utterances respond to previous utterances and also address anticipated responses (Linell, 2009), they can be regarded as part of on-going conversations. These conversations are also affected by the setting in which they are situated and could be part of different discursive practices in this setting. Therefore, the message and how it is expressed in a multimodal text may depend upon whether it responds to or addresses utterances that are part of an on-going conversation with peers or with the teacher.

3.1. CULTURAL HISTORICAL ACTIVITY THEORY

In activity theory, or Cultural Historical Activity Theory (CHAT), as conceptualised by Engestöm (1987), the prime unit of analysis is "the object-oriented, collective and culturally mediated human activity, or activity system" (Engeström & Miettinen, 1999, p. 9). CHAT, as a theoretical framework, is used in the analyses, applying activity systems, as described

by Engeström (1987, 2009), to the educational setting in general and to the activities of creating and assessing multimodal texts in this setting, in particular. In this thesis, activities in a classroom are conceptualised as activity systems that consist of components at the local and the systemic levels.

The components at the local level of the activity system are the ones engaging in the activity, the tools that are used, and the goal or object of the activity. Engeström (1998) calls the subject, object and mediating tools "the tip of the iceberg" as they represent the "visible instrumental actions of teachers and students" (ibid., p. 79). The situated and mediated actions of students and teachers are oriented towards the object of the activity, and hence, the activity generates actions. Whereas activities evolve over extensive periods of time, actions and events are short lived, with a temporarily clear beginning and end (ibid.).

The components at the systemic level are community, rules, and division of labour (Engeström, 1987). These less visible components at the systemic level contain the structure of school systems, whereas, at the local level, the components relate to content and methods of teaching (Engeström, 1998). When components at the local level of the activity system change, these alterations are rather tangible, but changes in the components at the systemic level are not as easily detectable. Activity systems continuously change and develop and older phases become embedded, so that activity systems contain sediments of earlier history as well as buds of possible futures (Engeström, 1993; Kuuti, 1996).

Engeström (1998, p. 78) conceptualized activities as "collective, systemic formations that have complex meditational structures". The reciprocal relationship between subject and object is mediated by tools. Kuuti (1996, p. 27) states that in order to consider "the systemic relations between an individual and his or her environment in an activity", a third main component, community, is added. In so doing, two new relationships are formed between subject and community and between object and community (ibid.). Just as the relationship between subject and object is mediated by tools and signs, the relationship between subject and community is mediated by rules and the relationship between the object and community is mediated by the division of labour (ibid.). The mediating components are "historically formed and open to further development" (Kuuti, 1996, p. 28).

Engeström (1998) states that school reforms tend to focus on either the local or the systemic level of the activity system. He considers that this dichotomous conception of the relationship between the systemic and the local level is a reason why school reforms generally have little or no impact. Instead, Engeström (ibid.) argues for the necessity of paying attention to the recurrent and 'taken for granted' aspects of school life, which he conceptualizes as occurring at the middle level. Examples of aspects, which adhere to the middle level, are grading and testing practices and connections to settings outside of education. The middle level is regarded as a strategic focus of change in classroom practices, since the processes at this level imply how schoolwork is perceived and how we make sense of what is going on in a situation (ibid.). As such, the middle level is concerned with the motive and the goal of an activity, which, in turn, means that the middle level is of importance in relation to motivation for both students and teachers.

Activities are directed towards objects, and the transformation of an object to an outcome motivates the activity (Kuuti, 1996). This implies that motivation is a driving force of activities. However, as Nardi (2005) points out, the term 'object', in itself, encompasses two meanings in English. It can mean, "that which is to be realized", which implies the materiality of an object, but it can also refer to motives linked to the object of an activity (ibid.). Nardi suggests that the construction of an object refers to the formulation of the object or "figuring out what it should be", whereas the instantiating of an object refers to the realization of a particular object or "achieving an outcome" (ibid., p. 40). The dual nature of the object as being both material and socially constructed means that there is a risk in any activity-theoretical discussion, or analysis, that either the materiality of the object or the socially mediated nature of it, will be overemphasized, or neglected.

If motives are the driving force behind activities, the question arises of which, or whose motive becomes relevant in a collective activity system. Nardi (2005) argues that individuals may have different motives to engage in an activity, but that the motives also are linked, and that it is a relational process to align the motives of individuals. Engeström (1995) regarded the object of an activity as a horizon that determines possible actions, while Kaptelinin and Nardi (2006) regarded it as a problem space to which

the collective activity is directed. Describing the object in this way allows multiple motives but also narrows down the possible actions, since the horizon or problem space does not encompass anything or everything. The objects and the object-related horizon are transformed during the course of an activity, as the dialogical meaning of the activity is accumulated in dialogue between participants, as well as with the sociocultural setting in which the activity is performed (Foot, 2002).

In contrast to the neat triangles that often depict activity systems, these systems are characterized by tensions and contradictions (Engeström, 1993, p. 72). Contradictions are historically accumulated, systemic tensions within and between activity systems (ibid.). They are central in CHAT and may cause disturbances, but they are also considered to be the driving force of change and development. Inner or primary contradictions reside in the components of an activity system (ibid.). A component in an activity system may acquire new qualities due to influences from intersecting activity systems. In that case, secondary contradictions arise between that component and others in the system (ibid.). While contradictions relate to systemic tensions within or between activity systems, conflicts relate to individuals and may affect their short-term actions (Sannino, 2008). Sannino (ibid.) considers the roots of conflicts to lie in contradictions. Conflicts at the local level, as well as dilemmas and local innovation, may then be seen as manifestations of systemic contradictions (Engeström & Sannino, 2010). CHAT can be regarded as a framework for understanding transformations, since by studying contradictions, insights may be gained into how and why transformations occur, as well as what they involve (Engeström, Engeström & Suntio, 2002). By tracing troubles and innovations, internal contradictions can be identified and development can be understood (Engeström, 1993). Often, tensions and contradictions are not open conflicts but may be noticed in interaction, when some aspects of the activity attract more attention and others are largely ignored.

There are obvious changes in the components of the activity system at the local level when the creation of multimodal texts in language education is compared to the activity of writing typographical texts. This is because the tools, the object, and the outcome have all been altered. This thesis explores how the changes in some components in the activity system give rise to tensions and contradictions in and between different components,

as well as between different activity systems. The analyses focus on the tensions and contradictions in the creation and assessment of multimodal texts in classrooms as well as on the tensions between intersecting activity systems and their relationship to the multimodal text as a literacy object at the boundary. Focusing on these tensions and contradictions illuminates aspects that both enable and restrain transformation.

3.1.1. BOUNDARIES

In the third generation of activity theory (see Figure 1), the basic model of an activity system has been expanded to include at least two interacting activity systems (Engeström, 2009, p. 56). When several activity systems are involved, the object of the activities becomes potentially shared and can then be regarded as a boundary object. In this thesis, the multimodal text is regarded as a potential boundary object, which may facilitate boundary crossings and connections between activity systems of creating texts in and outside of education.

Generally, boundaries are internally heterogeneous and the nature of a boundary is reflected in boundary objects as they are simultaneously concrete and abstract (Star & Griesemer, 1986, p. 408). According to Star and Griesemer, 'boundary objects' is an analytical concept referring to objects which inhabit "several intersecting social worlds" (ibid., p. 393). They further explain boundary objects as having "different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable" (ibid.). Through the process of creating and managing boundary objects, coherence may be developed and maintained across intersecting social worlds (ibid.). The description of boundary objects and boundary crossing made by Star and Griesemer (1986) tends to accentuate the materiality of the object and the movement of material objects between different social worlds.

Engeström, Engeström and Kärkkäinen (1995) refer to the movement of ideas, concepts, and instruments from different domains as boundary crossing. In such horizontal movements, horizontal expertise across boundaries is necessary. When learning is considered to be a vertical movement where the expert teaches the novice, such horizontal movements are largely ignored (ibid.). Whereas standard theories of learning focus on

processes where a subject acquires knowledge that is identifiable, stable, and reasonably well defined, it is common to learn new forms of activities that are not yet there (Engeström, 2009). In such learning processes, there are no competent teachers, as activities are learned whilst being created.
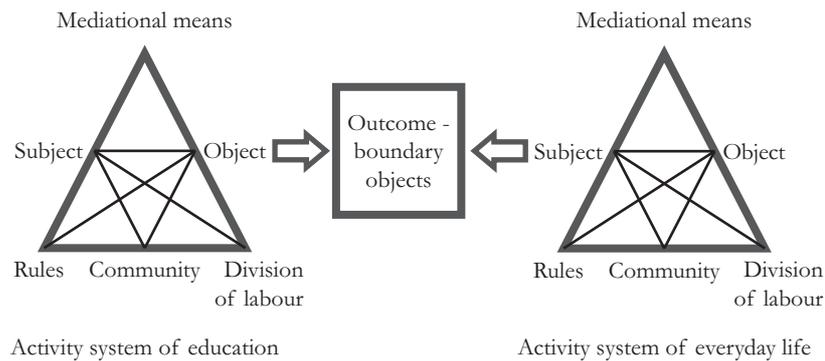
Figure 1: Interacting Activity systems and outcomes as boundary objects. Adapted from Engeström, 2009, p. 56.

In a review of the literature on boundary crossing and boundary objects, Akkerman and Bakker (2011) define boundary as "a sociocultural difference leading to discontinuity in action or interaction" (ibid., p. 133). However, as the activity systems involved are relevant to each other in certain ways, the boundary indicates continuity and sameness simultaneously. As the boundary belongs to both one world and another, descriptions of people and objects at the boundaries show signs of ambiguity (ibid., p. 141). The boundary can also be regarded as 'in-between', since it can be perceived as belonging to neither one world nor the other (ibid.). Therefore, boundaries connect as well as divide the activity systems involved. People and objects at the boundary act as bridges between the related worlds, but at the same time represent the division between them.

Akkerman and Bakker (ibid.) conclude that it is because of their ambiguous nature that boundaries have become a phenomenon that is investigated in relation to education. The ambiguous nature of boundaries creates a need to negotiate meanings as the ambiguity may invoke uncertainty in how to relate to boundaries.

> Both the enactment of multivoiecness (both-and) and the unspeci-
> fied quality (neither-nor) of boundaries create a need for dialogue,
> in which meanings have to be negotiated and from which something
> new may emerge.. (Akkerman & Bakker, 20ll, p. 142)

In the literature about boundary crossing and boundary objects, Akker-
man and Bakker (2011) discern four learning mechanisms, one of which
is transformation. Transformation involves confrontation and continuous
work, which leads to profound changes in practices, in which in-between
or boundary practices may be created (ibid.). They see hybridization, in
which "ingredients from different contexts are combined into something
new and unfamiliar" (ibid., p. 148), as one of the processes involved in
transformation. When practices cross boundaries and engage in a creative
process, something hybrid emerges.

Since the two triangles in the figure that depict the activity system (see
Figure 1) are the same size, it may appear that the different activity sys-
tems influence the outcome and boundary object equally. However, when
studying the creation of texts in an educational setting, this is not the case.
The students are doing a school task and therefore the activity of creat-
ing texts in an educational setting is the dominant activity. Experiences
of activities where texts are created in other settings are non-dominant.
Sannino (2008) regards the "process of interplay between dominant and
non-dominant activities, which includes conflicts and almost unnoticeable
transitional actions" (ibid., p. 329), as a conceptualization of innovations
in educational settings. These transitional actions may cause the activities
to merge and hybridize as they take sideways actions and cross boundaries
between dominant and non-dominant activities (ibid.). Drawing on liter-
acy practices both inside and outside of the classroom enables alterations
of the literacy objects as well as alterations of the activity of creating texts
in an educational setting.

Because creating multimodal texts is not an established practice in the
language classroom, creating them in this setting may give rise to ten-
sions and contradictions between intersecting activity systems. Tensions
between activity systems can be viewed as relating to the double dialogi-
cality of negotiations since the particular situation is taken into considera-
tion, as well as the situation-transcending and established practices in the

setting where the situation takes place (Linell, 2009). The terms 'rules' and 'divisions of labour' mediate the relationship between the systemic component of community and the local components of subject and object (Kuuti, 1996). The historically formed components at the systemic level affect both the interactions in the classroom, as well as the activities the students and the teacher engage in. What it means to create a literacy object in the shape of multimodal texts in the classroom has not been established and therefore, what the activities involve will have to be negotiated. By assigning the creation of a multimodal text to the students, their knowledge of how multimodal texts are created in other settings is invited into the classroom. However, as activities in other settings are influenced by mediational means developed historically in those settings, the requirements for the activity of creating multimodal texts in an educational setting will have to be negotiated.

3.2. TIMESCALES

Change can be perceived as operating on different timescales (Lemke, 2000, 2001; Roth, 2001). Small and relatively fast changes in activities carried out in a classroom operate at a low level and on a short timescale but they may change processes that are on a longer and slower timescale, such as sociocultural practices and structural organisation (cf., Lemke, 2000). However, higher levels, on long-term timescales, can also constrain alterations at lower levels. Lemke calls this heterochrony and explains it as when "long timescale process produces an effect in much shorter timescale activity" (ibid., p. 280).

Lemke (ibid.) writes about interdependent processes occurring on different timescales in ecosocial systems and concludes that it is the circulation of semiotic artifacts that enables coordination between processes on different timescales. For example, longer- and shorter-term processes are often linked in classrooms by material objects, such as textbooks. Similarly, repeating patterns of interaction, or discursive practices (Säljö, 2000), can be detected in classrooms, occurring on different days and in different schools. These material or discursive links are comparable to what Engeström (1998) refers to as the middle level, which connects or attempts to mediate the local and the systemic level as well as to coordi-

nate between different timescales. Artifacts, as well as practices concerned with assessment and grading, can thus connect and relate different levels operating at different timescales to each other. By relating interactions in classrooms, on a short timescale, to situation-transcending practices in education, on a longer timescale, it is possible to discern how the different levels, operating on different timescales, relate to and affect each other. It is also possible to explore how aspects at the middle level relate to the local, as well as the systemic level, by studying interactions in classrooms In this thesis, tensions and contradictions in interactions are identified, and are related to the different levels in order to understand their origins as well as how they constrain or enable the transformation of practices. The notion of timescales comes into play since the different levels operate on different timescales that, in turn, affect transformations at both the local and the systemic levels.

3.3. CONNECTING RESEARCH QUESTIONS, THEORY AND METHOD

Previous chapters have set the stage for the studies by expanding on the reasons why it is of interest to study the use of digital technologies in educational settings. The research questions in this thesis concern how contextual references from outside the educational setting are negotiated when the students create their multimodal texts, and what aspects of the multimodal texts the teacher and student negotiate as important in relation to the assessment of the texts. Furthermore, the research questions concern how the explicit grading criteria for the assessment of the multimodal texts are used by the students and the teachers and how the activities of creating and assessing multimodal texts relate to established practices of creating and assessing texts in the language education. This chapter has outlined the theoretical framework that is used in the thesis in order to theoretically understand the empirical material and to answer these questions.

The concepts of literacy and assessment have both undergone recent changes and nowadays they are perceived as social actions that are influenced by the setting in which they take place. This corresponds to the theoretical framework in which the sociocultural perspective on learning

stresses the situatedness of activities and how that affects what is learned, and how it is learned in different environments. However, institutions, such as schools, have a history in which certain ways of being and doing have developed over time. This means that people in a particular situation are in dialogue with both historical aspects in a certain setting and the situatedness of the current activity (cf., Linell, 2009; Säljö, 2000). This double dialogicality implies that although a situation is unique in some ways, in other ways it is connected to other similar situations in that particular setting. In an educational setting, for example, language education has been connected to reading and writing for a long time, and students have written essays to demonstrate their skills in expressing themselves. This established practice influences the activities of students and teachers in a classroom as well as their perception of the characteristics of a text created in this environment. If students in their language education are given the task of creating a multimodal text during lessons, the historical aspects of what creating texts in language education means and entails will influence what they do and how they do it. Aspects of the particular situation they are in will also influence the activity and the students' actions when they engage in the task. Furthermore, since the creation of multimodal texts is more commonly engaged in outside of education, the activity will be influenced by how texts are created in other settings. Initially, questions concerning how students relate to each other and the different kinds of expression available to them when creating multimodal texts were central in these studies (see section 4.1.2). Therefore, the focus of the research was at the local level of the activity system and in relation to the components: subject, object and tools.

However, through the iterative design process of the research, which will be further explained in the next chapter, it gradually became clear that factors that were not clearly visible in the classroom affect the use of the digital tools as well as influencing how the task of creating multimodal texts was carried out. The initial concern with how the introduction and use of digital tools in the language classroom affects the way students create texts, needed to be expanded in order to understand what happened in the classroom and to situate the activities in a wider context. Video recording of students while they created multimodal texts gave an account of the local level of the activity. However, the way that the components

at the systemic level affected the local level was not as easily discernible. Therefore, viewing what was done in the classroom through the theoretical perspective of CHAT became relevant. CHAT focuses on the how components in activity systems, at both the local and the systemic level relate to and constitute each other. Jewitt (2006) states that CHAT "offers a good lens for exploring what it means to change a tool in the classroom" (ibid., p. 25) and she sees the activity system as useful for exploring the web of relationships that shape the activities. Notions of community for both teachers and students, inside and outside of the educational setting, will shape the activities (ibid.). Furthermore, the roles of teacher and student, here regarded as the systemic component of division of labour, may be re-configured when new tools are used in activities. By employing theoretical concepts from CHAT, the relationship between activities of creating and assessing multimodal texts at the local level of the classroom and the formal or structural level of educational settings can be explored. This, in turn, illuminates how the different components enable or inhibit the emergence of practices in which digital technologies are used to create multimodal texts in classrooms. Hence, the theoretical framework and the concepts employed are used to explain how different levels of activity systems affect each other, and are also used to explore how the activity of creating texts in education relates to similar activities in other settings.

Multimodal texts are made with tools that are not used conventionally when creating texts in a classroom and the outcome of the activity also differs from a conventional text. This means that tensions relating to changes in the components in activity systems are likely to arise (Engeström, 1993). In analysing the activity of creating multimodal texts in order to illuminate the relation between the systemic and the local level, certain aspects that appeared to create tension emerged as important. These aspects created tension in and between the different components in the activity system, as well as in connection to activity systems outside of the educational setting. One such important aspect was the assessment of the multimodal text, and another important aspect was how and to what extent students referred to references outside the educational setting. Both these aspects indicate how the students make sense of the activity they engage in, and how the local and the systemic level of the activity may be linked to one another. They can therefore be regarded as adhering to the middle level of

the activity system (Engeström, 1998). In this thesis, aspects at the middle level are regarded as important and must be carefully considered when studying tensions related to change.

'Boundaries' is another term used in CHAT and is considered to be an important conceptual tool when looking at activities in classrooms in which the task the students are engaged in is related to activities more commonly found in other settings. In connection with the creation and assessment of multimodal texts in an educational setting, boundaries can be perceived at different levels. The activity, in itself, can be regarded as a boundary practice as it relates to practices generally engaged in outside of the educational setting. A boundary in relation to conventional and 'new literacies' is closely connected to this aspect, since creating and sharing short films is common in digital environments and through channels, such as YouTube and Vine.

The outcome of the activity, the multimodal text, can also be regarded as a boundary object. Multimodal texts may be regarded as material objects and/or as socially constructed objects of the activities of creating texts. As material objects of the activities, the multimodal texts are alike in appearance even if they are created in different settings. However, if the multimodal texts are regarded as socially constructed objects, then the motive and the goal of the activity may differ in different settings, and that will, in turn, affect how the object is perceived. The ambiguous nature of the activity as a boundary practice means that the aspects of the multimodal texts that are perceived as important by students and the teachers will vary. This variation becomes apparent in the tensions that are studied in this thesis. The process of identifying aspects that were of importance and deciding on the focus of the study will be described in the following chapter, in which the iterative design of the study is explained and explored.

CHAPTER 4

RESEARCH DESIGN AND METHODS

The empirical material, which forms the basis for the analyses in this thesis, is presented in this chapter. How the empirical material has been collected as well as the analytical tools that have governed the analysis are also described. Furthermore, ethical considerations as well as personal involvement in the empirical material are discussed.

4.1. RESEARCH DESIGN

The collection of the empirical material has been made in classrooms in which teachers have had an interest in letting their students create multimodal texts. However, the teachers have had little or no experience in creating multimodal text themselves or in having their students create them during lessons. Therefore, the studies can be regarded as interventions done in collaboration with the teachers. The researcher has also taken an active part in the implementation of the activity. As such, the studies closely relate to design-based research (DBR), in which the aim is to develop theoretical understanding and to influence practice by designing,

studying and refining innovations in realistic classroom environments (McKenney & Reeves, 2012). DBR can be regarded as a methodological orientation that advances our understanding of learning-related educational phenomena (Bell, 2004, p. 245). Bell (2004) concludes that DBR in education is a manifold enterprise with regard to focus, practice, and underlying epistemology. Design research in cognitive science often aims at generalizability across contexts, whereas DBR focuses on the local social worlds and seeks to understand the nature of the introduced changes and their consequences (ibid.). Findings in this type of qualitative study cannot be generalizable as empirical generalizations to larger populations. Instead, the research targets an analytical generalizability, which is concerned with the nature of the phenomenon being scrutinized (Gobo, 2004). By relating to broader theory, the results of particular studies can be analytically generalized (Yin, 2003).

Since the empirical material in this thesis consists of video recordings of groups of students during a limited number of lessons, it is organized in the form of case studies of the different groups of students. Stake (1995) states that whereas topics are generalities, cases are specific; "Case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances" (ibid., p. xi). However, the emphasis on uniqueness and understanding the case itself implies knowledge of 'what the case is different from' (ibid.). Although case studies may seem like a poor basis for generalizations, they can refine and modify generalizations (ibid.). Counter-examples can invite modification of a generalization, and positive examples can increase the confidence in existing generalizations. Such refinements of generalizations are common in research, but entirely new understandings are rather rare (ibid.). McKenney and Reeves (2012) claim that case studies can be generalized by incorporating theoretical aspects from one intervention into the design of other interventions in other settings. In this way, case studies can act as springboards for related design studies (ibid.). In an iterative design process, ideas and findings from one design may also assist in developing ideas for the next design, which, in turn, can be regarded as a means to substantiate the findings in previous designs by incorporating and developing them in the following designs.

This research has been conducted through interventions, rather than on them, since the focus is on understanding the responses to the interventions. Therefore, interventions are viewed as a means of gaining deeper insights into phenomena in authentic settings (McKenney & Reeves, 2012). As Cobb, Confrey, diSessa, Lehrer and Schauble (2003) write, the intent is "to investigate the possibilities for educational improvement by bringing about new forms of learning in order to study them" (ibid., p. 10).

In DBR, an intervention is regarded as a joint product with a particular context, and the aim is not to perfect a particular product or process but rather to enquire into the nature of learning in a complex system (DBR, 2003). DBR involves collaborations between researchers and practitioners, in which the study is negotiated and developed. Through the multiple iterations, the designs of the interventions also evolve (Anderson & Shattuck, 2012). Collaboration between researchers and teachers is a central aspect of DBR (McKenney & Reeves, 2012). This means that the research, to some extent, is done in collaboration with, rather than for, or on, practice. By adapting the design of the research through the iterative process, researchers and teachers can learn from each other, and the research process itself can make practical contributions (ibid.). DBR is also described as responsively grounded because it "is structured to explore, rather than mute, the complex realities of teaching and learning contexts, and respond accordingly" (ibid., p. 15). A key aspect of successful examples of DBR appears to be maintaining and sustaining a productive partnership between researchers and teachers (DBR, 2003). The challenge lies in developing collaborations that will meet the dual goal of refining local innovations as well as developing more globally useable knowledge of the phenomena in question (ibid.).

The theoretical framework of CHAT and the methodology of DBR share a common interest in influencing and developing the phenomena that is being researched. In this thesis, the iterative processes involved in DBR have facilitated a refined understanding of what the activities of creating and assessing multimodal texts entail and where tensions occur, as well as which tensions appear to be crucial to the illumination of the processes involved. CHAT, as a theoretical framework, has been applied to the collected empirical material in order to understand how different com-

ponents in activity systems relate to and constitute each other. Whereas, a trajectory of change is discernible in the iterative processes of the research cycles, the theoretical framework is utilized to analyse what the alterations entail, rather than to drive the processes of alteration. However, as the theoretical framework was used to reach an understanding of the designs, it also influenced the next iteration and the following designs.

The interventions in the different designs attempted to bring about activities in which the use of digital technology was essential and in which students used multiple kinds of expression in their texts. The interventions were made in two Cycles where each Cycle consisted of two Designs (see Table 1, Reserach timeline). The iterative interventions were modified, based on the analysis of the previous Design. The Cycles of research in these studies can be characterized as an iterative design process, since the conjectures in the different cycles have changed (Cobb et al., 2003). Designs 1 and 2 in the 1st Cycle focused mainly on the development of a theoretical understanding of the processes involved in the activity of creating a multimodal text in the classroom. When analysing and revising the results of the 1st Cycle, the importance of assessment in the classroom practice was found to be crucial. Thus the assessment process became the focus in the 2nd Cycle of the research.

4.1.1. THE SCHOOLS AND THE PARTICIPANTS

The three schools where the studies were conducted are all centrally located in a larger city in the south of Sweden. The collaboration has concerned one teacher at each school, so when more than one class was filmed at a school, the class had the same teacher in Swedish, or in Swedish as a second language. In the national curriculum there is the subject of Swedish as well as the subject Swedish as a second language, which students who have a first language other than Swedish can attend (see section 2.3 and 4.1.2).

Excerpts presented in the analysis of the empirical material are taken from some of the groups that were recorded, but not all. A selection of cases and excerpts had to be made from the complete material in order to present findings in a comprehensible way, which, in turn, meant that not all groups were presented as a case. However, as the complete material is

	Empirical material	Phases in the iterative process
Autumn term 2008		Exploring research question and designing the pilot study. Practical aspects of gaining access to classrooms.
Spring term 2009	Design 1 – pilot study in one class in school 1.	Analysis of empirical material, reflection and defining theoretical framework. Practical aspects to consider when collecting empirical material such as how many cameras to use and what to focus on when recording. Designing second intervention.
Autumn term 2009	Design 2 – empirical material in three classes in three schools.	Continual analysis of findings from Design 1. Reviewing and redesigning of intervention.
Spring term 2010	Design 2 – continues	Analysing findings from Design 2. Refining of theoretical framework.
Autumn term 2010		Review and analysis of 1st Cycle. Reviewing and refining theoretical framework. Synthetizing findings and analysis of 1st Cycle. Designing third intervention.
Spring term 2011	Design 3 – empirical material in two classes in school 3.	Reviewing and redesigning of intervention and refining theoretical framework.
Autumn term 2011	Design 4 –empirical material in one class in school 3. Assessment talks between students and teacher. Interviews with students.	Analysing findings from Design 3. Reviewing and refining theoretical framework. Continual analysis of empirical material based on reviewed research questions.
Spring term 2012		Analysing findings in Design 4. Reviewing and refining theoretical framework.
Autumn term 2012 – spring term 2014		Analysing and synthesizing findings in 1st and 2nd Cycle. Conclusions based on the whole iterative process.

Table 1: Research timeline

taken into consideration in the analysis in Article 4, all recordings are part of the analyses (see Table 2, Overview of Empirical Material). The names used in the excerpts are all fictive.

School 1 is quite large, with a mixture of mainly vocational programmes. The groups that were recorded in this school both attended an additional year at the 'individual programme' (*individuella programmet*) in order to continue at upper secondary school level. The students had not passed in one or several of the three main subjects (Swedish, English, and mathematics) at compulsory school, which meant that they could not attend a national programme at the upper secondary school level. In these classes, there was a mixture of students with Swedish as their first and second language. From this school, two pairs of students from different classes were recorded. In Design 1, Louise and Maria were recorded, and in Design 2, Raina and Parvin. Excerpts from the interaction between Maria and Louise have been presented in Godhe (2012).[3]

School 2 is a smaller school in which most of the students attend the same vocational programme: the health care programme. Most students are female and a high percentage of the students have Swedish as their second language. The students in the class in which the recordings were made in this school were all second-language speakers of Swedish. They were in their first year of upper secondary school. One pair of students and a group consisting of three students were recorded in Design 2. There are no excerpts from these groups presented in the analysis of the empirical material. The students that were recorded were called Jasmin, Leila, Nilam, Fatima, and Naila.

At school 3, there are mainly higher education preparatory programmes. The school is fairly large and has a mixture of students with Swedish as their first and second language. It is not a particularly prestigious school, but has gained a better reputation in the last couple of years. The school was one of the first schools in the municipality to supply their

---

3   This publication is what in Sweden is called a "licenciate degree". The empirical material from the first cycle of research has been collected and analysed as part of this degree. This publication is not part of this thesis but the empirical material is, to some extent, the same although it has been re-analysed to answer other questions in this thesis.

students with individual laptops. Such one-to-one-projects are becoming increasingly common in Sweden (Skolverket, 2013a).

Groups in two classes were recorded at this school. Both classes were attending the social science programme. As these groups were recorded when they created their first and their second multimodal texts, the students were in their first year when the first recordings were made and in their second year when they created their second multimodal text. Two pairs of students were recorded in class one in Design 2. The students were called Isak, Jonas, Johannes and Lydia. In Design 3, these students were recorded again when they made their second multimodal text, but Johannes and Lydia were now joined by Amelie. In Design 3, a second class in school 3 was recorded when they made their first multimodal text. One pair of students, Karin and Linda, and a group consisting of three students, Ihsam, Harry, and Samuel, were recorded. In Design 4, two pairs of students from this class were recorded. The students were Linda, Samantha, Ihsam, and Adam.[4] Altogether, seven students were recorded in this class and those seven students were also interviewed in Design 4. The group of seven students that were interviewed consisted of the four students who were video recorded while doing their second multimodal text, as well as three students who had been video recorded when they made their first multimodal text. The reason why some students were recorded when creating their first multimodal text and not when they created their second one was that new groups of students were formed and recordings were only made when all students in a group had agreed to being video recorded.

Excerpts from the interaction between Isak and Jonas, when they made their first multimodal text in Design 2, are presented in Article 1 and also in Godhe (2012). In Article 1, excerpts from the two groups in the second class are also presented. These excerpts are from Design 3. The excerpts in Article 2 and 3 are from Design 4 and the second class at school 3. They are taken from the interactions and the interviews with the

---

4   Initially three pairs of students were video recorded, however, as one student was absent due to illness during most of the project, the third group is not included in the analysis.

seven students that were recorded in this class (see Table 2, Overview of Empirical Material).

4.1.2. THE 1ST CYCLE OF RESEARCH – DESIGNS 1 AND 2

In the 1st Cycle of research, questions were asked relating to how the 'new' activity of creating multimodal texts in language classrooms was enacted at the classroom level (Godhe, 2012). The empirical material was collected during 2009-2010 in four different classes in three upper secondary schools in the south of Sweden. The recordings were made during lessons in Swedish or Swedish as a second language. The topics given to the students in the different classes varied as the teachers themselves decided on the topics of the multimodal text, but the students were mainly asked to create narrative texts.

My background as a teacher may have made it easier for me to gain access to the schools, as well as to establish trust with teachers and students. The teachers were first contacted via e-mail to arrange a meeting. At the meeting, I explained my intentions with the research and we tried to agree on a time to do the project with a group of students. Since the teachers were not used to creating multimodal texts, I also showed them which software could be used to create them.

The teacher and I were both present during the lessons, so both could assist the students and explain what they were meant to do when questions arose during the process of creating their multimodal text. This means that I have been present in the classroom as a participant observer. Since the teachers of the classes had little, if any, experience in creating multimodal texts, they were uncertain how to create multimodal texts and how to use the technology, but were also concerned about whether they would be able to help their students adequately. In order to be able to assist the teachers as well as their students in creating multimodal texts, my active involvement in the classroom was necessary. Neither the teachers nor the students were certain of what creating multimodal texts would involve and because of this uncertainty, it is unlikely that they would have agreed to be recorded while creating their multimodal texts had they not been able to receive some assistance during the process.

That the researcher is present as a participant observer during the lessons can be regarded as a way to reduce challenges to implementations by altering contextual factors (McKenney & Reeves, 2012). As such, it is a temporary scaffold that will be taken away and therefore a transformation in ownership needs to take place. Such transformations are often problematic (ibid.). However, these studies focus on the responses to the intervention and was thus conducted *through*, rather than *on*, the intervention (ibid.). The context is taken into consideration, but is not an explicit focus of the study. If the research had been done *on* interventions it would have focused explicitly on how the intervention worked, with whom and under what conditions (ibid.). As the study is conducted *through* the intervention, the findings are grounded in the empirical material, which is situated in a particular setting and done at a small scale. However, the findings are also theoretically sustained. As the insights gained are anchored in theoretical concepts, they could be generalizable at a larger scale, thereby, to some extent, overcoming the limitations of the small-scale study.

Design 1 was a pilot study and revisions were made based on the analysis of the empirical material from this pilot study, such as the decision to use two cameras instead of one in the following designs. With two cameras, it is possible to gain empirical material of the students as well as the computer screen that they were working on. To be able to record a group, all students of that group needed to have given their consent to being video and audio recorded (see section 4.4). The amount of equipment to record was limited and allowed for filming a maximum of three groups in each class.

Design 2 was conducted in three classes in three different upper secondary schools. School 1 was the same school in which the pilot study had been conducted. The teacher was also the same and the students attended the same programme but another class and another pair of students were recorded.

In Designs 1 and 2, the focus was primarily on the local level of the activity system, and on how the components of subject, tools, and objects constitute each other. Altogether, thirteen students, working in groups of two or three, were recorded in the two designs, while they made their multimodal texts. The recordings were analysed to answer questions about what the activity of creating a multimodal text in language education entailed.

		School & class	Recorded students (number of students in class)	Empirical material[5]	Published writing
The 1st cycle of research	Design 1	School 1, class 1	Maria & Louise (10)	Video recording of 2 students working together during 5 lessons (app 3 h)	Godhe 2012
		School 1, class 2	Raina & Parvin (10)	Video recording of 2 students working together during 6 lessons (app 3,5 h)	
		School 2, class 1	Jasmin, Leila, Nilam, Fatima & Naila (14)	Video recording of 5 students working together during 6 lessons (app 4 h)	
	Design 2	School 3, class 1	Isak & Jonas, Johannes & Lydia (15)	Video recording of 4 students working together during 4 lessons (app 3 h)	Godhe 2012, Artikel 1 & 4
The 2nd cycle of research		School 3, class 1	Isak & Jonas, Johannes, Lydia & Amelia (15)	Video recording of 5 students working together during 3 lessons (app 4 h)	
	Design 3	School 3, class 2	Karin & Linda, Ihsam, Harry & Samuel (19)	Video recording of 5 students working together during 3 lessons (app 5 h)	Artikel 1 & 4
			Linda & Samantha,	Video recording of 4 students working together during 3 lessons (app 2,5 h), base group discussion in two groups with six students in each during one lesson (app 50 min), individual assessment talks between teacher and student with 15 students, some audio recorded.	
	Design 4	School 3, class 2	Ihsam & Adam (19)	Interviews with seven students	Artikel 2, 3 & 4

Table 2: Overview of empirical material

5   Initial lessons where the assignment has been introduced as well as lessons where the students have presented their completed multimodal texts to the teacher and their peers

The empirical material from the 1ˢᵗ Cycle has been analysed and presented in Godhe (2012). The focus was on how students negotiated the creation of the multimodal text, and excerpts from Design 1 and 2 where presented. The fact that the students in Design 1, Louise and Maria were first- and second-language speakers of Swedish and how they positioned each other as such in their negotiations was central to the analysis (ibid.). As a division between native and non-native speakers of Swedish was not generally salient in the empirical material in relation to how the students created their multimodal texts, these questions have not been further explored in the 2ⁿᵈ Cycle of reserach. Moreover, the students who were recorded in the 2ⁿᵈ Cycle all attended courses in the subject of Swedish. However, the students in these groups are not homogenous and some students may be second-language speakers of Swedish (see section 2.3 and 4.1.1).

4.1.3. THE 2ND CYCLE OF RESEARCH – DESIGNS 3 AND 4

The 2ⁿᵈ Cycle of research was carried out in 2011 and was designed as a follow-up to the 1ˢᵗ Cycle and Designs 1 and 2. As the students that were recorded in the 1ˢᵗ Cycle created multimodal texts for the first time, the intention was to return to the same students and record them when they created a second multimodal text, in order to see whether the process of creating a second one differed. In that sense, the analysis and the questions asked in the 2ⁿᵈ Cycle build on the previous analysis in the 1ˢᵗ Cycle.

It was only possible to come back to one of the four classes that had previously been recorded, since the classes in school 1 had moved on to programmes at upper secondary school level, and the teacher in school 2 was on maternity leave. As there was only one class that could be re-visited in school 3, the teacher and I decided to also record groups of students in another class when they created multimodal texts.

Thus, in Design 3, two classes were recorded at school 3. For the second class, which created their first multimodal text, the creation of a second multimodal text was planned in the autumn so that all groups in both classes were recorded while creating their first as well as their second multimodal texts. The students in the second class were given a narrative

---

have been recorded in all groups.

topic when creating their first multimodal text and two groups of students were recorded.

The first class, who in Design 3 created their second multimodal text, had been asked a year earlier in an evaluation what they thought about creating multimodal texts and whether they would like to do it again. At that time, they were very positive about creating multimodal texts and all students said that they would like to do it again. However, when they were presented with the task of creating their second multimodal text, they raised concerns about how the text would be assessed and how the assignment related to the assessment and grading criteria of the course they were taking in Swedish. They also questioned the point of doing the task and wanted reassurance as to how it would be assessed before they engaged in the task. Their motivation was considerably lower than when they created their first multimodal text.

Because of the questions raised by the students, the teacher and I discussed how the task related to the aims of the course and the assessment criteria stated in the national curricula as well as how it could be assessed. The students' reactions and questions made it clear that relating the task of creating a multimodal text to assessment was an important aspect. The design of the task was altered based on the questions raised by the students, which meant that the students in Design 4 were given explicit grading criteria for the assignment at the start of their work. The students' questions meant that the conjecture of the research altered so that the way that multimodal texts were assessed at the local level of the classroom became the focus of Design 4. As the first class was at the end of the course in Swedish when they created their second multimodal text in Design 3, there was no time for them to create a third one. Therefore, the explicit grading criteria were given to the second class when they made their second multimodal text in Design 4.

As the upper secondary school curriculum in Sweden was changing at this particular time, the task and the assessment criteria given to the students were designed to relate to both the old and the new curricula. Students should be able to put forward arguments and draw conclusions as well as work with images and ICT, according to both the new and the old curriculum for the subject of Swedish. The task, therefore, became the creation of an argumentative multimodal text. The practise of argu-

mentation, verbally or in writing, is a task, that is quite common in Swedish schools at upper secondary school level, so the task of arguing for or against a topic is known to the students (Östlund-Stjärnegårdh, 2002). In the new course, Swedish 1, it is explicitly stated that the course should entail argumentative techniques and the writing of argumentative texts. To attain the lowest grade, the text should be "coherent and understandable and to some extent adapted to purpose, recipients and communicative situation" (Skolverket, 2011a, p. 163). For the higher grades, the text also needs to be well structured and with a clearly discernible disposition. In the old course, Swedish B, the criteria for the higher grades stated that the students should be able to analyse image-based media expressions and interpret imagery (Skolverket, 2000). The criteria for Swedish 1 in the new curriculum does not contain any criteria about image-based media, but it states that the students should be able to use technical aids when doing oral presentations (Skolverket, 2011a). In the criteria for the higher grades, the students should be able to use technological aids to support and clarify their presentation and the technology should be well integrated with the presentation (ibid.).

In design 4, the students were given a hand-out at the start of the project of creating multimodal texts, which aimed to clarify what was going to be assessed in their work, and which also stated the different grading criteria. The four main areas for assessment of the multimodal text, as well as the criteria for the different grades, were stated in the hand-out. Two of the areas of assessment concerned more conventional aspects of language education and focused on the spoken language and the structure of argumentative text, including arguments and counterarguments. The other two areas of assessment related to the various ways of expressing meaning that were incorporated in the multimodal text, and also related to the students' participation in discussions about their own and other student's texts.

The criteria given to the students, as well as most of the criteria for different subjects in the Swedish national curricula, are what Sadler (1989, p. 124) calls fuzzy criteria. In a sharp criterion, there is an abrupt transition between one state and another, as for example, when there is a right and a wrong answer. A fuzzy criterion has a continuous gradation from one state to another. Sadler (ibid.) gives the example of originality when applied to

an essay, since anything between wholly unoriginal and wholly original is possible. As fuzzy criteria have no unambiguous meaning independent of the task to which they are applied, and independent of circumstances, the meaning of these criteria needs to be negotiated and understood in relation to particular tasks and situations (ibid.).

The topics the students were going to argue for or against were chosen by their teacher and were contestable subjects such as: for and against eating meat, for and against hunting wolves, for and against the fur industry, for and against global warming being caused by humans, and for and against allowing homosexual couples to adopt children. The students were given a certain topic and were also told whether to argue for or against this issue. They did not have to agree with the statement they were supposed to support. During the first two lessons, the students worked in pairs where each pair had the same topic, but had to argue for opposite views. The students worked in pairs in order to be able to assist each other when finding arguments and counterarguments. After the initial lessons, they had two lessons in which they were supposed to find additional information about the topic as well as suitable images or music to use in their multimodal texts. During these lessons, the students worked individually, for the most part.

When the students had made multimodal texts previously, they had done so collaboratively in pairs or small groups of three. Discussions with the teacher concerning the assessment of the multimodal texts brought to the fore the difficulty of assessing collaborative work individually (cf., Gipps, 2002). However, as both the teacher and I found it of importance to maintain collaborative elements, we decided that the students would initially work in pairs. Another collaborative element in the design of the project was a lesson in which the students were going to discuss their ideas in response-groups. The intended purpose of this lesson was to serve as a forum for formative feedback and peer-response on what they had done so far, and what they needed to do in order to improve their multimodal text before completing their task. After the discussion in response-groups, the students had about two weeks to complete their multimodal text before it was going to be presented and discussed in class. When presenting their multimodal texts, the students should be able to explain the choices they had made when arguing for their topic and when assembling

the different kinds of expressions in their multimodal texts. Furthermore, the other students and the teacher should comment and give feedback on the completed work.

I was present in the classroom and recorded the students during the first two lessons, when they discussed their topic in pairs, when they discussed their projects in response-groups, and when they presented their multimodal text in class (see Table 2, Overview of Empirical Material). The lessons in which the students were searching for information about their topic, as well as images to use in their story, were not recorded as the students mainly worked individually at that time. After the discussion in response-groups, the students worked individually, both in school and at home, to finalize their multimodal texts. Recordings were not made during this part of the project.

After the presentation of their multimodal text in class, each student had a short talk with the teacher about the assessment of their multimodal text. The assessment-talks were audio recorded by the teacher and I was not present during these talks. Fifteen assessment-talks between teacher and individual students have been audio recorded and interviews with seven students have been video recorded.

The interviews focused on how the students experienced the assessment of the multimodal text as well as if, and in that case how, they had made use of the explicitly stated criteria for assessment during their work with the multimodal text. The students were also asked to compare the creation of multimodal texts with and without explicit criteria, which meant that interviewing the students who had been filmed creating their first multimodal text also became relevant.

4.2. THE EMPIRICAL MATERIAL

Video recordings form the empirical basis for the analyses and discussions in the studies. The unit of analysis in this thesis is situated and mediated actions, and the studies are concerned with the situated activities of creating and assessing multimodal texts. Video recordings capture the multimodality of interactions in a way which neither field notes nor audio recordings would have done. Moreover, as Lindwall (2008) points out, the

fact that recordings of interactions can be played and replayed makes it possible to continually develop the analytical focus.

When using video cameras, several decisions need to be made, such as where to place them, whether or not to keep them stationary and whether to use one or several cameras (cf., Heikkilä & Sahlström 2003; Zuengeler, Ford & Fassnacht, 1998). These decisions will affect which empirical material is collected and therefore also how the material can be analysed. The decision to use two cameras was made so that both the students and the screen they were working on could be recorded. However, to position two cameras to capture what was intended was not always easy. Sometimes it was difficult to record all students with just one camera because someone may have their back turned against the camera or may move out of view. Sometimes students would move during the lesson and not appear in the picture, or they would conceal part, or all, of the computer screen. Therefore, some parts of the recordings do not show what was intended.

The intrusion of the video camera also needs to be considered. Jordan & Henderson (1995) state that, whereas people may make attempts at modifying their speech, it is difficult to manipulate or control gestures and body positioning for any length of time. The fact that the cameras were left standing without anyone obviously operating them may have made it easier for the students to get accustomed to them (ibid., p. 18). Most of the time, the students were involved in what they were doing and appear to have become oblivious to the camera. However, at times some students consciously avoided the camera, while others used the camera to act and speak to or as a mirror in which they could see their own actions.

The studies do not claim to be ethnographical, even though ethnographic tools have been used for observations and recording of activities have been done in their natural settings. Heath and Street (2008) outline three possible ways to relate to ethnographic research in education: doing ethnography, adopting an ethnographic perspective, and using ethnographic tools. To use ethnographical tools means that methods and techniques connected to fieldwork are deployed and of the three, the last has the least orientation to theories from anthropology. Heath and Street (ibid.) consider ethnography in education to have a primary focus on educational issues. Ethnographical tools are used in the analyses of the interactions at the local level, but the analyses also attempt to take

into account structural or systemic aspects of the setting in which the interaction takes place. Furthermore, the research aims to illuminate and explain how change in relation to the use of digital technology in language education is constrained or enabled. Through the interventions made in the iterative cycles, the studies attempt to influence practice but also aim to develop a theoretical understanding of the phenomena in question (McKenney & Reeves, 2012).

4.2.1. CLASSROOM INTERACTION AND INTERVIEWS

By studying interactions in classrooms, it is possible to illuminate what is negotiated and how activities at the local level through these negotiations are made relevant in relation to the task of creating and assessing a multimodal text. The analyses of excerpts from interactions are used in this thesis to show what is being negotiated, as well as what aspects of the negotiations are salient. Participants in activities are in dialogue with the immediate activities in which they take part, but they are also in dialogue with the sociocultural practices within which the activities are set (Linell, 2009). Thus, what is negotiated in a particular situation serves as an example, not only of situated practices, but also of the negotiations within particular situation-transcending practices.

The aim of the interviews was to further elucidate the students' experience of engaging in the tasks of creating and assessing multimodal texts. The interviews can give supplementary information since the students are given the opportunity to voice what may not be explicitly stated in situated interaction. As Mercer, Littelton and Wegerif (2004) claim, when students and teacher develop a common knowledge, the need to be verbally explicit declines. Whereas this is an asset for the participants, it is problematic for researchers of interaction, since shared understandings are usually silent (ibid.). In the interviews, the students were asked to be verbally explicit about and reflect on the processes of creating and assessing the multimodal texts.

The interviews were done individually with the students when they had completed their multimodal texts. The interviews are, in themselves, dialogues or negotiations of meaning between the students and the researcher. As such, they are considered to be complimentary to the

recordings of the students when they created their multimodal text. The interviews were semi-structured, as the same questions were asked in all the interviews, but depending on the answers of the students, different follow-up questions were asked and the questions that were expanded upon varied in the different interviews.

4.3. ANALYSING THE EMPIRICAL MATERIAL

Having previously worked as a teacher at upper secondary school in language subjects, the environment in which the empirical material was collected is very familiar to me. This could be regarded as an asset, as my experiences could inform my work as a researcher. On the other hand, may previous experiences of working as a teacher may be regarded as obstacles, which make it more difficult to keep a distance from the field. Joseph (2004) points out that when researchers incite change, "the practices of intervention and research are generally distinct rather than mutually constituting" (ibid., p. 236). Thereby, viewing, transcribing, and analysing the recordings from the classroom is distinctly different from the practices of engaging in the classroom. To listen to and closely analyse the interaction between students is not something which teachers generally engage in. In that sense, the collected empirical material gathered during the studies is strange to a teacher, even though the setting in which it took place is familiar.

Similarly to Lilja (2012), who characterizes the analytical process as "a series of transformations between forms of representation", I see the analyses as on-going processes, which already start in the classroom and which have developed throughout the iterative process of collecting and analysing the empirical material. The analytical process has been characterized by a reciprocal relationship between proximity and distance. Han (2010) sees a productive tension between proximity and distance, which has the potential to generate revealing insights through moving between the familiar and the strange. The onset of a design is characterized by a proximity, first to the actual preparing of the project at hand, and then to the classroom where I have been present during the lessons as a participant observer.

Transcribing the recordings from the lessons is a process that entails both proximity and distance as you get close to the actions and interactions of the persons on the recordings while simultaneously distancing yourself from your own experience of the lessons. Interaction analysis, as described by Jordan and Henderson (1995), was utilized when transcribing empirical material. Jordan and Henderson (ibid.) describe interaction analysis as "an interdisciplinary method for the empirical investigation of the interaction of human beings with each other and with objects in their environment" (ibid., p. 39). Interaction analysis aims to ground the analysis in the empirical material, and thereby avoid ungrounded speculations of what people may think. The recordings allow for repeated watching and analysing what happens in different situations. By replaying the recordings at different times during the analyses, it has been possible to notice details that were previously imperceptible. As such, the recordings are permanent records that can be re-visited to answer "questions of what is actually on the tape versus what observers think they saw" (Jordan & Henderson, 1995, p. 45). However, the recordings are representations of a situation made from a certain perspective and with certain interests in mind, which means that particular elements become important whereas others may be overlooked.

In a sense, the data doubles after the actual transcription, since there are both the recordings and the transcripts to consider. The reciprocal relationship from then on also involves alternating between different forms of representation of the empirical material. I found the transcripts of the recordings most convenient to work with in order to find themes in the material, on which it may be possible to build arguments in future texts. It was possible to get an overview of the transcripts on paper or on a screen. This was difficult to perceive from the video recordings. However, once a possible theme was discernible, I regularly returned to the video recordings to be able to scrutinize the sequences in question and further examine the actions and interactions between the participants and how they made use of different resources in particular situations. Transcripts of interactions may vary in detail, depending on the analytical interest of the researcher (ibid.). Hence, the extent and detail of the analyses are driven by analytical interests. This means that significant features of the interaction that emerged during the analysis of the recordings are "more

comprehensively and exhaustively transcribed, whereas others are set aside until shown to be relevant to the analysis" (Jordan & Henderson 1995, p. 49). The annotations used in the excerpts are adapted from Jefferson (1984), see Appendix.

Jordan and Henderson (ibid.) write about analytic focus, as in ways of looking that are consistently employed in interaction analysis, since they have repeatedly proved to be relevant. The iterative design process similarly entails a continuous process of developing the analytical focus. Themes to focus on as well as the questions asked in the different designs, have changed and developed over time. This means that recordings and transcripts have been re-visited at later stages when the themes in focus have been altered. The iterative process aims to develop future designs as well as re-visiting former designs to shed light on emergent questions. Through the iterative process, certain aspects have appeared as important to the understanding of the activity of creating and assessing multimodal texts in an educational setting. By illuminating important aspects in the activity, the findings in previous designs have governed what aspects to focus on in the following designs. In that sense, the different designs are informed by each other, so that the analysis and result of one design serve as a reflective base for the following ones. As McKenney and Reeves (2012) state, the evolution of the processes of design based research is usually brought about by new insights, which lead to new questions. This shift generally takes place between the cycles of inquiry, since the analysis of the previous cycle informs new designs. Reflection in an iterative design process could be described as "the retrospective considerations of findings and observations" (ibid., p. 134). As such, it is an integral part of inquiries.

The empirical material in the studies has continually been examined and the selection and interpretation of excerpts have been discussed with other researchers in a collaborative process (Jordan & Henderson, 1995). Texts and interpretations of the empirical material have been presented and discussed with experts as well as in workshops and at conferences. Thereby, the analyses, including the selection of excerpts, have been refined. Furthermore, the interpretations have been discussed with the teacher at school 3, who figures in the excerpts. In the interviews with the students, they were able to reflect on the activity they had engaged in and

express their reflective views on their own engagement. In this way, the students could voice what may not be explicitly stated in situated interaction.

The on-going process of writing about the research and the findings has been carried out in parallel with the process of collecting, transcribing, and analysing the empirical material. The process of writing articles and other texts has been a process of analysis and refinement of how to express what has been done and what has been found. This process is also characterized by proximity and distance, as phases which entail immersion in the empirical material are followed by phases in which there is a need to distance oneself from the empirical material by focusing on theoretical aspects in order to illuminate how the empirical material can be understood from a theoretical point of view.

As articles and other texts about the research and the findings emerge, this means that another transformation has taken place and a new form of representation of the empirical material is available. Just as the video recordings and the transcripts of them have been revisited to inform the iterative process of the different designs, so has the texts and articles at different stages been a source that have influenced both consequent designs and the writing of later texts. In the process of writing the articles, the reciprocal relation in the analytical process could be regarded as a dialogical process, since the empirical, as well as theoretical aspects in the texts have evolved concurrently. In the time between writing and revising texts, other texts have been written and/or revised and the development of the arguments in the texts has been enriched in this dialogical process.

4.3.1. SELECTING AND PRESENTING THE EMPIRICAL MATERIAL

In the articles, the empirical material is presented as case studies. As stated by Stake (1995), case studies are not sampling research since cases are not primarily studied to understand other cases. Stake (ibid.) divides case studies into three different types, in which the intrinsic case stems from an intrinsic interest in that specific case and a need to learn about that case in particular (ibid.). On the other hand, in an instrumental case study, there is a need to gain insight into a question, and the case study is then

used in order to understand something else (ibid.). Therefore, the primary criterion when selecting the cases is to maximize what we can learn from them. Collective case studies consist of several instrumental case studies, which, for example, can be carried out in different schools (ibid.). Even though each case is individual, coordination between the individual cases is also important. The case studies presented in the articles in this thesis are instrumental as well as collective.

As the empirical material consists of video recordings of groups of students, it is organized as cases. In order to establish a theoretically valid connection between the findings, they are related to theoretical concepts. Thereby, the findings are empirically grounded as well as theoretically sustained. The selection of cases and excerpts in the different articles has involved multiple selection criteria. A primary criterion in each article has been that the interaction presented in the excerpts attends to the aspects in focus in that particular article and to the research questions asked.

Excerpts from the empirical material from Designs 2 and 3 are presented in Article 1. The excerpts from Design 2 in the 1st Cycle of research, were initially analysed to answer questions about the creation of the multimodal texts (Godhe, 2012). The fact that there was a variation in how students incorporated contextual references from settings outside of the classroom emerged as important in relationship to the theoretical aspects of boundary objects. Therefore, the material was revisited in order to explicate how different students related to contextual references. Three groups were chosen to exemplify a variation in how students related to and chose to incorporate references in their multimodal texts. In the article, interactions in which the students negotiated which contextual references to include and exclude in their multimodal text are presented. Another criterion when selecting the groups and excerpts was that the students had similar access to the tools they used when creating the multimodal text. Hence, the groups were chosen from school 3, where all students had individual laptops.

Articles 2 and 3 are concerned with the assessment of the multimodal texts and therefore the excerpts are taken from the material of Design 4, because in this design, the students were given explicit criteria for the assessment of their multimodal texts. The reason why assessment became the main focus was that it emerged as an important aspect in the previous

designs (see section 4.1.3.). Article 2 contains excerpts from interactions during lessons and from individual interviews with the students. Interactions in which assessment and the criteria for assessment were brought up during lessons and in the interviews were chosen in order to illuminate how and to what extent the students related to the assessment and the criteria for assessment.

Likewise, Article 3 focuses on the assessment of the multimodal texts and hence, the excerpts are taken from the recorded assessment-talks and interviews during Design 4. The excerpts in this article were selected based on the criterion that they should serve as examples of what was negotiated in relation to the assessment of the multimodal text. Excerpts from two assessment-talks between the teacher and individual students were selected to reveal differences in assessment. In the interviews, the students reflected on the process of creating and assessing their multimodal texts. The excerpts selected from the interviews were chosen since they were concerned with the way that the assessment given by the teacher differed from the assessment that the students had anticipated. Hence, the different notions of teacher and students in the assessment of multimodal texts are elucidated in the excerpts.

The final article differs from the other three, since it does not present excerpts from the empirical material. Instead, it aims to synthesize the findings from all of the empirical material and to make a reflective analysis of this material.

4.4. ETHICAL CONSIDERATIONS

The students were informed about the research project and could choose whether they wanted to take part or not, which is in line with the Swedish Research Council's ethical guidelines for research (Codex, 2010). The students were given information that explained the research, and they were required to give permission to being video and audio recorded. If the students were under eighteen years of age, they needed to obtain their parents' consent to take part in the research. Furthermore, information was given about the students' right to withdraw from participating at any time, as well as information that their identity would be kept confidential, so that those who took part in the study could not be identified. Additional

information was also given to the students about the fact that the technical equipment made it possible to record a maximum of three groups in each class. This was done so that the students knew that the research could be carried out even if only a minority of them consented to being recorded, which, in turn, meant that no student felt obligated to participate. From an ethical point of view, going through the process of gaining permission to record the students is inevitable. However, it also means that the students who participated, for one reason or another, wanted to participate.

CHAPTER 5

SUMMARY OF THE EMPIRICAL STUDIES

In this chapter, the empirical findings are summarized, as they have been presented in the four articles.

5.1. CREATING MULTIMODAL TEXTS IN LANGUAGE EDUCATION – NEGOTIATIONS AT THE BOUNDARY

This article explores how students negotiate which contextual references to include, and exclude, in the multimodal texts they are in the process of creating. In the language classroom, the multimodal texts can be regarded as literacy objects since they display the students' ability to express meaning. Because multimodal texts are more common in practices outside the educational setting, they bear reference to several literacy practices. By incorporating references from practices in different settings, the multi-

modal texts may become boundary objects which potentially connect every day and educational literacy practices.

People and objects at the boundary show signs of ambiguity since they relate to practices within different sociocultural settings (Akkerman & Bakker, 2011). The students need to relate to this ambiguity, and negotiate it in the literacy object they are in the process of creating. Since the multimodal texts are created as a school task, the activities involved need to relate to established practices of creating texts in educational settings. However, they may also be related to other practices and thus, become boundary objects that can potentially connect texts created in different settings.

In Article 1, excerpts from video recorded interactions in three groups of students were presented to demonstrate how the different groups related to the educational setting and to references from outside that setting in various ways (see Table 2, Overview of Empirical Material). The three groups were chosen to exemplify the variations between different groups of students. The diversity in how students related to and negotiated the content and the different kinds of expression that they included in their multimodal texts revealed variations in how they perceived different literacy practices, and to what extent they considered the multimodal text they were creating as connected to several literacy practices.

One group of students, Karin and Linda, related primarily to the assignment of creating a multimodal text as a school task. Since they were familiar with how texts are usually created in the classroom, they concentrated on the mode of expression that they know is valued in this setting: the spoken word. Since the students did not refer to practices outside the educational setting to any great extent, they displayed the primacy of the educational setting. The students in this group enact the division between the interacting activity systems, and the literacy practices, rather than bridging them. Thus, they rejected using music in their multimodal text, based on the argument that the music will interfere with the spoken word and hence may obscure its message.

The other two groups referred to and incorporated references from outside of education, but they did so taking different literacy practices as their starting point when creating their multimodal texts. Ihsam, Harry, and Samuel gathered material from various sites on the Internet, which they

modified and re-arranged in order to adjust them to the literacy practices in the classroom. Thereby, this group can be seen to utilise the multimodal text as a boundary object. They adapt content, which is mainly taken from sources on the Internet, and incorporate it in a literacy object, which is then presented and assessed in the educational setting. In so doing, they connect literacy practices in education with practices they partake in, in other settings.

The third group added references relating to literacy practices outside of education to the voiceover and images, which they had created initially. Isak and Jonas created voiceover and images that adhered largely to the activity as a school task. However, by incorporating references to popular culture, they also connected to activity systems outside of education. The students appear to have perceived some experiences from other settings as intersecting with the educational setting and therefore they could refer to them in a literacy object created in the classroom. However, other references they referred to when interacting with each other and their peers but were neither referred to when interacting with the teacher, nor included in the multimodal text they created. By including some references, the literacy object is expanded, but it is also constrained since some references are left out. A boundary is illuminated by the students in this group when they negotiate which references to include and which to exclude in their multimodal text. The ambiguous nature of boundaries invokes uncertainty in the students. The negotiations concerning the references show signs of the ambiguity related to the boundary where the students' uncertainty of whether references can be used in different settings or not gives rise to negotiations.

The analysis of the interaction in the three different groups illuminates how processes at the boundary vary depending on how that boundary is perceived and understood. The ambiguous nature of boundaries accommodates variations in the way that aspects from different literacy practices and the activities relating to them are incorporated into the activities. Through their actions, the students elucidate a boundary between what they think can be included in a literacy object in an educational setting and what cannot. In so doing, the students act as bridges between literacy practices, but at the same time, they represent the division between the related practices. Hence, the development of the multimodal text is char-

acterised by tensions between, and negotiations about, what to include and what to exclude. These tensions elucidate the students' awareness of boundaries between different literacy practices. The students' awareness of boundaries between different literacy practices also demonstrates the students' awareness of which aspects of literacy are important and valued in educational settings.

The double dialogicality of the situation is discernible in these negotiations, since the students are in dialogue with both their current situation and the sociocultural setting in which the activities occur. The relation between different literacy practices becomes relevant and negotiations about what to include and exclude in the multimodal texts are needed to surmount discrepancies in practices relating to different settings. The discrepancy in the practices of creating literacy objects in different settings, leads to a discontinuity in action and interaction when students are creating multimodal texts in an educational setting. The double dialogicality, as well as the discontinuity, engenders the ambiguous nature of people and objects at the boundary which invokes an uncertainty in the students as to whether references belong to both activity systems, or to just one, or to neither. However, the way students relate to the ambiguity of the activities they engage in varies, as has been shown in the excerpts from the different groups.

The variety indicates that the concept of literacy is broadened when students make meaning by selecting from several available resources. Negotiations are then needed to decide what can be included in a literacy object created in an educational setting. The object may act as a boundary object, since it potentially incorporates references from activities related to literacy practices. Exploring how students relate to this literacy object at the boundary reveals potential literacy practices connected to the use of technologies in the classroom.

5.2. NEGOTIATING ASSESSMENT CRITERIA FOR MULTIMODAL TEXTS

The aim of Article 2 is to illuminate how assessment is negotiated in classrooms when the activity that teacher and students partake in is an emerging practice, in which ICT is used as a tool for creating multimodal texts. The study focuses on how assessment is enacted on the level of the classroom and what the assessment of multimodal texts entails in an educational setting, as established in negotiations. The analysis is based on video-recorded interactions between two pairs of students, Linda and Samantha, and Ihsam and Adam, while they were in the process of making their multimodal text. They also included interviews with the students shortly after they had completed their task (see Table 2, Overview of the Empirical Material). The students had created multimodal texts once before. Although they were positive about the task the first time, when the second task was introduced, they questioned how the creation of multimodal texts related to the course in Swedish, and also, how it would be assessed. Therefore, a hand-out was given to the students at the start of the project, explicitly stating the assessment and grading criteria. The excerpts presented in the article highlight how the importance of different grading criteria was established through negotiations.

The analysis shows that when the students were creating their multimodal texts, they focused on finding arguments and counterarguments and did so without consulting the assessment criteria explicitly. The students focused on and talked about how to do the assignment rather than the criteria for the assignment. Thus, how to perform the task was salient to the students and this shaped their activities. The assessment criteria were mainly related to the outcome of their activity, and since they were in a process of creating their multimodal text, their focus was on understanding the task and deciding which instructions they needed to consider while doing it. Thus, during the activity of creating the multimodal text, the focus is on how the activity should be done and what it involves.

The meaning of the assessment criteria on the hand-out, in relation to their task was not negotiated with the teacher to any great extent. To some extent, the students were able to use their prior experience of assessment of similar tasks to understand the meaning of the criteria. However, since

the task of creating a multimodal text and the assessment of it is relatively new in a school setting, the students mainly relate to the assessment of written texts. Neither the students nor the teacher are used to working with, or assessing, texts that incorporate expressions, such as images and sounds. Since the meaning of the criteria concerning the assessment of images and sound are not negotiated, the students and the teacher do not share a common understanding of how to interpret them.

The students did not refer to the assessment criteria in their interaction and they did not claim to have read them or used them to any great extent during their work with the multimodal text. However, they still claimed in the interviews that having the criteria helped them understand what was expected of them and what was demanded to get a certain grade. Since the interviews were conducted when the students had finished the task of creating a multimodal text, the students appear to be able to talk about and reflect upon the outcome of the activity and when doing this, the assessment criteria become meaningful to them. Previous experience in carrying out a task, as well as being in a phase where they can reflect on the outcome of the activity, may add to the students' views on how the assessment criteria helped them with the task.

The assessment criteria given to the students on the hand-out are intended to link processes at different timescales, and thus belong to a middle level between the local and the systemic (Engeström, 1998). Emerging practices and the activities and assessment practices they entail, need to be negotiated and related to both the local and the systemic level if they are to be understood by students as well as teachers. The students' initial request for how the task of creating a multimodal text would be assessed and graded can be seen as a sign of their awareness of how classroom activities and sociocultural practices of schooling and assessment mutually constitute each other. The criteria serve as a way to legitimize the activity of creating a multimodal text within an educational setting since the criteria refer to the systemic level. However, if the meaning of the criteria in relation to the task of creating multimodal texts is not further explained and negotiated in context, the criteria do not, to any great extent, affect the situated practice at the local level.

5.3. ASSESSMENT-TALKS AND TALKING ABOUT ASSESSMENT – NEGOTIATING MULTIMODAL TEXTS AT THE BOUNDARY

In Article 3, the focus of the analyses is on the short talks between the teacher and students about the assessment of their multimodal text as well as interviews with the students, in which they reflected on their assessments. This connects to Article 2, since it was carried out in the same class when the students created their second multimodal text where they were supposed to argue for or against contestable subjects. However, the analyses in this article are concerned with how the assessment of the multimodal texts was negotiated in the assessment-talks the students had with their teacher, as well as interviews with the students. The questions that were addressed concerned what aspects of the multimodal texts that were established as important by the teacher and the students in negotiations.

To analyse the negotiations about how to assess a multimodal text in language education is of interest in relation to the assessment process, but it is also of interest in relation to multimodal texts as boundary objects that connect in-and-out-of-school activities. The multimodal texts can be regarded as literacy objects at the boundary, since they relate to literacy practices more commonly encountered outside the educational setting. Assessment practices in education predominantly concern written or spoken texts. How to assess texts that include other modes is not an established practice. Negotiations in the assessment-talks are part of a process of assessment and are meant to support the development of the students' creation of multimodal texts.

The analysis of interactions in this article focused on tensions and contradictions concerning the creation and assessment of multimodal texts in classrooms. The chosen excerpts served as examples of what was being negotiated in relation to the assessment of the multimodal text and of the students' reflections on the process of creating and assessing these texts. Hence, the excerpts served to illuminate what was made relevant and salient, in relation to assessment and ICT in an educational setting, as established in negotiations.

In Article 3, excerpts from assessment-talks and interviews with two students, Ihsam and Harry, were analysed. The assessment-talks disclosed

differences in the manner in which multimodal texts were assessed and the way teacher and students related to each other. In the interviews, the students reflected on their own process and the multimodal text they created, but also on each other's, and referred to each other to exemplify differences in their multimodal texts and in the assessment of them. Since the assessment differed from their expectations, the students elucidated how their notion of the assessment of a multimodal text differed from the teacher's.

In the assessment-talks, the main topic was what the students said in their multimodal text and how they argued verbally for or against a subject. The spoken word appears to be considered to be the primary mode of expression, as well as the mode that structured the argumentation in the multimodal texts. It was the institutional practice, as voiced by the teacher that had the preferential right of interpretation, since the topics were predominantly introduced by the teacher and, for the most part, the students agreed to the evaluation given by the teacher. Thus, the traditional role of teacher as the evaluator appears to persist in relation to assessment.

In the interviews, the students conveyed that they found the assessment difficult to comprehend since it mainly focused on the spoken argumentation, whereas visual aspects, which were important to the students, were largely overlooked. The students found it difficult to comprehend how they could improve their work, particularly in relation to images and sound. The difference in the anticipated assessment and the actual assessment given of the multimodal texts indicates that the students consider several modes as significant for meaning making. However, the multimodal texts were assessed on the premises that it was what the students said that conveyed the meaning and that their speech carried their argumentative structure.

Students who based their multimodal text on what they said, and used other kinds of expression to accompany their speech mainly addressed their text to the teacher and the educational setting. Other students related to out-of-school-context in their multimodal text, since they based it on the use of images and sound as well as the spoken word. Thus, the multimodal texts addressed different audiences and can be seen as utterances in on-going conversations in different settings. The difference in their anticipated response and address indicates that the creation of multimodal texts

invites the students to make use of experiences from contexts outside of the educational setting. The multimodal texts then become hybrids where references from different settings are combined into something new. The hybridity of the task invites the students to address their text to different audiences and to anticipate response from them. The difference in addressivity and responsivity affect the assessment of the multimodal texts since those multimodal texts that were addressed to the educational setting are generally given higher grades.

Because the assessment of different ways of expressing meaning was not negotiated, the assessment of the multimodal texts was largely related to established practices in which the carrier of meaning was assumed to be written or spoken words. Therefore, other ways of expressing meaning that may contribute to the multimodal text were largely overlooked. Creating multimodal texts in an educational setting becomes an ambiguous activity, since students are assigned to do a task incorporating modes that are not usually part of the task of writing a text in language education, and where these modes are largely ignored in the assessment of the outcome of the activity. This ambiguity may lead to a reinforcement of the written and spoken language as the valued ways of expressing meaning in education, so that different kinds of expression are not evaluated and incorporated into language education. The analysis of the assessment-talks, as well as the interviews, show that the established institutional practices of assessing texts in education prevail, even though the multimodal texts that the students create differ from the texts that are traditionally created in classrooms.

5.4. TENSIONS AND CONTRADICTIONS WHEN CREATING A MULTIMODAL TEXT AS A SCHOOL TASK IN MOTHER TONGUE EDUCATION

By exploring tensions and contradictions in and between different components in the activity system of creating texts in language classrooms, Article 4 attempts to illuminate how the activity of creating and assessing multimodal texts relate to established practices of creating and assessing texts in language education. In order to explain how systemic components

affect activities at the local level, the results were presented in three steps. First, findings from the empirical studies of interaction in classrooms were compiled and key findings were highlighted. Second, the embedded systemic components were unpacked to substantiate how these systemic components shape activities at the local level. Finally, the implications of the studies and how tensions and contradictions afford and/or constrain transformations in classroom practices were discussed.

Findings from the empirical studies revealed a tension between the tools the students used, which enabled them to use and combine different modes, and the modes that are historically predominant in language education, which are the use of written and/or spoken language. When the tools the students use obtain new qualities, these create inner contradictions in the activity system (Engeström, 1993). These inner contradictions mainly occur between components at the local level and components at the systemic level of the activity system. To understand the students' actions when creating multimodal texts in a classroom, they need to be related to the structural or systemic level and the established practice of writing typographical texts in language education, which reflect the norms of disciplines as well as communities. In relation to the assessment of the multimodal texts, teachers and students appear to differ in their opinions of how different kinds of expression should be assessed. This displays a conflict between dominant and non-dominant activities (Sannino, 2008) that may affect the short-term actions of the students since the hybridity of the multimodal text is largely overlooked in assessment. Hence, students may be deterred from creating multimodal texts in which the visual aspects are prominent, since this mode is not regarded as valuable in the assessment of the multimodal text.

The contradictions found in activities at the local level were related to components at the systemic level, in order to understand and, perhaps, explain the contradictions, their origins, and their influence on language education. When relating the empirical findings at the local level to the systemic level, the focus was on aspects at the middle level, such as assessment practices and connections to contexts outside of the educational setting. The notion of literacy and what a text created in a classroom should or could entail were discerned as aspects that, at both the local and the systemic level, caused internal, as well as external, contradictions. The

usage of tools that facilitate the creation of texts in which several modes are incorporated, challenges which kinds of expression should be considered valuable and primary when making meaning, and this also challenges the concept of literacy. When relating different levels of the activities of creating and assessing multimodal texts in a classroom to each other, the displayed boundary appears to contain several contradictions. Boundaries, as well as contradictions, involve potentials for change, but if contradictions lead to conflicts, they may also constrain individuals' actions and this, in turn, restricts the potential for change (Sunnino, 2008). The teachers and students may take transitional actions so that activities merge and hybridize (ibid.) but they may also sense that they are in a dilemma, or a double bind, where the available possibilities are equally unacceptable (Engeström, 1993). The dilemma or double bind connected to the creation of texts in language classrooms cannot easily be solved by individual actions of teachers or students, but rather need to be considered and negotiated at a systemic level as well as at the local level. Whether the potentials for change inherent in contradictions and boundaries are fulfilled or not, depends on individuals' actions at the local level and the activities they engage in, but it also depends on to the extent to which systemic components restrain or enable transformations.

The contradictions and dilemmas discerned in the studies, in the area related to the creation of multimodal texts in language education may be applicable more generally when ICT is used in education to engage in activities that are unfamiliar in a school setting. If ICT, and the new ways to communicate that it facilitates, is seen as challenging the way we look at knowledge and how we organize education (Säljö, 2000), transformations are needed at both the local and the systemic level. Presently, however, transformations are taking place predominantly at the local level, at least in Sweden, since teachers and students at an increasing number of schools use tools and engage in tasks that the available technology facilitates. What is done at the local level is, however, not supported by a similar transformation at the systemic level. Instead, changes at the systemic level can be seen as discouraging or opposing the transformation taking place at the local level. This, in turn, leads to tensions and contradictions at the middle level (Engeström, 1998) in relation to issues such as how multimodal texts are to be assessed and graded. If ICT, instead, is considered as a

'mere' tool that is added onto familiar actions and activities in classrooms, the way ICT is utilized in education may become 'encapsulated' so that it has little or nothing to do with how digital technologies are utilized outside of school (Engeström, 1991; Resnick, 1987). The purpose of the interventions in these studies was to explore the potential in engaging in an activity that was facilitated by the use of ICT. However, the empirical studies at the local level discerned that the activity, to some extent, became encapsulated in 'the game of school' (Resnick, 1987, p. 15). Encapsulating activities mean that the potential inherent in the contradictions and at the boundary are only partly fulfilled.

5.5 KEY FINDINGS IN EMPIRICAL MATERIAL

The key findings in the articles are summarized in this section in order to further elucidate the essence of the studies.

In Article 1, the students were found to elucidate the boundary between different literacy practices when they negotiated what to include in their multimodal texts. Some contextual references from settings outside of education were incorporated, whereas others were excluded. By incorporating references, the students bridged different literacy practices, thereby relating to the multimodal text as a boundary object that enabled such transformations. However, the division between different practices was also enacted by the students. When elucidating the boundary, the students displayed their awareness of how the concept of literacy is perceived and evaluated in different settings. The negotiations in the different groups of students show that *how* the boundary is understood shapes the negotiations and determines which references are included in the multimodal text.

Article 2 explored the assessment of the multimodal text and how it was enacted in negotiations between students and teachers. When the students were in the process of creating their multimodal texts, they focused on what the activity entailed and how it should be executed. Since the explicit assessment criteria for the multimodal text that the students had been given was hardly negotiated during the process of creating the multimodal texts, the teacher and the student did not have a common understanding of what the criteria meant in relation to the task. Therefore, the criteria did not affect the activity of creating the multimodal text to any

great extent. However, the criteria became relevant to the students once the multimodal text was finished and it was possible to reflect on the outcome of the activity. Moreover, the students' previous experience of creating multimodal texts influenced their understanding and usage of the assessment criteria.

How assessment was negotiated in assessment-talks between students and the teacher was the focus of Article 3. The assessment was not negotiated to any considerable extent since the students mainly agreed to the evaluation done by the teacher. Differences in the students' anticipated assessment of their multimodal texts and the actual assessment reveal a difference in the teacher's and the students' notion of the assessment. Whereas the students consider several kinds of expressions to be significant for meaning making, the assessment of the multimodal text is based mainly on one kind of expression, the spoken word. In the assessment of the texts, the modes that are not usually included in texts created in educational settings, are largely overlooked. This may lead to a reinforcement of the established ways of expressing meaning in educational settings, rather than expanding the range of evaluated modes in education.

Article 4 addressed the question of how the activities of creating and assessing multimodal texts relate to established practices of creating and assessing texts in the language classrooms. Tensions between the use of several kinds of expression in the multimodal texts and the conventional use of written and/or spoken language in education have been revealed in the empirical studies. The concept of literacy is challenged when multimodal texts are created and assessed in educational settings, since the use of several kinds of expression challenge which modes are considered primary and how different kinds of expression are evaluated. In order to understand these tensions, activities at the local level need to be related to systemic components and how they constrain or render possible transformations. Transformations are taking place at the local level of the classroom when students use digital technologies, since the activities they engage in and the outcomes they create are transformed. However, similar transformations do not occur at the systemic level, for example, in curricula. Tensions arise at the middle level when teachers and students relate classroom activities to systemic components, such as grades. When transformed activities at the local level are related to systemic compo-

nents that have not transformed to the same extent, tensions in how to perceive the activities and their outcomes arise. Moreover, if the systemic level constrains transformations at the local level where digital technologies are used, the use of these tools may become detached from how they are used outside of education. Then, there is a risk that digital technologies in education can become encapsulated, so that their uses inside and outside of the classroom have little or nothing to do with each other. The potentials for transformation and change, inherent in contradictions and at the boundary, will only be partly fulfilled if the activities become encapsulated.

CHAPTER 6

DISCUSSION

In this concluding discussion, the overarching questions are explicated. The overarching questions concern the tensions that arise in and between emerging and established literacy practices in language education, when students create texts with digital tools that contain several kinds of expression. Furthermore, how these tensions constrain and/or contribute to changes in practices are discussed. In the summary of the articles, the key findings in the empirical material were outlined. Since Article 4 synthesizes the findings of all of the empirical material, this article can be regarded as a summary of the findings in both the iterative Cycles and the four Designs. Therefore, the aim of this discussion is to further the arguments substantiated by the empirical findings, by relating them to the overarching questions. In the concluding sections of the chapter, didactical issues and implications for further research are discussed.

6.1. DISCUSSION OF THE EMPIRICAL FINDINGS

Taking the theoretical framework of CHAT as a premise, the empirical findings are related to different levels of the activity system and how they relate to and constitute each other. At the local level, the concept of literacy is discussed, since the activities at the local level are concerned with the creation of literacy objects. The three components at the systemic level and how they affect the activities are then discussed and processes at the middle level are clarified. At the middle level, students and teachers attempt to make sense of the activities they engage in. Since tensions and contradictions are played out in the middle, the middle level is utilized as an analytical lens to discern where and why tensions and contradictions arise.

6.2. THE LOCAL LEVEL – LITERACIES IN PRACTICE

In chapter two, four approaches to the concept of literacy were considered to be of importance to the questions in the studies. The four approaches base their argument for an expansion of the concept of literacy on different premises; literacies as socially situated practices (e.g., Barton & Hamilton, 1998; Street, 1998), literacies diversified in the pedagogy of "multiliteracies" (e.g., The New London Group, 1996; Cope & Kalantzis, 2000), a multimodal approach to the concept of literacy (Jewitt & Kress, 2004) and 'new' literacies relating to a 'new' mind-set that emphasizes collaboration and participation (Lankshear & Knobel, 2008). These four approaches are returned to in this section, taking into account the findings of the empirical material.

A premise of the studies is that literacies are social and situated and, hence, they align with the thoughts of NLS (e.g., Street 1998; Barton & Hamilton, 1998). The studies have been conducted in the classrooms and in collaboration with the teachers in an iterative research design. This design process has made it possible to continually develop salient aspects in the studies and alter the focus of the studies accordingly. Even though the process was aligned with NLS, in that literacies are situated and hence need to be studied in the environment in which they occur, it gradually became evident that it was not sufficient to study the activities at the local

level of the classroom. In order to understand the activities and the way the teachers and students engaged in them, the activities at the local level needed to be related to components at the systemic level. Furthermore, in order to detect tensions and contradictions in and between components of the activity system, as well as between different activity systems, the new focal point of the analyses became the middle level, which concerns how education is perceived by students and teachers. Tensions and contradictions that arise when attempting to connect the different levels are discernible in processes at the middle level. These tensions and contradictions, in turn, indicate areas where differences between established and emerging practices become problematic and where changes in practices may be facilitated or constrained.

The New London Group's concept of "a pedagogy for multiliteracies" explicitly focuses on social issues and concerns the development of a socially and culturally responsive curriculum (1996). Therefore, this approach regards societal issues and their relationship to classroom practices to be important considerations. In previous research, the creation of multimodal texts is often connected to democratic issues and students' agency (e.g., Erstad & Silseth, 2008; Hull 2003; Hull & Katz, 2006). Erstad and Silseth (2008) regarded digital technologies as tools that allow a number of voices to be articulated, which, in turn, has democratic implications. Creating multimodal texts is regarded as a way of bringing the students' experiences into the classroom from contexts outside of education. In these studies, the students were mainly creating narrative texts in which they were explicitly asked to write about themselves and/or their personal interests. The studies were also carried out with younger students and in out-of-school contexts.

In the previous studies the fact that the creation of multimodal texts fosters agency in the students was salient, but this was not salient in the empirical material in this thesis. Moreover, creating argumentative multimodal texts at upper secondary school level did not invite the students to draw on their personal experiences or interests to the same extent as in the previous studies. Even when the students in these studies created narrative texts, personal issues were not central.

The studies by Hull (2003), Erstad and Silseth (2008), Hull and Katz (2006) pay little, if any, attention to assessment. However, assessment has

been revealed in the empirical material in this thesis as important to an understanding of the tensions relating to multimodal texts. This is because assessment is an intrinsic aspect of education, which, at least in Sweden, is further emphasized as the students become older. When the analysis focuses on assessment, aspects such as the agency of students appears to be downplayed. This does not mean that the fostering of students' agency is irrelevant, but rather that systemic factors, such as assessment, need to be considered if the creation of multimodal texts is to lead to increased agency in students and to have democratic implications for education.

In a multimodal approach to literacy, all modes are considered to be meaning making (Kress, 2009). This tends to create tensions in relation to conventional conceptions of the subject of Swedish. Although no expression is monomodal, all kinds of expression are not generally considered as meaning-making devices, particularly not in language education where the conventional focus is on written and spoken words (e.g., Kress, 2009). The effects of these aspects on the activities of creating and assessing multimodal texts within the subject culture of Swedish, are further discussed in section 6.3.1. Shipka (2011) warns against replacing the pro-verbal with the pro-digital. While freeing students from the limitations of the page, they become limited to texts that can be composed, received, and reviewed onscreen instead. In order to broaden the scope, rather than moving or limiting it, it is important to relate old and new technologies to each other (ibid.). If the aim is to broaden the notion of text, then regarding a certain technology or a certain kind of text as a template to which all texts have to conform should be avoided. Instead, it is important to consider how different tools can facilitate the creation of texts, but can also constrain some aspects, and broaden others, and to also consider how the different texts, created in different settings, can serve different purposes.

The various modes contained in the texts, such as images and sound, should not be seen as a threat to reading and writing. Jenkins et al. (2006) emphasize that in order to engage in what they call 'participatory cultures' it is necessary to be able to read and write. However, the emergence of 'new digital modes' will change our relationship to printed texts (ibid., p. 19). Oldham (2005) sees no indication that multimodality in teaching is occurring at the expense of print literacy (see section 2.2). On the contrary, she claims that multimodal teaching practices have significant impli-

cations for students. However, "the ways in which performance is currently measured during assessment of English means that it fails to capture recent gains" (ibid., p. 171). Oldham (ibid.) goes as far as to say that this leads to an anachronism, since claims made by Kress and Van Leeuwen (2001) about people being able to choose from a range of meaning-making modes when they communicate is simply not true when it comes to assessment in language education. Therefore, the claims made by the multimodal approach are constrained in relation to the conventional conception of the subject of Swedish and, partly due to this conception, are also constrained in relation to assessment.

'New' literacies, as conceptualized by Lankshear and Knobel (2008), are regarded as facilitating another mind-set than conventional literacies. This mind-set is more participatory and collaborative and less authoritative (ibid.). Knowledge is regarded as collective and the collective knowledge is increased by sharing it with others. Therefore, expertise is regarded as distributed (ibid.). Traditional roles in education, in which the teacher is regarded as an expert and students as novices, are challenged and the collective aspects of learning are emphasized rather than the individualistic (eg., Gee, 2004; Jenkins et al., 2006). As stated by Jenkins et al. (ibid.), it has become important to have the "expertise somewhere within the distributed learning environment and making sure students understand how to access and deploy it" (ibid., p. 38). The new mind-set is apparent in activities that many youngsters engage in regularly, such as games and social media, and it may have a predominantly implicit effect on activities in school. Engaging collaboratively when playing games or being able to chat with friends whenever and wherever, poses challenges to conventional ways of education. According to Jenkins et al. (2006), the focus of literacy has shifted from individual expression to community involvement. The implications for this are further discussed in relation to the division of labour in section 6.3.3.

Literacy practices closely relate to the setting in which they occur. Since multimodal texts differ from how texts are created conventionally in educational settings and in language education, the practice is constrained. The subject-culture conception of what the content of the subject of Swedish is, or should be, is reflected in both the students' and the teachers' actions (see section 6.3.1.). Because the analyses of the empirical mate-

rial have focused on tensions and contradictions, it is more evident how the practices of creating and assessing multimodal texts are constrained, rather than how they are rendered possible. However, tensions and contradictions in activity systems are considered the driving force of change, and actually noticing and becoming aware of these tensions may create possibilities for informed changes to occur. Many students and teachers are currently working with digital technologies on a daily basis. This is likely to lead to new activities that have the potential to change practices, as well as the conception of the subject of Swedish and the assessment of literacy objects created by students. Furthermore, the curricula for compulsory education in Sweden (*grundskolan*) actually contain several references to multimodality and require students to be able to express themselves in a number of modes. In the long run, this is likely to lead to changes at upper secondary school level as well. If the students are used to expressing meaning through images and sounds, as well as speech and writing, and to using a combination of these modes, they will probably want to continue doing so when they reach upper secondary school. Therefore, it will become increasingly difficult to maintain the differences in curricula between various kinds of expression.

6.3. THE SYSTEMIC LEVEL – RULES, COMMUNITY AND DIVISION OF LABOUR

In this section, the three components at the systemic level and their influence on activities at the local level are discussed further. Aspects relating to assessment are considered, both in connection to the systemic level (see section 6.3.2) and in connection to the middle level (see section 6.4.2). Assessment, as a systemic component, relates mainly to curricula and is regarded as part of the rules that govern activities in classrooms. However, the processes of assessment in assessment practice can also be regarded at the middle level. The focus is then on how assessment practices revealed in the empirical material convey how students and teachers conceptualize assessment in practice. Since the different aspects of assessment are closely related to each other, the division is not easily made and the aspects may sometimes overlap.

6.3.1. COMMUNITY

Traditions within the subject of Swedish are regarded as part of the subject culture which correlates to the component of community in the activity system. The conventional subject culture of Swedish is closely related to reading and writing typographical texts (see section 2.3 and 6.2). This subject culture also contains a notion of a hierarchy of types of text, in which abstract and decontextualized texts, such as argumentative and exploratory texts, are ranked higher than personal narratives (cf., Berge, 2002; Bergman, 2007, Parmenius Swärd, 2008).

Within the subject of Swedish, there has traditionally been a division between a "high" and a "low" subject. This division largely coincides with the notion of a high and a low culture, in which contemporary media is considered to belong to the low domain (eg., Persson, 2007). Bergman (2007) suggests that both teachers and students are affected by this notion of high and low in their conception of the subject of Swedish, as well as in their attitudes towards what the subject entails. The notion of a "high" subject is also connected to the notion of seriousness. This means, for example, that students tend to avoid popular culture and the things they consider to be fun and exciting, since this may be regarded as simple in content and not contributing to their language development (ibid.). Similarly, in his study of the hidden norms in assessment of essays written by Norwegian upper secondary school students, Berge (2002) concludes that examiners refer to the maturity of students when assessing essays. Essays that are not too personal are preferred, and generally, texts that are more abstract and decontextualized are given higher grades (ibid.). Moreover, connecting with the interests of students is regarded as belonging to the low subject of Swedish.

In the analyses of the empirical material, the students' awareness of which modes are accepted and considered serious in the educational setting is detectable when they negotiate the content to include in their multimodal text (see Article 1). For example, Isak and Jonas talk to their peers and joke about including a film clip from YouTube. Both Isak and Jonas, and their peers find the film clip funny and laugh about it, but they do not include the teacher in their discussions. The film clip is not included in the final version of their multimodal text either. Other students, such as

Karin and Linda, concentrate on the mode of speaking in their text and avoid other kinds of expression. In this, they display their awareness of the primacy of the spoken word in their multimodal text and avoid the less serious mode of music, since it may interfere with the spoken word.

Little research has been carried out on how and why subject cultures affect the use of technology, but Selwyn (1999) shows that subject cultures have a strong influence on practices and on the use of ICT. Similar to Bergman (2007), he states that this affects students and how they perceive different subjects. Both teachers' and students' attitudes towards ICT are linked to their perceptions of the nature and content of the subject area (Selwyn, 1999). The subject culture of Swedish regards writing typographical texts as an important and intrinsic part of the subject. This is detectable since the practice of writing typographical texts on computers is a common way to use computers in educational settings today (Skolverket, 2013a). To use digital technology in this way is largely unproblematic, since the computer then becomes a tool that can be used on familiar tasks and within existing assumptions about the subject (Selwyn, 1999; Lankshear & Knobel, 2008). The use of this tool to carry out established practices does not challenge the conception of what constitutes the subject of Swedish, and therefore, is embraced for this purpose.

To create texts consisting of images and sounds does not conventionally belong to the subject of Swedish, and therefore, the activity challenges both teachers' and students' attitudes and conceptions of the content of the subject. Elmfeldt and Erixon (2004), state that both teachers and students consider writing to belong to the subject of Swedish. If these modes are considered at all, images and sound are considered to belong to other, more practical and esthetical subjects (ibid.). Selwyn (1999) writes about the use of ICT in subjects as a constant battle with subject cultures, where ICT generally fails to be adopted productively. Likewise, Lankshear and Knobel (2008) warn that if digital technologies are used as *'mere' tools*, the potential of the 'new' literacies will not be fulfilled. The new mind-set, connected to 'new' literacies as conceptualized by Lankshear and Knobels (2008), is less authoritative and more participatory. This is likely to challenge not only the subject culture of Swedish, but also more general institutional practices.

6.3.2. RULES

The assessment of multimodal texts closely relate to conceptions of literacies and to what the subject of Swedish entails or could entail. The way assessment and curricula are interpreted is linked to how literacy is defined. This, in turn, affects the occurrence of multimodal texts in teaching practices (Oldham, 2005). However, whereas the discussion about literacies is closely related to the activities at the local level, here, assessment will be considered in relation to the systemic level of the activity system. This is because assessment and grading are part of the rules of education, but also because aspects of assessment influence activities in ways that are more or less hidden at the local level. When analysing the empirical material, I sometimes found myself looking for what was not there. My focus was on the multimodal texts, how the different ways of expression were used in the creation of the texts, and how they were then assessed. However, to a large extent, the empirical material was concerned with the spoken language in the texts and references to other kinds of expression were few, particularly in connection to assessment. This indicates that, as pointed out by Oldham (2005), "only representations of language are signified as objects of teaching and assessment" (ibid., p. 184). The predominance of the spoken word, and to some extent, the written word, in the interactions in general, and in connection with assessment in particular, is clearly related to conceptions of the subject of Swedish and the subject culture. However, in assessment, this predominance also relates to how the subject of Swedish is conceptualized in the curricula.

Hew and Brush (2006), in their overview of barriers for integrating technology in teaching, perceive six different barriers. In their model, they show the relationship between the different barriers. In this model, subject culture and assessment are depicted as indirectly influencing the integration of technology through attitudes and beliefs, as well as through institutional aspects, such as leadership and time-tabling structure. The forms of assessment indicate how a subject should be taught and assessed, and therefore, also how ICT should be used (ibid.). However, Hew and Brush (ibid.) take the standpoint that technology is about to be integrated into curricula. Therefore, they appear to overlook the fact that a curriculum, in itself, could serve as an obstacle for integrating technology into education.

Since the current curriculum for the subject of Swedish at upper secondary school level scarcely mentions ways of expressing meaning other than the written or spoken word (Skolverket, 2011a), it is hardly surprising that surveys show that computers are mainly used for familiar activities, such as writing typographical texts, particularly in language subjects (Skolverket, 2013a). If teachers choose to let their students work with other forms of expression, they need to read between the lines to be able to assess these expressions.

Formative assessment is currently endorsed in education in Sweden and is regarded as a way to improve both student outcomes and teachers' assessment practices (cf., Skolverket, 2013b). In the studies in this thesis, the students engaged in activities that were largely unknown to them in an educational setting. As Engeström and Sannino (2010) indicate, there are no experts when engaging in new forms of activities, since these new forms are created and learned simultaneously. This also means that there is no former assessment of the outcomes of the activity to which students and teachers can relate. This appears to make it difficult to assess the students work formatively. Taras (2005) claims that formative assessment is based on summative assessment, and therefore, they should not be seen as separate but rather as two aspects of the same process. William (2013) also appears to move away from the division between formative and summative assessment. He claims that any assessment can, potentially, be formative. The term formative should be applied to the function served by the evidence that was generated by assessment (ibid.). The analyses of the empirical material show that the students find it difficult to understand how to improve their multimodal texts, particularly concerning modes such as images and sound (see Articles 2 & 3). They are not used to being assessed on these modes, and they cannot relate the feedback to the required level, since they have no conception of what this level requires in relation to the different kinds of expression. A possible way to overcome this is to explicitly show examples of what good argumentation may entail when expressed in a multitude of modes. However, to be able to display such examples, the grading criteria need to be understood by both students and teachers.

Parmenius Swärd (2008) showed how students reacted to the teachers' assessment of their written texts. She wrote that assessment and grad-

ing of students' texts was a problematic and often un-reflected activity. Teachers, who were otherwise willing to renew the content of the subject, could, when it came to assessment and grading, turn into judges (Parmenius Swärd, 2008). Furthermore, for teachers to change their view on texts and to detach themselves from a narrow focus on assessment, they need to be both brave and competent, according to Parmenius Swärd (ibid.). In my opinion, the teachers that I have met during these studies have not had a narrow focus on assessment. On the contrary, they have been willing and curious to engage in activities that are new to them. However, in the existing climate, with an increased focus on external assessment, such as international standardized-testing (Broadfoot & Black, 2004; Lundahl & Folke-Fichtelius, 2010), there are growing pressures on teachers to focus on assessment. Even though the teachers in these studies did not focus on assessment narrowly, it had to be considered since it is an intrinsic part of the educational setting. As shown in the empirical material, the assessment of multimodal texts did not turn out to be an easy task. Assessing images or sounds is not something that language teachers have been trained to do and as the analyses show, both students and teachers appear to be uncertain of how this should or could be done (see Article 2). These assessment issues need to be a part of the discussion of how and to what extent, digital technologies should or could be used in education.

6.3.3. DIVISION OF LABOUR

The conventional division of labour in the classroom is one in which teachers give tasks for students to fulfil, and the resulting creations of the students are then evaluated by the teacher (e.g., Gipps, 2002; Parmenius Swärd, 2008). However, a 'new' mind-set, connected to 'new' literacies (Lanskshear & Knobel, 2008; Jenkins et al., 2006), affects this division of labour. With the aid of digital technologies, it is easy to find sources of information from which knowledge may be gained. The authority of teachers as bearers of knowledge may be challenged as well as the model of autonomous learning (Gee, 2004). The mind-set of 'new' literacies regards knowledge as distributed. In order to gain knowledge, it is necessary to share what you know with others and hence, collaboration becomes an intrinsic part of the creation of knowledge (cf., Lankshear &

Knobel, 2008; Jenkins et al., 2006). However, the sharing of knowledge is constrained in education by the hierarchy in which teachers and students are assigned different roles. This becomes particularly evident in relation to assessment.

The fact that assessment in education is based on an individualistic view of knowledge became relevant when the assessment of the multi-modal texts was in focus in Design 4. The teacher regarded it as difficult to assess the multimodal texts if they had been created by pairs or groups of students. Therefore, the task was slightly re-designed so that, although some collaborative aspects were kept, each student created their own multimodal text, which was then assessed. Gipps (2002) considers issues around the evaluation of individuals in group-tasks as one of the obstacles connected to a sociocultural perspective of assessment. Gipps (ibid.) writes about the possibility of assessing students in collaborative group activities in which their contribution to the group is evaluated and where the members of the group can assist and guide each other. It is possible to document such collaborative group activities relatively easily with the technology of audio and/or video recording, which is available in many classrooms today. However, documenting such processes and viewing the documentation as the basis for assessment requires re-thinking assumptions about assessment. The curricula and the grading criteria stated for different subjects and courses do not usually accommodate these different assessment procedures, since they are based on individual assessment.

When texts containing several meaning-making modes are created, the curricula, and the grading criteria within them constrain the changes in practices in two aspects. The first aspect concerns the curricula as part of the systemic rules that influence local activities, whereas the second aspect concerns the division of labour. The emphasis in the curricula is on spoken and written language, which means that assessment of other kinds of expression is not well supported by the criteria given in the curriculum. Thus, the curricula, as part of the component rules in the activity system, mirror the conventional assumptions about the content of the subject of Swedish. This legitimizes those who do not see the need for change, while simultaneously constraining those who would like to change these assumptions. Since there is an inherent margin of manoeuvre for interpreting the curricula, tensions will likely, or even inevitably, occur.

Second, in relation to the division of labour, the grading criteria are based on the assessment of individuals. This means that it becomes difficult to assess 'new' literacies that are founded on a different mind-set. A notion of assessment, largely based on an individualistic view of knowledge, goes against the mind-set of 'new' literacies, as described by Lankshear and Knobel (2008), and makes it difficult to assess the outcomes of collaboratively created literacy objects.

6.4. THE MIDDLE LEVEL

The notion of two different levels and attempts to link the two at an intermediate level is a notion that is mentioned in the writings of several researchers. Although the descriptions of the processes at the middle differ, they are also similar, in that they regard the intermediate level as a place where important processes happen (Engeström, 1998; Wertsch, 1998; Lemke 2001; Linell, 2009). While intermediate processes attempt to connect, they also provide a way to avoid dichotomous relations. Wertsch (1998) writes about mediated actions as "a way to live in the middle" (ibid., p. 17) and as an attempt to avoid focusing either on the individual agent or on the setting in which the activities take place. Similarly, Lemke (2001) considers the necessity of a middle level that is "intermediate between microgentic activity and community processes" (ibid., p. 24) and at which learning processes take place as part of identity development (ibid.). Linell's (2009) notion of double dialogicality could likewise be seen as an attempt to live in the middle, as it emphasizes the need to pay attention to both particular situations, and situation-transcending practices.

Engeström (1998) regarded the middle level of activity systems as a strategic focus of change. Processes at this level attempt to connect components at the local and at the systemic levels. These processes are recurrent aspects of school life that are often taken for granted, such as assessment practices and the connection between in- and out-of-school practices. The grading criteria given to the students in Design 4 could be regarded as such an attempt, since the criteria stated in the curriculum were translated so as to inform the students how and what wouldbe assessed in their multimodal texts.

6.4.1. ASSESSMENT PRACTICES

The tasks that students perform in an educational setting will be assessed or evaluated in one way or another. Therefore, assessment is understood by both teachers and students as an intrinsic and inevitable aspect of education. The reason that assessment became the focus of the 2nd Cycle of research is largely due to the fact that the students questioned how the multimodal texts they were asked to create were going to be assessed. They had previously made one multimodal text and most of them appeared to enjoy doing the task. Nevertheless, questions concerning assessment were raised by the students the second time around. The first time, creating the multimodal text in the language classroom was a novelty that increased the students' motivation. The second time, however, they wanted assurance about how this activity actually related to the setting it was made in: a course in Swedish at upper secondary school level. Their questions can be regarded as the students' need of assurance that the creation of multimodal texts was considered to be a part of the course they were taking. To qualify as a school task, the creation of multimodal texts had to be connected to the aims of the course and the grading criteria. When the students knew that the multimodal texts were going to be assessed, they could also consider the task serious enough to engage in. If the task was not going to be assessed, at least some of the students did not see any point in making an effort to create a multimodal text.

Alexander (2011) writes that when assessing a multimodal text on how well it carries out an argument, both teachers and students "benefit from having access to assessment rubrics from the project's start" (ibid., p. 218). Alexander's (ibid.) suggestion to have one rubric concerning the content and another concerning the digital form was largely met in the assessment and grading criteria given to the students in Design 4. However, the explicit grading criteria were not consulted by the students to any considerable extent, and the criteria did not appear to make a great deal of difference to the students while they created their multimodal texts. Instead, the experience of having created a multimodal text once before was more important (see Article 2). For students who had a positive experience of succeeding with the multimodal text the first time around, such as Samantha, this made a positive difference. However, if the experience of creat-

ing a multimodal text was not positive the first time around, such as for Ihsam, this created uncertainty as to whether he would be able to succeed the second time.

Another aspect that affected the students' use of the explicit grading criteria, as well as their understanding of the assessment given by the teacher after they had completed the task, was that the criteria were not negotiated and therefore their meaning in relation to the task was unclear to both students and teacher. While creating the texts, the students focused on the short and quick timescale of activities connected to the achievement of an assignment. Assessment, on the other hand, takes place on a longer and slower timescale, in which it is possible to reflect on the short timescale activities of creating the task, as well as on the outcome of the task. Thus, the creation and the assessment of the multimodal texts relate to different timescales.

Gipps (2002) advocates that assessment should become a more collaborative enterprise in which tasks and criteria are discussed and clarified in negotiations between teacher and students. This entails a shift in the relationship between teacher and student and in the division of labour (see section 6.3.3), since the students are required to take an active part in assessment and contribute to it by self- and peer-assessment. However, as Gipps (ibid.) points out, this requires the teachers to re-define their own part in the assessment process, but also to make the new rules clear to the students and to persuade them that their contributions to the assessment are valued.

6.4.2. MOTIVE AND MOTIVATION

The processes at the middle level are connected to the motives and goals of the activities, which also connect them to the motivation of both students and teachers (Engeström, 1998). The use of digital technologies in classrooms is sometimes portrayed as being motivating for students (e.g., Tallvid, 2010). However, whether this relates to a sense of novelty when digital technologies are first used in classrooms, or whether such motivational aspects will prevail, is a contested issue. Stockwell (2013) questions assumptions about technology as being intrinsically motivating to students and suggests that this may have been true previously, to a certain extent.

Stockwell (ibid.) compares the situation today with the early 1990s when some studies were conducted. At that point in time, a considerable number of students only had access to computers in educational settings, and often only for short periods of time. Moreover, the functionality of the computers was then limited and when computers were used, the teacher tended to be in control over the technology as well as over the skills and knowledge regarding the technologies (ibid.). Today, the situation is radically different. For a vast majority of students, digital technologies are natural to possess and use on a daily basis (ibid.). Therefore, digital technologies hardly impress students and it is unlikely that they will raise their motivation for any considerable length of time. Stockwell (2013), in accordance with Erstad and Silseth (2008), reaches the conclusion that technology, in itself, is not intrinsically motivating. Instead, the manner and the context in which the technology is used are more important to the motivation of students (Stockwell, 2013). In Erstad and Silseth's study (2008), the students said that the technology, in itself, did not motivate them but, instead, their motivation depended on the task.

Considering the reaction of the students in the empirical material, motivation appears to be linked to assessment, since the assessment of a task qualifies it as a school task that is valued in the educational setting (see Articles 2 & 3). When the students were asked to create their second multimodal text, they were not motivated to spend their time on the task if it was not going to be assessed and regarded as part of the course they were taking. This indicates that the use of technology in new ways may initially be motivating to students, but this novelty factor wears off rather quickly, and then other aspects of the educational setting become more relevant as motivating factors. In connection to this, it is important to consider the fact that the multimodal aspects of the texts that the students created were generally not taken into consideration in the assessment of the multimodal texts. If the multimodal aspects are not assessed, the students are likely to put less emphasis on them the next time they are asked to create a similar task. They may even question why they should engage in the creation of multimodal tasks if, in the end, they are only assessed as if they were written and spoken words.

6.4.3. RELATING TO OTHER ACTIVITY SYSTEMS

In Erstad and Silseths (2008) study, the students revealed that if they had created their multimodal text, or digital story outside of the school setting, they would have done it completely differently. The students said that the digital story would have been less serious and that they "would have had many pictures and music maybe…Made more out of it" (ibid., p. 225). This is similar to the students in Bergman's (2007) study, who avoided what they considered to be fun in their text, because that may be regarded as simple. The fact that more pictures and music would have been included indicates that the students within the educational setting restrict their usage of these kinds of expression. This is similar to how the students in this thesis displayed uncertainty as to what and how much popular culture they could include in their multimodal texts (see Article 1).

Although some students can be seen to incorporate influences from outside of education in their multimodal texts, they are simultaneously very aware of the boundaries between different contexts (see Article 1). Therefore, the students censor their texts so that only what they believe to be passable in the educational setting is included in them. The students' awareness of these boundaries also indicate their awareness of the institutional rules, the subject culture of Swedish, and the division of labour in the classroom, where assessment, for example, is done by the teacher and where few or no negotiations are allowed.

When creating multimodal texts in the classroom, the students become uncertain of the audience they are addressing. If they address an audience of their peers in the classroom, or audiences on Internet sites, they are aware that they can, or even must, use the modes in their multimodal text differently than if they were addressing the teacher and the educational setting. Failing to realize and adhere to these differences will mean, as in the case of Harry, that the multimodal text will be received and assessed differently than was expected (see Article 3).

Therefore, incorporating references from settings outside of education and relating the multimodal text to other audiences than the teacher become hazardous for the students, since their multimodal texts may be considered as simple and lacking in content. Adhering to the norms of the educational setting, on the other hand, means that the activity of creating

multimodal texts becomes confined, or encapsulated within "the game of school" (Resnick, 1987), or even within "the game of Swedish". The students restrict the activity of creating multimodal texts so that it fits within the common understanding of the borders of the subject of Swedish.

6.5. BOUNDARIES

Creating and assessing multimodal texts are activities at the boundary between established and emerging practices as well as between conventional and 'new' literacies. Moreover, multimodal texts are commonly encountered in environments that are not directly related to educational settings and thus adhere to activity systems in these environments rather than to educational settings.

When creating and assessing multimodal texts in the language classroom, the students and the teacher engage in new forms of activities in which they simultaneously create and learn what these activities entail. This means that there are no experts in such learning processes (Engeström & Sannino, 2010). In the empirical material, the students are seen to engage with their peers rather than with the teacher, in particular when it comes to negotiations about references from outside the educational setting (see Article 1). The other students in the classes respond to the contextual references because they are familiar with them. Hence, their peers, rather than the teacher, are regarded as experts when it comes to some aspects of the activity. The students engage in horizontal movements in which references cross boundaries as they are referred to in the classroom, although they are usually encountered in other settings. Such horizontal movements tend to be ignored when learning is regarded as a vertical movement between an expert and a novice (Engeström et al., 1995). These horizontal movements may be difficult for teachers to identify, because the teacher may not be accustomed to the references made by the students and their peers. For example, the music and the YouTube-clip that Isak and Jonas refer to when they are creating their multimodal text (see Article 1) was an aspect of their conversations that I did not understand initially, since the references were unfamiliar to me. When I realized later the extent to which these references figure in connection to popular and youth culture, their

significance became apparent. To identify such references is a challenge to teachers, as well as to researchers.

It becomes clear in the empirical material that teachers and students have different conceptions of how multimodal texts could or should be assessed (see Articles 3 and 4). When engaging in new activities at the boundary, the required level to aspire to is not clear and therefore it is essential to negotiate what is meant by the assessment criteria. If this is not negotiated, the task becomes ambiguous since the conceptions of the assessment and the required level differ between teachers and students. Students who utilize the multimodal text as a boundary object, in which they incorporate references from practices outside of the educational setting and emphasize visual aspects of the text, find the assessment of their texts difficult to comprehend, since what they consider to be central aspects are overlooked in the assessment to some extent. Therefore, boundary crossings at the local level are not recognized when systemic factors come into play. Moreover, crossing boundaries may be counterproductive to students in relation to the assessment process.

Boundary crossings in education are possible, and possibly rather common at the local level, since changes in tasks and in practices in different subjects invite the students to make use of outside-of-school knowledge and skills. However, boundary crossing becomes problematic in relation to assessment. Attempts at crossing boundaries so that vernacular and informal literacy practices become resources for learning in formal educational settings are restrained by assessment practices (Ivanič et al., 2007).

Assessment, as it is conceptualized in curricula, builds on conventional notions of knowledge in education, in which individualistic goals can be measured and evaluated. These conceptions largely stem from a view of information and knowledge as being relatively sparse and generally difficult for people to assess. This, in turn, implies that the extensive changes in the communicational landscape are not yet mirrored sufficiently in the educational curricula. Since assessment criteria are part of the curricula, the process of assessment in the classroom inhibits change and the crossing of boundaries. When assessment becomes the issue, attempts at changing practices at the local level tend to backpedal.

6.6. CONCLUDING REFLECTIONS

The contradictions found in relation to the creation and assessment of multimodal texts could be generally applicable when teachers and students engage in unfamiliar activities involving digital technologies in an educational setting. These new activities and their outcomes are at the boundary between established and 'new' practices in educational settings. As such, they share the potential for change, but they also share an ambiguity that invokes uncertainty in both the meaning and the requirements of the activities in educational settings. On the one hand, digital technologies enable teachers and students to engage in other activities and to produce other outcomes. On the other hand, questions regarding how to interpret and assess these activities and products constrain the usage of these digital technologies. The assessment and grading criteria stated in the curricula are not always easily applicable to the new activities and their outcomes, and therefore, they have to be translated at the local level of the school and the classroom.

The expectations of the use of digital technology in education are intertwined with societal issues regarding these technologies. Competencies needed for future societies include the ability to deal with, and communicate through a large number of channels. However, the kind of knowledge that is essential for youngsters today appears to run in at least two different directions. On the one hand, the need for creative and flexible human beings who know how to access the information they need and are aware of how they learn so that they can engage in life-long learning activities, is regarded as essential. On the other hand, particularly in educational settings, there is a tendency to emphasize the need for knowledge that is easily measurable in standardized tests. Essentially, these two directions work against each other and are difficult to combine, because they adhere to different assumptions about education and how we learn (cf., Broadfoot & Black, 2004). In some aspects, they are similar to what Lanskhear and Knobel term 'the different mind-sets' (2008).

In both mind-sets, the ability to communicate and express oneself and ones opinions is a prerequisite. Since the communicational landscape has changed with the digital technologies and with the different kinds of social media, I regard it as inevitable that the way we communicate has

changed, and will change even further. The question becomes the extent to which, and how this is recognized in education. As the findings in this thesis reveal, the use of digital technologies is constrained by conventional views of which activities should be engaged in, and what could or should be assessed in different subjects. In general, education is mostly based on text, and the ability to express knowledge in spoken or written words is emphasized. Assessment practices, in particular, rely on this ability. Advocating the increased importance of other modes than reading and writing tends to be considered as a threat to these modes. To realize the full potential of digital technologies for education, transformations are needed on both the local and the systemic levels. Such transformations involve altering the interpretation of important concepts, such as literacy and assessment.

According to Engeström (1998), the middle level relates to how we make sense of activities. If educational practices mainly evaluate the written and spoken word, other kinds of expression are devalued. Consequently, when, or if, the students realize this, they will also understand that there is little need or point in using other kinds of expression to make meaning in this setting. Since we know that students engage in practices outside of education where different kinds of expressions are used extensively, such as YouTube and Instagram, the boundary between education and these different practices will be reinforced. Just as factors, such as class, gender and ethnicity, for a long time have been regarded as affecting students' achievements' in the educational setting, the preferred mode of expression will, and already is, conceived in a similar manner. For example, reports show that youngsters, especially boys, read less, and this is sometimes regard as a consequence of increased computer use. The fact that many youngsters today engage in and communicate with digital tools rather than paper-mediated typographical text is seen as a problem and a reason for the decreasing results in education (cf., Gustafsson & Rosén, 2009; SOU 2012:10, 2012). Nevertheless, reading and writing are abilities that are important when communicating with digital tools, but changed patterns in communication may alter the importance of typographical texts in relation to other ways of expressing meaning. Kress (2010) considers the skills needed to be a good player at games and concludes that the kind of reading required in games is different from the skills of read-

ing that are focused on by schools. In games, reading is required for certain purposes when information is needed at that particular point in time. The kind of reading that schools focus on is the reading of longer texts that require "sustained, concentrated attention over an extended period of time" (ibid., p. 174). However, this kind of reading can no longer be the form of reading that defines what reading is, according to Kress (ibid.), but instead, it needs to be taught as a special task. As suggested by Kress (ibid.), it is likely that some abilities that have been evaluated and seen as important for a long time will be replaced by other abilities that are important in the communicational landscape of today and tomorrow. There is, however, a tendency to evaluate new ways of communicating with the same measures as those that were used previously. It may be difficult to perceive the qualities of the new, if the new is evaluated as if it is, or should be, the same as that which was evaluated previously.

In general discussions about education today, at least in Sweden, the importance of the role of the teacher tends to be emphasized for example, based on the meta-study made by Hattie (2008). Though I welcome the acknowledgement of teachers' importance, there is a tendency to talk about teaching as if teachers work in a vacuum. When talking about the importance of teachers I regarded it as essential to also talk about the conditions in which teachers work and, in turn, the conditions in which students learn. Not everything is up to the teacher to decide, but rather the profession is regulated by rules and regulations about what to do and how to do it. With an increased focus on assessment, there is also a tendency to hold teachers accountable for the performance of their students. If their competence as teachers is measured mainly against how well their students do on tests, this may lead to a de-professionalization of teachers. To diminish teaching to 'teaching-to-the-test' is to narrow the meaning of knowledge and learning and I find it hard to believe that taking this road will lead to the development of the knowledge that students need in their future lives. Instead, I would argue that in order to prepare and empower the young of today to engage in their future lives, education needs to foster creativity and encourage the students' curiosity to learn and engage in issues that are important to them and the world they live in.

6.7. DIDACTICAL ISSUES

The questions raised in this thesis come from questions that I battled with when working as a teacher. Most of the students that I worked with did not particularly like to write texts with pen and paper and I struggled to get them to tell the stories that I knew they were capable of. To create multimodal texts with the digital technologies appeared to be one possible way of achieving this. Having conducted these studies, I have been able to further experiment with what creating multimodal texts in language classroom entails, and it has also been possible for me to see how different students engage in the activity. What I find to be the most pressing didactical issue raised in connection to these studies, is that there is a need to discuss and become aware of how modes other than the written and the spoken word are related to in the classroom. If students engage in activities in which multimodal outcomes are created, then there is a need to pay attention to, and come to some agreement on how these outcomes can be evaluated and assessed. Unfortunately, I have rarely come across such discussions in connection with the use of ICT in classrooms.

The issues discussed are often concerned with what you can do in the classroom when the students are equipped with digital technologies. Fleischer (2013) discerns a tendency to focus on skills as in the ability to search for and present reproduced information in attractive ways when students are equipped with individual computers. Fleisher (ibid.) regards it as essential to balance "performative, fast knowledge formation with a deeper, more reflective way to learn" (ibid., p. 106). This is another aspect that needs to be taken into consideration when discussing the use of digital technologies in educational settings.

We need to further the discussion by exploring how the outcomes created by students relate to the curricula and grading criteria, as well as to our own conceptions of how knowledge can be displayed and how we can evaluate different kinds of expression. Based on such discussions, there is a possibility of closing the gap between how different kinds of expression are evaluated in educational setting, and realizing how the different expressions contribute to the understanding and development of students' knowledge in different subjects.

6.8 IMPLICATIONS FOR FURTHER RESERACH

Engaging in DBR, in which you cooperate with teachers in order to refine and develop classroom practices, is a somewhat addictive enterprise. It is difficult to stop, since new designs raise new questions. If I had continued with a fifth design, it would have included the development of assessment and grading criteria together with the students. Developing the assessment criteria with the students would have facilitated a mutual understanding of what the criteria mean. The negotiations of meaning that were found lacking in these studies could then have been realized and it would be interesting to find out if, and, in that case, how these negotiations of meaning could change the assessment of the multimodal texts.

Another issue, which I regard as important in future research, is to develop a supportive environment as advocated by Sadler (1989). In this environment, the students are shown what is meant by good argumentation and how it can be represented through different kinds of expression. In order to indicate how multimodal texts can be improved, the qualities that are salient are explicated.

Finally, it would be interesting to further investigate whether the findings of these studies, in terms of tensions and contradictions in creating and assessing multimodal texts, are also applicable in other activities in practices related to new literacies.

CHAPTER 7

SWEDISH SUMMARY

ATT SKAPA OCH BEDÖMA MULTIMODALA TEXTER – FÖRHANDLINGAR I GRÄNSLANDET

Digitala verktyg, som datorer och laptops, blir allt mer vanligt förekommande i utbildningssammanhang. Att lärare och elever har tillgång till dessa verktyg innebär att förutsättningarna för vad som kan göras i ett klassrum påverkas. Det är idag till exempel möjligt att med relativt enkla medel skapa texter där flera uttryckssätt, så som ljud, bild, tal, skrift och musik tillsammans bildar en multimodal text. Nya eller förändrade verktyg i utbildningssammanhang leder således till att nya eller förändrade aktiviteter blir möjliga. Införlivandet av de nya verktygen medför både möjligheter och svårigheter. För att förstå vad det innebär att använda digitala verktyg i utbildningssammanhang så måste de digitala verktygens möjligheter sättas i relation till förutsättningar och villkor inom skola och utbildning. När det görs blir det möjligt att se var spänningar och motsättningar uppkommer och därmed också förstå hur, och på vilket sätt, verktyg och samman-

hanget behöver anpassas till varandra. Att digitala verktyg är en naturlig del av många ungdomars vardag är en annan viktig aspekt som behöver inkluderas i resonemang kring hur digitala verktyg används i skolan. Fokus i denna avhandling ligger på vad det innebär att skapa och bedöma multimodala texter i en klassrumsmiljö inom svenskämnet och hur dessa aktiviteter relaterar till etablerade skriv- och bedömningspraktiker i skolan i allmänhet och inom språkundervisningen i synnerhet.

Under de senaste decennierna har förändringar skett i hur vi kommunicerar. Förrändringarna härrör till stor del ur den ökade användningen av digital teknik i vardagen. Internet och sociala medier är idag arenor som många använder till vardags för att kommunicera, både privat och professionellt. Det är också arenor som möjliggör och underlättar kontakter oavsett fysisk distans och där kontakter och utbyte av information snabbt kan ske med personer på avlägsna platser. Den ökade tillgången till digitala redskap inom skolväsendet speglar bredare samhälleliga förändringar där dessa digitala redskap blivit viktiga för att kommunicera, både genom att interagera med andra men också genom att skapa eget material som andra kan ta del av. Att elever under sin skoltid lär sig hantera dessa verktyg för att inhämta information och för att kommunicera är därför något som i allt högre grad förväntas vara en del av utbildningssystemet. Språkundervisning i allmänhet, och svenskundervisningen i synnerhet, är känsliga för förändringar av kommunikationsmönster eftersom ämnena handlar om olika former av kommunikation så som litteratur, film och media (Jewitt, Bezemer, Jones, & Kress, 2009). Eftersom digitala redskap används både i och utanför utbildningssammanhang så är frågor kring informations- och kommunikationsteknologi (IKT) ofta kopplade både till generella samhälleliga frågor men också till utbildningsfrågor. Hur de generella förändringarna i kommunikationsmönster i samhället påverkar språkundervisningen är frågor som studierna i denna avhandling har för aviskt att belysa.

Även om tillgången till digitala verktyg ökar i klassrum generellt i Sverige, så tyder rapporter på att användningen av verktygen fortfarande är begränsade, både i omfattning och innehållsmässigt. I en rapport om datoranvändningen i svenska skolor kom Skolverket (2013a) fram till att tekniken främst används till att söka efter information och för att skriva typografiska texter. Dessa aktiviteter är etablerade inom skolan men de har tidigare utförts med andra redskap. Den 'nya' tekniken verkar således i

stor utsträckning användas för att utföra sedan länge etablerade aktiviteter inom utbildning, men inte ge upphov till 'nya' aktiviteter i någon större utsträckning.

SYFTE OCH FRÅGESTÄLLNINGAR

Fokus i denna avhandling är hur multimodala texter skapas och bedöms inom svenskundervisningen på gymnasienivå. Digitala verktyg ger möjligheter till förändrade och/eller nya aktiviteter i klassrummet, men när undervisningssammanhanget och de digitala verktygen möts krävs förändringar och anpassningar av både verktygen och undervisningssammanhanget.

Bedömning är en del av skolan och bedömningar görs kontinuerligt av det elever gör och kan. Läroplanen föreskriver vilka kunskapsmål elever förväntas nå i olika kurser och bedömning förväntas ske utifrån de bedömningskriterier som finns inom varje ämne och kurs. Vad bedömning av uppgifter innebär beror dock på det sammanhang i vilka de görs (Gipps, 2002; Broadfoot & Black, 2004). I denna avhandling betraktas bedömning som en process där elever och lärare förhandlar vad som ska bedömas och hur.

I tre av de fyra artiklarna som ingår i denna avhandling belyses följande frågor;

- Hur förhandlas referenser från sammanhang utanför skolan när multimodala texter skapas?
- Vilka aspekter av den multimodala texten förhandlas av lärare och elever som viktiga i förhållande till bedömning?
- Hur förhåller sig lärare och elever till de explicita bedömningskriterierna för de multimodala texterna?

I den fjärde artikeln syntetiseras det som framkommit i de tidigare empiriska analyserna för att svara på frågan;

- Hur förhåller sig aktiviteterna att skapa och bedöma multimodala texter till etablerade praktiker i utbildningssammanhang om hur texter skapas och bedöms?

Eftersom denna artikel kan ses som en sammanfattning av den iterativa forskningsprocessen så fungerar den också som en sammanfattning av

de empiriska studierna. I den avslutande diskussionen i avhandlingen diskuteras resultaten vidare i relation till de övergripande frågorna;

- Vilka spänningar uppkommer då digitala verktyg används i språkundervisningen och elever skapar texter som innehåller många uttryckssätt? På vilket sätt bidrar och/eller motverkar dessa spänningar till att förändringar sker?

Eftersom undersökningarna har gjorts under en längre tidsperiod i en iterativ process så har frågorna under denna process förändrats och utvecklats (Joseph, 2004). Att frågor kring bedömning står i fokus i den senare delen av undersökningen beror, således, på att dessa frågor framkommit som viktiga under processen för att förstå vad det innebär att skapa och bedöma multimodala texter i utbildningssammanhang.

BAKGRUND OCH FORSKNINGSÖVERSIKT

Centrala begrepp i denna avhandling är literacy och bedömning. Literacy är en engelsk term som egentligen inte fått någon entydig svensk översättning. Tidigare har begreppet literacy främst förknippast med att kunna skriva och läsa alfabetisk text, men begreppet kan även innefatta en vidare definition av att vara läs- och skrivkunnig, där andra uttryckssätt, så som bild och ljud, inkluderas.

Vad begreppen literacy och bedömning omfattar har under de senare decennierna vidgats då literacy- och bedömningspraktikers situerade karaktär har betonats. Det innebär att vad det betyder att vara läs- och skrivkunnig samt hur och vad som bedöms, är starkt kopplat till det sammanhang aktiviteterna sker i. Sammanhanget påverkar vad och hur man lär sig och även vad som bedöms och hur. De vidgade begreppen literacy och bedömning sätts i avhandlingen i relation till ämnet svenska och till aktiviteterna att skapa och bedöma multimodala texter. Eftersom situerade koncept relaterar så starkt till sitt sammanhang så blir de svårare att mäta och generalisera. Exempelvis är det svårt att mäta och värdera effekterna av att kommunicera med flera uttryckssätt i texter jämfört med att kommunicera med skriven text. Att påvisa sådana effekter är heller inte syftet med denna avhandling. Syftet är istället att visa på vad det innebär att skapa och bedöma multimodala texter inom svenskämnet på gymnasienivå. Exempelvis, så finns det i ett ämne som svenska etablerade

praktiker kring hur texter skapas av elever och hur dessa bedöms. Dessa etablerade praktiker påverkar, implicit eller explicit, vilka aktiviteter som görs och hur de görs i klassrummet. I analyserna av det empiriska materialet relateras aktiviteterna i klassrummet till systemiska aspekter, som styrdokument och ämnestraditioner, för att visa på hur dessa påverkar aktiviteterna i klassrummet. Vad de spänningar och motsättningar som framträder i det empiriska materialet beror på kan på så vis påvisas, samt på vilket sätt de bidrar till, eller motverkar, förändringar i klassrumspraktiker.

LITERACY

Att begreppet literacy bör vidgas har framförts av ett antal forskare. De förespråkar dock utvidgningen av begreppet från delvis olika utgångspunkter. New Literacy Studies (t.ex., Barton & Hamilton, 1998; Street, 1998) tar som utgångspunkt att literacies är situerat och därför bör de studeras i de sammanhang där de praktiseras. Att literacies ser olika ut i och utanför utbildningssammanhang är något som poängteras i detta perspektiv och literacies bör därför inte begränsas till att undersökas inom utbildning. The New London Group har en delvis annan utgångspunkt då de förespråkar en diversifiering av literacy och en pedagogik för "multiliteracies" (t.ex., The New London Group, 1996; Cope & Kalantzis, 2000). Globaliseringen och mer heterogena elevgrupper ses som anledningar till varför begreppet literacy behöver vidgas. Att uttrycka literacy i singular blir i sig en motsägelse när diversifiering och utvidgning förespråkas varför begreppet istället uttrycks i plural. En tredje utgångspunkt är att kommunikation sker multimodalt och att alla uttryckssätt därför bör ses som meningsskapande (t.ex., Jewitt & Kress, 2004). Det multimodala perspektivet på literacies innebär att det talade och skrivna ordet blir ett bland många uttryckssätt. Detta leder även till ett ifrågasättande av den särställning som ofta tillskrivs det talade och skrivna ordet, inte minst i utbildningssammanhang. Literacies bör alltså, ur detta perspektiv, vidgas så att alla uttryckssätt ses som meningsskapande. Ett fjärde perspektiv på literacies framhåller att 'nya' literacies tar sin utgångspunkt i ett annat tankesätt (*mind-set)* än det konventionella literacybegreppet (Lankshear & Knobel, 2008). 'Nya' avser i detta sammanhang inte främst tidsaspekten utan ett annat tankesätt

143

som betonar samarbete och deltagande i högre grad än tidigare. Kunskap ses som distribuerad och därmed något som skapas och utökas genom att dela med andra (a.a.).

Ivanič o.a. (2007) menar att de multipla literacies som ingår i många elevers vardagsliv är svåra att definiera och mäta och därför faller de ofta utanför de ramar för bedömning av literacy som finns i utbildningssammanhang. Utifrån studier om hur elever "läser" en CD-ROM framhåller Jewitt (2003, 2006) att literacies måste definieras vidare än språk i betydelsen skrivet och talat ord för att kunna inkludera den komplexa och multimodala miljö som ett klassrum är. Vidare menar hon att fokus vid bedömning bör omformuleras så att alla uttryckssätt tas i beaktning. Behovet av metoder för att bedöma multimodala texter har diskuterats av exempelvis Hung o.a. (2013) och Cope o.a. (2011). Förslagen på vad multimodal bedömning innebär och hur den skulle kunna se ut varierar dock. Hung o.a. (2013) kommer i sin studie fram till att lärare, genom formativ bedömning och explicit undervisning kan utveckla elevers förmåga att arbeta med multimodala texter. Det är därför av stor vikt att lärare ges möjlighet att utveckla sin kompetens inom detta område.

BEDÖMNING

Bedömning är en ofrånkomlig del av utbildning och praktiker för hur bedömning görs påverkar hur undervisningen organsieras och vad som anses som viktiga kunskap (Erstad, 2008, s. 182). Gipps (2002, s. 73) definierar bedömning som en generell term vilken innefattar en rad metoder för att bedöma elevers prestationer och färdigheter, som formella prov och examina, praktiska och muntliga bedömningar samt lärares bedömningar i klassrummet. I denna avhandling ses bedömning som en process och focus ligger på förhandlingar angående bedömning i klassrummet.

En vidgad syn på bedömning innebär att bedömning anses kunna stötta elevers kunskapsutveckling men det fokuserar även på bedömning som värdeladdat. Bedömning sker i olika sociala sammanhang och dessa sammanhang reflekteras i vad och vem som bedöms samt av vem bedömningen görs, av vilken anledning och med vilken metod (Broadfoot & Black, 2004). I en jämförelse mellan bedömningspraktiker och policies i olika länder kommer Gipps och Cumming (2005) fram till att bedömn-

ingspraktikerna behöver breddas och innebörden av begreppet literacy förändras och vidgas. Även om bedömningar på systemnivån innefattar annat än standardiserade prov med korta svarsalternativ, så komprimeras dessa oftast till en enkel nivåbeteckning vars ändamål är att avrapportera ett betyg i form av exempelvis en bokstav (a.a., s. 709).

Bedömning omtalas ibland som formativt. Formativ bedömning syftar till att leda eleven vidare i sin kunskapsutveckling, medan den summativa bedömningen fokuserar på vad eleven kan vid ett visst tillfälle. Dock påpekar Taras (2005) att formativ och summativ bedömning kan ses som två aspekter av samma process. Summativ bedömning är central och utgör underlaget för formativ bedömning men vid formativ bedömning är återkoppling eller feedback väsentlig. Feedback ska vara framåtsyftande, det vill säga, det ska handla om vilka förbättringar som kan göras för att nå den nivå som eftersträvas. Skillnaden mellan denna nivå och den nuvarande nivån tydliggörs således, samtidigt som eleven får reda på vad hen behöver arbeta vidare med (a.a.).

I en studie av lärare i engelska i England kommer Oldham (2005) fram till att även om undervisningen är multimodal så är inte bedömningen det. Oldham (a.a.) påpekar att det finns en hierarki i styrdokumenten där det skrivna ordet rankas högt och att detta begränsar lärares möjlighet att premiera elevers kommunikation med andra uttryckssätt.

SVENSKÄMNET

Svenskämnet ses i denna avhandling som en gemenskap (*community*) där lärare och elever influeras av ämnestraditioner och vad ämnet innehållit historiskt sett. Sedan 1970-talet har det funnits en tendens i styrdokumenten för det svenska skolsystemet att vidga textbegreppet inom svenskämnet så att film, teater och olika medier inkluderas (Bergman, 2007). Samtidigt har flera undersökningar visat att exempelvis film i huvudsak ses som ett komplement eller en illustration av litteratur snarare än som ett uttryck i sig (Bergman, 2007; Elmfeldt & Erixon, 2004; Olin-Scheller, 2006). Fokus i svenskämnet ligger på litteratur och det skrivna och talade ordet, snarare än på andra uttryckssätt och medier.

I styrdokumenten för grund- och gymnasieskolan från början av 2000-talet skrivs om ett vidgat textbegrepp, där att tillägna sig och bearbeta

text inte bara innebär läsning utan också avlyssning och film (Skolverket, 2000). Det vidgade textbegreppet har dock tagits bort i styrdokumenten från 2011 (Skolverket, 2011a, 2011b). Medan det i läroplanen och kursplanen för svenska i grundskolan är tydligt att elever ska använda sig av olika uttryckssätt när de skapar texter, nämns knappt andra uttryckssätt, så som bild och ljud, i motsvarande dokument på gymnasienivå.

Studier kring hur ungdomar skapar multimodala texter i skolsammanhang är få (jfr., Erstad & Silseth, 2008), men en del studier har gjorts i miljöer utanför skolan (jfr., Hull, 2003; Hull & Katz, 2006). Kjällander (2011) har undersökt bedömning ur ett multimodalt designteoretiskt perspektiv (Kress & van Leeuwen, 2001) för att bland annat ta reda på vilka uttryckssätt som elever i år 8 använde sig av och vilka uttrycksätt som bedömdes. Studien visade att eleverna spenderade mycket tid och engagemang på bilder, färg och layout men vid bedömningen så bedömdes elevernas lärande främst i förhållande till hur de uttryckte sig i tal och skrift (Kjällander, 2011, s. 157). Enligt Erstad (2008) så är forskning kring bedömning i en digital skolmiljö begränsad och likaså initiativen till förändring av bedömningspraktiken.

TEORETISK INRAMNING OCH METOD

Denna avhandling grundar sig på en sociokulturell syn på kunskap och lärande där dessa ses som sociala handlingar vilka sker i samspel med andra. Kunskap är alltså inte främst något som sker inne i huvudet på människor utan den skapas tillsammans med andra och är situerad eftersom den påverkas av sammanhanget.

Det teoretiska ramverk som använts i analyserna är aktivitetsteori eller Cultural Historical Activity Theory (CHAT). I CHAT analyseras hur komponenter i aktivitetssystem relaterar till och påverkar varandra. Aktivitetssystem innehåller komponenter på lokal- och systemnivå. Spänningar och motsättningar i relationerna mellan komponenterna, men även inom komponenterna, kan leda till förändring och genom att studera dessa spänningar och motsättningar kan man få insikt i vad som gör att förändringar sker, eller inte sker (jfr., Engeström, 1987; Engeström, Engeström & Suntio, 2002). Komponenterna på lokal nivå i aktivitetssystem är subjektet, en eller flera individer, som med hjälp av redskap skapar ett objekt. Det

handlar alltså främst om ganska påtagliga processer men dessa påverkas av komponenter på systemnivå. I utbildningssammanhang så består de systemiska komponenterna av exempelvis läroplaner (*rules*), arbetsfördelning i klassrummet (*division of labour*) och ämnestraditioner (*community*). Eftersom dessa två nivåer påverkar varandra så kan också spänningar uppstå mellan dem. Innehållet i olika ämnen och bedömningskriterier för olika kurser finns i styrdokumenten som tillhör den systemiska nivån men bedömning är också del av de aktiviteter som sker på lokal nivå. Både lärare och elever är medvetna om att det eleverna gör kommer att bedömas på ett eller annat sätt. Att explicit ange vad som ska bedömas och utifrån vilka bedömningskriterier bedömningen av en viss aktivitet sker, kan ses som ett försök att förena den systemiska och den lokala nivån och därmed vara del av en mellannivå. Till mellannivån hör återkommande och förgivettagna aspekter av utbildningsmiljöer såsom bedömningspraktiker och kopplingar till aktiviteter utanför skolan. Spänningar mellan den lokala nivån och den systemiska blir påtagliga på mellannivån, enligt Engeström (1995). Det är därför nödvändigt att uppmärksamma mellannivån för att förstå strukturerna i ett klassrum och under vilka förutsättningar förändringar i aktiviteter i denna miljö sker.

Om en komponent i aktivitetssystemet förändras så påverkas relationen till de andra komponenterna, vilket i sin tur ger upphov till spänningar och motsättningar inom aktivitetssystemet, men också i förhållande till andra aktivitetssystem. Eftersom multimodala texter är mer vanligt förekommande i sammanhang utanför skolan så anknyter de till aktivitetssystem i dessa miljöer snarare än till klassrumssammanhang. Att skapa och bedöma multimodala texter kan utifrån Akkerman & Bakkers (2011) definition av gränsland (*boundary*), ses som aktiviteter i ett gränsland där sociokulturella skillnader i olika aktivitetssystem innebär att aktiviteten och dess innebörd måste förhandlas på lokal nivå. Gränslandet kännetecknas av en tvetydighet som å ena sidan möjliggör att olika aktivitetssystem närmare relateras till varandra. Å andra sidan kan aktiviteter i gränslandet också komma att symbolisera skillnaderna mellan de olika aktivitetssystemen (a.a.).

METOD

Det empiriska materialet, som analyserna i avhandlingen bygger på, består av videoinspelad interaktion mellan elever och lärare när de skapar och bedömer multimodala texter, samt intervjuer med elever när uppgiften slutförts. Eleverna går alla på gymnasiet och de multimodala texterna skapas inom ämnet svenska/svenska som andra språk.[6] Datainsamlingen har gjorts under perioden 2009-2011 i två datainsamlingscycler (se Tabell 3). Denna metod överensstämmer till stor del med Design Based Reserch (DBR) som kännetecknas av att forskare och lärare samarbetar genom att tillsammans designa interventioner i klassrumsmiljö och utveckla dessa i en iterativ process (McKenney & Reeves, 2012). Den första datainsamlingscykeln består av två designer och analyserna av dessa fokuserades på elevernas förhandlingar med varandra och med läraren när de skapade sina multimodala texter (Godhe 2012).[7]

Den andra datainsamlingscykeln gjordes på en av de gymnasieskolor som ingick i den första datainsamlingscykeln, och bedömningen av de multimodala texterna fokuserades i analyserna (se Artikel 2 och 3). På denna skola hade varje elev en egen bärbar dator. Eleverna hade gjort multimodala texter inom svenskämnet en gång tidigare i den första delen av undersökningen. Den andra multimodala texten som eleverna ombads göra skulle vara argumenterande medan den första var narrativ. Första gången eleverna skapade multimodala texter var de väldigt positiva men när de skulle skapa den andra multimodala texten så ifrågasatte eleverna uppgiften och på vilket sätt den skulle bedömas. I Design 4 fick eleverna därför explicit information om vad som skulle bedömas i den multimodala texten och vilka betygskriterierna var.

---

6   I en av de klasser som filmats läser samtliga elever svenska som andraspråk. I två av klasserna läser elever både svenska och svenska som andraspråk och i två klasser läser alla elever svenska. I klasserna som läser svenska är det dock troligt att det finns elever som har ett annat modersmål än svenska.

7   Dessa analyser finns publicerade som en del av en licentiat examen. Det empiriska materialet i den första datainsamlingscykeln samlades in och analyserades i denna uppsats men den är inte del av avhandlingen. Dock är det empriska materialet delvis det samma men det har här analyserats utifrån andra frågeställningar.

	Design	Skola & klass	Inspelade elever (antal elever i klassen)	Empiriskt material [8]	Utdrag finns med i dessa publikationer
Den första datainsamlings-cykeln	Design 1	Skola 1, klass 1	Maria & Louise (10)	Videoinspelningar av 2 elever under 5 lektioner (ca 3 h)	Godhe 2012
		Skola 1, klass 2	Raina & Parvin (10)	Videoinspelningar av 2 elever under 6 lektioner (ca 3,5 h)	
		Skola 2, klass 1	Jasmin, Leila, Nilam, Fatima & Naila (14)	Videoinspelningar av 5 elever under 6 lektioner (ca 4 h)	
	Design 2	Skola 3, klass 1	Isak & Jonas, Johannes & Lydia (15)	Videoinspelningar av 4 elever under 4 lektioner (ca 3 h)	Godhe 2012, Artikel 1 & 4
Den andra datainsamlings-cykeln		Skola 3, klass 1	Isak & Jonas, Johannes, Lydia & Amelia (15)	Videoinspelningar av 5 elever under 3 lektioner (ca 4 h)	
	Design 3	Skola 3, klass 2	Karin & Linda, Ihsam, Harry & Samuel (19)	Videoinspelningar av 5 elever under 3 lektioner (ca 5 h)	Artikel 1 & 4
	Design 4	Skola 3, klass 2	Linda & Samantha, Ihsam & Adam (19)	Videoinspelningar av 4 elever under 4 lektioner (ca 2,5 h), basgruppsdiskussion i två grupper med sex elever i varje under en lektion (ca 50 min), individuella betygssamtal mellan lärare och 15 elever, ljudinspelningar. Intervjuer med 7 elever.	Artikel 2, 3 & 4

Tabell 3: Sammanställning av det empiriska materialet

---

8 Inledande lektion där uppgiften introducerats såväl som lektioner då eleverna presen-terat sina färdiga multimodala texter i helklass har videoinspelats i samtliga klasser

SAMMANFATTNING AV EMPIRISKA STUDIER

Avhandlingen innefattar fyra artiklar publicerade i vetenskapliga tidskrifter och konferensvolymer.

I Artikel 1 undersöks hur elever förhandlar vad som ska inkluderas i deras multimodala texter men också vad som exkluderas från texterna. Eftersom multimodala texter är mer vanligt förekommande i praktiker utanför skolan så anknyter de till flera textskapande praktiker, som till exempel att göra korta filmer som läggs ut på Internetsidor som YouTube. När referenser från dessa praktiker införlivas i den multimodala texten som eleverna skapar i klassrummet så kan denna bli ett gränsobjekt som potentiellt kopplar vardags- och utbildningssammanhang till varandra.

Interaktionen i tre grupper av elever analyseras för att belysa hur processer i gränslandet varierar beroende på hur gränslandet uppfattas och förstås av eleverna. En grupp elever väljer att koncentrera sig på de uttryckssätt som de av erfarenhet vet är etablerade i språkundervisningen, nämligen det talade och skrivna ordet. Därmed fokuseras skillnaderna mellan skapandet av text i olika sammanhang och den multimodala texten, som gränsobjekt, blir tydligt i förhållande till hur texter konventionellt skapas i skolsammanhang.

De två andra grupperna införlivar referenser från andra sammanhang i sina multimodala texter men på olika sätt. Den ena gruppen skapar sin multimodala text utifrån information och bilder som de hittat på Internet. Dessa resurser modifieras för att passa in i det skolsammanhang som den multimodala texten skapas i och där den ska presenteras. Även om eleverna till synes främst sysslar med att "klippa och klistra" från Internet så ingår i dessa aktiviteter också att översätta information från engelska till svenska, att välja ut relevant innehåll samt att summera innehållet i längre texter. Den tredje gruppen skapar sin multimodala text med egenhändigt gjorda bilder. I sin multimodala text införlivar eleverna referenser till film- och populärkultur. Till exempel har musiken som de använder varit med i både filmer, spel och reklamkampanjer av olika slag. En del referenser förhandlas med klasskamraterna utanför den grupp eller det par som tillsammans skapar en multimodal text, men är inte med i den slutgiltiga multimodala texten.

Skapandet av den multimodala texten karaktäriseras av spänningar mellan och förhandlingar om vad som kan införlivas i texten och vad som exkluderas. Dessa spänningar visar på hur medvetna eleverna är om gränslandet mellan olika sammanhang där text skapas och vad som anses viktigt och värdefullt i utbildningssammanhang. Diskrepansen mellan olika textskapande praktiker leder till en tvetydighet som i sin tur skapar osäkerhet hos eleverna över hur de ska förhålla sig till införlivandet av referenser till andra sammanhang. Variationen i elevernas förhållningssätt visar på en potential som textskapande med digitala verktyg har, men även på de spänningar och motsättningar de ger upphov till.

I Artikel 2 och 3 undersöks bedömningen av de multimodala texterna. Medan Artikel 2 fokuserar på hur och i vilken utsträckning eleverna använder sig av de explicita bedömningskriterierna för den multimodala texten som de fått då de påbörjade uppgiften, så fokuserar Artikel 3 på förhandlingar kring bedömningen av den multimodala texten. Det är andra gången som samtliga elever i excerpten skapar multimodala texter inom svenskundervisningen.

I Artikel 2 analyseras interaktionen i två elevpar samt de intervjuer som gjorts med eleverna. Medan eleverna skapar sina multimodala texter så fokuserar de främst på hur de ska utföra uppgiften. Bedömningskriterierna som de har tillgängliga nämns inte i någon högre utsträckning utan eleverna är inriktade på att förstå uppgiften och förhålla sig till de instruktioner de fått.

Artikel 2 visar att det inte finns någon gemensam förståelse för hur bilder och ljud ska bedömas. Betydelsen av bedömningskriterierna som relaterar till bild och ljud förhandlas inte och varken elever eller lärare har någon större erfarenhet av bedömning av dess uttryckssätt. Eftersom varken lärare eller elever är vana vid att skapa och bedöma multimodala texter inom svenskundervisningen så blir den multimodala texten i hög grad bedömd utifrån den bedömning av text som lärare och elever är vana vid, d.v.s. bedömningen av skriven text.

Även om eleverna inte i någon högre utsträckning förhandlar bedömningskriterierna medan de skapar sina multimodala texter så säger de i intervjuerna att kriterierna har hjälpt dem att förstå vad som förväntades och vad som krävs för att få ett visst betyg. Eftersom intervjuerna gjordes när uppgiften slutförts så förefaller eleverna kunna prata om och reflek-

tera över den multimodala text som de skapat. I förhållande till den multimodala text som de skapat så blir också bedömningskriterierna relevanta att relatera till. Att eleverna i intervjuerna uttrycker att bedömningskriterierna hjälpt dem då de utförde uppgiften kan påverkas av deras tidigare erfarenhet av att göra en liknande uppgift samt att de befinner sig i en fas då de kan reflektera över den multimodala text de skapat.

Bedömningskriterierna kan betraktas som en länk med avsikt att anknyta de olika nivåerna i aktivitetssystemet. De utgör då en mellannivå som har för avsikt att knyta an de aktiviteter som sker i klassrummet på den lokala nivån med det som står i styrdokument och som påverkar aktiviteterna i klassrummet på en strukturell nivå. För att nya aktiviteter ska kunna förstås av både elever och lärare behöver bedömningskriteriernas betydelse förhandlas och relateras till både den lokala och den strukturella nivån. Att eleverna efterfrågade bedömningskriterier för uppgiften att skapa multimodala texter kan betraktas som ett uttryck för deras medvetenhet om hur den lokala och den strukturella nivån ömsesidigt påverkar och formar varandra. Bedömningskriterierna är ett sätt att legitimera skapandet av multimodala texter i utbildningssammanhang eftersom kriterierna åberopar den strukturella nivån. Dock påverkar kriterierna inte i någon högre utsträckning vad som sker på den lokala nivån i klassrummet eftersom inte innebörden av dem förhandlats i relation till uppgiften att skapa multimodala texter.

I Artikel 3 studeras hur bedömning förhandlas i de bedömningssamtal som varje elev hade med läraren, samt hur eleverna i intervjuerna ger uttryck för sin förståelse av bedömningen av de multimodala texterna. Analyserna fokuserar på intervjuer med två elever och de bedömningssamtal de haft med sin lärare. I intervjuerna reflekterar eleverna över sitt eget skapande av en multimodal text och hur den bedömts, men även över varandras då de hänvisar till varandra för att exemplifiera skillnader både i de multimodala texterna och i bedömningen av dem.

Inom svenskundervisningen är det vanligt förekommande att tal eller skrift bedöms, men hur andra uttryckssätt bedöms är inte lika etablerat. Att skapa och bedöma multimodala texter kan därmed anses vara att befinna sig i ett gränsland mellan etablerade och nya praktiker i utbildningssammanhang, men även i förhållande till texter skapade i andra sammanhang. Eftersom skapandet av multimodala texter är mer vanligt förekommande

i sammanhang utanför skolan så behöver dess innebörd i utbildningssammanhang förhandlas och tydliggöras.

Det är i huvudsak hur eleverna verbalt argumenterar för eller emot ett ämne i de multimodala texterna som förhandlas i bedömningssamtalen. Det talade ordet förefaller därmed betraktas som det främsta meningsskapande uttryckssättet och även som det uttryckssätt som bär argumentationen. Läraren är den som initierar de områdena som tas upp i samtalen medan eleverna främst instämmer i lärarens bedömning. I bedömningssammanhang förefaller därmed den traditionella rollen med läraren som bedömare och utvärderare i hög grad bestå.

I intervjuerna uttrycker eleverna att de har svårt att förstå bedömningen eftersom den främst utgår från den verbala argumentation medan exempelvis visuella uttryck i hög grad förbises. Eleverna uttrycker att de har svårt att förstå hur de kan förbättra sin multimodala text, speciellt då det gäller bild och ljud. Diskrepansen mellan den bedömning som eleverna förväntat sig och den faktiska bedömningen ger uttryck för att eleverna ser flera uttryckssätt som meningsbärande i de multimodala texterna medan bedömningen i huvudsak utgår från det talade ordet som primär meningsbärare. Eftersom bedömningen av mindre vanligt förekommande uttryckssätt i svenskämnet inte förhandlas i någon större utsträckning (se även Artikel 2) så bedöms de multimodala texterna främst utifrån etablerade bedömningspraktiker där det talade och skrivna ordet fokuseras medan andra uttryckssätt tenderar att förbises. Vad det innebär att skapa multimodala texter i utbildningssammanhang blir tvetydigt och oklart eftersom eleverna åläggs att skapa en text innehållande ett flertal uttryckssätt som traditionellt sett inte är etablerade som meningsbärare i svenskämnet, men dessa uttryckssätt förbigås till stor del i bedömningen av den multimodala texten. Denna tvetydighet kan leda till att de etablerade uttryckssättens värde i utbildningssammanhang förstärks, snarare än att flera uttryckssätt införlivas och värdesätts i svenskundervisningen. Analyserna visar på att institutionella bedömningspraktiker kvarstår även då de texter som eleverna skapar skiljer sig från de texter som traditionellt skapats i ämnet.

Artikel 4 kan ses som en sammanfattning av de studier som gjorts i de två datainsamlingscyklerna. I denna artikel sätts de tidigare analyserna av interaktion mellan elever och lärare i relation till strukturella kom-

ponenter i utbildningsmiljön för att på så vis belysa hur de relaterar till varandra. Förhandlingarna på lokal nivå rör dels vad aktiviteten att skapa multimodala texter innebär i ett klassrum, och dels hur multimodala texter bedöms och de visar på motsättningar och spänningar mellan etablerade och framväxande praktiker för hur texter skapas och bedöms. Att studera dessa motsättningar och spänningar kan öka förståelsen för vad förändringar i utbildningspraktiker innebär, men även för vad som kan bidra till, och vad som kan motverka, dessa förändringar.

I analysen av interaktionen mellan lärare och elever framkommer det att det är det talade ordet som är i fokus både vid skapandet och bedömningen av multimodala texter. Andra uttryckssätt förhandlas inte i samma utsträckning utan deras främsta funktion i den multimodala texten blir att fungera som illustrationer till det talade ordet. Det här visar på att det är det talade och skrivna ordet som anses som främsta meningsbärare i svenskundervisningen. Att bedöma talad och skriven text är något som språklärare både är vana att göra och har utbildats i. Att bedöma andra uttryckssätt, däremot, är inte något som språklärare i samma utsträckning utbildats i eller har vana av. På liknande sätt är även eleverna vana vid att i skolan få skrivna texter bedömda, men de har antagligen inte samma erfarenhet då det gäller andra uttryckssätt. Eleverna visar att de är medvetna om vilka uttrycksformer som värdesätts, vilket, i sin tur, ger uttryck för hur den strukturella nivån, i form av ämnestraditioner och styrdokument, påverkar vad som sker och görs i klassrummet på lokal nivå. I interaktionen mellan lärare och elever förekommer sällan förhandlingar om vad bedömningskriterierna för en multimodal text innebär i relation till uppgiften och bedömningen förefaller därför bli svår för eleverna att förstå.

Spänningar inom svenskämnet avspeglar sig i styrdokumenten och påverkar i sin tur vad som görs i klassrummet. Samtidigt som många elever får tillgång till digitala verktyg i sin skolvardag, vilket underlättar och förändrar förutsättningarna för skapande av multimodala texter, så har definitionen av text i styrdokumenten blivit snävare och mer inriktat på det talade och skrivna ordet (Skolverket, 2011a). Det reflekterar i sin tur en traditionell syn på literacy där dessa uttryckssätt ses som primära. Jewitt o.a. (2009) menar att sociala och tekniska förändringar öppnat upp för att arbeta med texter relaterade till kontexter utanför skolan, men samtidigt

tas policybeslut som går i motsatt riktning. Det finns således spänningar mellan den lokala och den strukturella nivån vilka blir tydliga på den mellannivå där aktiviteter i klassrummet knyts an till strukturella komponenter genom att eleverna exempelvis får explicita bedömningskriterier för en uppgift. Mellannivån kan betraktas som en analytisk nivå där lärare och elever försöker förstå de aktiviteter de engagerar sig i och hur de förhåller sig till skolans institutionella struktur. På denna nivå blir spänningar mellan de andra två nivåerna tydliga då otydligheter och motsättningar förhandlas. Exempelvis kan bedömning ses som en del av de regler som finns inom skolsystemet och tillhör därmed de strukturella komponenterna i aktivitetssystemet. Å andra sidan, hur och vad som bedöms förhandlas fram på lokal nivå i klassrummet. Reglerna på systemnivå möter den lokala nivån på mellannivån och vad bedömningen innefattar förhandlas då fram mellan lärare och elever under bedömningsprocessen (Engeström, 1989).

I förhandlingarna kring vad det innebär att skapa och bedöma multimodala texter finns spänningar mellan lokala och strukturella komponenter i aktivitetssystemet. Dessa spänningar visar på den tvetydighet som kännetecknar aktiviteter i ett gränsland. Att eleverna använder sig av uttryckssätt vanligtvis associerade med aktiviteter utanför klassrummet, innebär att olika aktivitetssystem närmare kan kopplas till varandra. Då texterna bedöms, å andra sidan, så värdesätts inte dessa uttryckssätt på samma sätt som de etablerade uttryckssätten i ett klassrum, det vill säga, det skrivna och det talade ordet. Därmed förstärks skillnaderna mellan de olika aktivitetssystemen. På så vis kan skapandet av multimodala texter bidra till att betona skillnaderna mellan textskapande i olika sammanhang, snarare än att fungera som en brygga mellan olika aktivitetssystem.

Utbildning generellt och språkutbildning i synnerhet, har historiskt sett premierat förmågan att använda det skrivna och talade ordet för att inhämta och förevisa kunskaper. Utbildning bygger i hög utsträckning på diskursiva praktiker där det talade och skrivna ordet är centralt. Spänningar som uppstår när elever skapar multimodala texter kan inte enkelt lösas av den enskilde läraren eller eleven. Vad dessa spänningar innebär behöver övervägas på såväl strukturell som lokal nivå. För närvarande sker förändringar främst på lokal nivå då fler och fler lärare och elever dagligen använder sig av digitala redskap, vilket innebär att såväl aktiviteter som uppgifter i klassrum förändras. Förändringar på lokal nivå stöds dock

inte av liknande förändringar på systemnivå. Snarare kan förändringar på systemnivå motverka de lokala. Det i sin tur leder till spänningar och motsättningar på mellannivån när det gäller exempelvis bedömning. För att förstå förändringar inom utbildning, eller bristen på sådana, behöver den lokala nivån ses i relation till såväl den strukturella som mellannivån.

AVSLUTANDE DISKUSSION

I den avslutande diskussionen diskuteras det som kommit fram i de empiriska undersökningar utifrån den övergripande frågan om vilka spänningar som uppkommer mellan etablerade praktiker och framväxande praktiker kring hur texter skapas och bedöms i utbildningssammanhang. Dessutom diskuteras hur dessa spänningar bidrar till och/eller förhindrar förändringar. Syftet med diskussionen är att lyfta de empiriska fynden och föra vidare argumentationen utifrån de övergripande frågeställningarna.

Initialt fokuserade undersökningarna på den lokala nivån och de aktiviteter som lärare och elever engagerade sig i på lektionerna. Succesivt blev det dock uppenbart att aktiviteterna på lokal nivå behövde sättas i relation till systemiska komponenter för att kunna förstå och förklara varför elever och lärare agerade som de gjorde. För att kunna påvisa spänningar och motsättningar mellan och i komponenter i aktivitetssystemet, så väl som mellan olika aktivitetssystem, så fokuserades mellannivån i analysen. Till mellannivån i aktivitetssystem hör förgivettagna vardagliga processer i en skolmiljö, så som bedömning, där elever och lärare försöker relatera aktiviteter på den lokala nivån till systematiska komponenter. Analysen fokuserar på mellannivån eftersom det är i dessa processer som elever och lärare försöker förstå den verksamhet de befinner sig i. Det är också här som spänningar och motsättningar mellan den lokala och den strukturella nivån uppkommer. Dessa spänningar och motsättningar visar i sin tur på vilka skillnader mellan etablerade och framväxande praktiker som är problematiska och hur förändringar på så sätt kan möjliggöras eller förhindras.

De spänningar som uppkommer på den lokala klassrumsnivån härrör till spänningar i begreppet literacy och vilka uttryckssätt som traditionellt sätt använts och bedömts i texter i svenskundervisingen. Att skapa och bedöma multimodala texter innebär att fler uttryckssätt används än de konventionella, det skrivna och talade ordet. Dessa spänningar blir än mer

tydliga vid bedömningen av de multimodala texterna då fokus ligger på de uttryckssätt som traditionellt sätt bedöms inom svenskämnet.

Bedömning kan ses både som ett regelverk på systemisk nivå som lärare och elever måste förhålla sig till, men också som en process på mellannivån i aktivitetssystemet. Fokus riktas då på bedömningsprocesser i klassrummet där lärares och elevers förståelse av vad som bedöms, vem som bedömer och hur bedömning sker förhandlas fram. När bedömning ses som del av den systematiska nivån så åsyftas regler, så som bedömnings- och betygskriterier, och hur dessa, mer eller mindre dolt, påverkar aktiviteter på den lokala nivån. Att det talade ordet är det som främst förhandlas i interaktionen mellan lärare och elever, speciellt i relation till bedömning, har med ämnestraditioner i svenskämnet att göra. Det beror dock även på styrdokumenten och hur vad som är av vikt i svenskämnet skrivs fram i dessa dokument.

Ämnestraditioner utgör en systemisk komponent som påverkar vad som görs på den lokala nivån. I analyserna av det empiriska materialet framkommer det att eleverna är medvetna om att det är det talade ordet i deras multimodala texter som värderas högst inom svenskämnet eftersom de undviker uttryckssätt som anses vara mindre seriösa, så som musik, därför att musiken kan störa och göra det som sägs svårare att uppfatta. Förhållandevis lite forskning har gjorts om hur ämnestraditioner påverkar användningen av teknologier i undervisningen. Selwyn (1999) visar dock att ämnestraditioner starkt påverkar vad som görs i klassrummet samt hur IKT används. Att skapa multimodala texter innehållande bilder och ljud är inget som konventionellt sett gjorts inom ämnet svenska, därför utmanar denna aktivitet både lärare och elevers attityder och föreställningar om innehållet i svenskämnet. Däremot är det vanligt att elever skriver texter på dator inom svenskämnet. Denna aktivitet utmanar inte på samma sätt ämnesinnehållet i svenska eftersom att skriva typografiska texter traditionellt sätt gjorts inom ämnet. Eftersom förändringar i teknologin inte utmanar på samma sätt kan därmed aktiviteten införlivas i ämnet utan några större problem.

Hur multimodala texter bedöms hänger naturligtvis nära ihop med ämnestradtioner. Att bedöma bilder och ljud har traditionellt sett inte ingått i ämnet svenska och därför är både lärare och elever osäkra på både vad som ska bedömas och hur. Bedömning i klassrummet påverkas

dock även av systemiska faktorer eftersom bedömningen ska ske utifrån de nationella styrdokumenten. Den nuvarande ämnesplanen för kursen svenska 1 på gymnasiet nämner knappast andra uttryckssätt än det talade och skrivna ordet (Skolverket, 2011a). Det innebär att lärare som låter sina elever arbeta med andra uttryckssätt i viss mån måste "läsa mellan raderna" för att kunna bedöma det eleverna gör. Att det vidgade text-begreppet tagits bort från styrdokumenten samtidigt som allt fler skolor utrustar sina elever med datorer kan ge upphov till motsättningar eftesom de möjligheter som den digitala tekniken ger på så vis begränsas. I diskus-sioner om hur och i vilken utsträckning digitala teknologier ska eller kan användas i undervisningen, är det viktigt att frågor kring bedömningen av de multimodala produkter som elever skapar med hjälp av det digitala redskapen tas upp. Likadant är det viktiga att frågor kring hur styrdoku-menten påverkar användningen av digitala redskap diskuteras.

Det nya tankesätt som Lankshear och Knobel (2008) menar att "nya" literacies tar sin utgångspunkt i kan komma att utmana ämnestraditioner i svenska, men även institutionella praktiker mer generellt. Traditionella roller där läraren är den som förmedlar kunskap utmanas i detta tankesätt eftersom kunskap ses som distribuerad. Samarbete och deltagande blir därmed centralt. En kollektiv syn på kunskap, där vikten av att dela med sig för att nå nya kunskaper accentueras, blir dock problematisk i utbildn-ingssammanhang speciellt i relation till bedömning.

Till mellannivån i aktivitetssystemen hör bl.a. bedömningspraktiker, motivation och relationen mellan olika aktivitetssystem. Att eleverna i Design 4 fick explicita bedömningskriterier för hur den multimodala tex-ten skulle bedömas kan ses som ett sätt att försöka översätta det system-iska regelverket till den lokala nivån. Dock använde sig inte eleverna av de explicita kriterierna i någon högre utsträckning. Medan eleverna skapade de multimodala texterna, fokuserade de på hur uppgiften skulle utföras. I intervjuerna med eleverna kunde de reflektera över både hur de skapat den multimodala texten och över texten som sådan. Skapandet och att bedömningen av de multimodala texterna sker på olika tidsskalor (*time-scales)*. Det är först då eleverna kan reflektera över processen och produk-ten som de också kan relatera till bedömningen av dem. Detta kan till viss del bero på att aktiviteterna är nya för eleverna, vilket innebär att de lär sig vad be innebär samtidigt som de utför dem (Engeström & Sannino, 2010).

Att digital teknik i sig är motiverande för elever kan ifrågasättas (t.ex. Stockwell, 2013). Erstad och Silseth (2008) påpekar att motivationen beror på de uppgifter som ges snarare än på tekniken. Även om eleverna i studierna i denna avhandling initialt var positiva till att skapa multimodala tester, så var bedömning en faktor som påverkade elevernas motivation att engagera sig i aktiviteten. Att det i analysen framkom att de multimodala aspekterna i hög utsträckning förbisågs i bedömningen av de multimodala texterna kan påverka hur eleverna använder dessa på sikt. Troligtvis kommer eleverna att fokusera mindre på de multimodala aspekterna om/när de inser att de ändå inte bedöms. Skapandet av multimodala texter blir på så vis en tvetydig aktivitet i ett klassrum, eftersom eleverna ska använda sig av flera uttryckssätt men samtidigt ges de olika uttryckssätten olika vikt vid bedömningen.

En annan aspekt av denna tvetydighet är att eleverna när de skapar sina multimodala texter kan adressera läraren och skolsammanhanget i första hand, eller främst adressera sina klasskamrater och sammanhang utanför skolmiljön där multimodala texter är vanligt förekommande, t.ex. YouTube. Att använda sig av multimodala uttryckssätt är i dessa sammanhang vanligt och kanske till och med nödvändigt. För elever som Harry (se Artikel 3) som inte inser eller tar hänsyn till dessa skillnader, innebär detta att bedömningen av de multimodala texterna blir annorlunda än förväntat.

Det gränsland som multimodala texter tillhör i skolsammanhang kan relateras till gränser mellan etablerade och nya praktiker, så väl som till gränser mellan olika sätt att definiera begreppet literacy. De kan dessutom relateras till gränslandet mellan aktivitetssystem i olika sammanhang. Att korsa dessa gränsland (*crossing boundaries)* är antagligen ganska vanligt på lokal nivå i klassrummet, men det blir problematiska i relation till bedömning. Förändringar på klassrumsnivå försvåras av att skolans styrdokument ännu inte i tillräcklig utsträckning avspeglar de omfattande förändringar i kommunikationsmönster som skett i samhället i stort.

Eftersom analyserna i avhandlingen fokuserat på spänningar och motsättningar så är det sådana som framkommer snarare än möjligheter. Dock ses spänningar och motsättningar i aktivitetssystem som drivkrafter som kan leda till förändringar. Att faktiskt uppmärksamma och bli medveten om dessa spänningar kan skapa förutsättningar för att genomföra väl genomtänkta och underbyggda förändringar.

159

REFERENCES

Akkerman, S. F., & Bakker, A. (2011). Boundary Crossing and Boundary Objects. *Review of Educational Reserach, 81*(2), 132-169.

Alexander, B. (2011). *The New Digital Storytelling: Creating Narratives with New Media.* Retrieved from http://www.ebook3000.com/The-New-Digital-Storytelling--Creating-Narratives-with-New-Media_135816.html

Anderson, T., & Shattuck, J. (2012). Design-Based Research: A Decade of Progress in Education Research? *Education Researcher, 41*(16), 16-25.

Barton, D. & Hamilton, M. (1998). *Local Literacies.* London: Routledge.

Barton, D. & Hamilton, M. (2000). Literacy Practices. In D. Barton, M. Hamilton & R. Ivanič (Eds.), *Situated Literacies: Reading and Writing in Context* (pp. 7-15). London: Routledge.

Bell, P. (2004). On the Theoretical Breadth of Design-Based Reserach in Education. *Educational Psychologist, 39*(4), 243-253.

Berge, K. L. (2002). Hidden norms in Assessment of Students' Exam Essays in Norwegian Upper Secondary Schools. *Written Communication, 19*, 458-492.

Bergman, L. (2007). *Gymnasieskolans svenskämnen : en studie av svenskundervisningen i fyra gymnasieklasser* [The Subject of Swedish at the Upper Secondary School - a Study of the Teaching of Swedish in Four Classes at the Upper Secondary Level]. Malmö Studies in Educational Sciences No 36, Malmö högskola, Lärarutbildningen.

Blau, S. (2003). Performative Literacy: The Habits of Mind of Highly Literate Readers. *Voices from the middle, 10*(3), 18-22.

Blåsjö, M. (2004). *Studenters skrivande i två kunskapsbyggande miljöer* [Students´ Writing in Two Knowledge-constructing Settings]. Stockholm: Almqvist & Wiksell International.

Broadfoot, P., & Black, P. (2004). Redefining assessment? The first ten years of assessment in education. *Assessment in Education: Principles, Policy & Practice*, *11*(1), 7-26.

Center for Digital Storytelling (2010). History. Retrieved from http://www.storycenter.org/history. html

Cobb, P., Confrey, J., diSessa, A., Lehrer, R., & Schauble, L. (2003). Design Experiment in Educational Reserach. *Educational Reseracher, 32*(1), 9-13.

Codex (2010). Regler och riktlinjer för forskning. [Rules and guide lines for research]. Retrieved December 2010 from; http://codex.vr.se/manniska2.shtml

Coiro, J., Knobel, M., Lankshear, C., & Leu, D. J. (2008) Central issues in New Literacies and New Literacies Research. In J. Coiro, M. Knobel, C. Lankshear & D. J. Leu (Eds.), *Handbook of Research on New Literacies* (pp. 1-21). New York: Lawrence Erlbaum Associates.

Cope, B., & Kalantzis, M. (2000). *Multiliteracies: Literacy learning and the design of social futures.* London and New York: Routledge.

Cope, B., Kalantzis, M., McCarthey, S., Vojak, C., & Kline, S. (2011). Technology-Mediated Writing Assessments: Principles and Processes. *Computers and Composition 28*(2), 79-96.

Cuban, L. (2001). *Oversold and underused: computers in the classroom.* Cambridge, Mass.: Harvard University Press.

Design-Based Research Collective. (2003). Design-Based Research: An Emerging Paradigm for Educational Inquiry. *Educational Reseracher, 32*(1), 5-8.

Economou, C. (2013). Svenska och svenska som andraspråk i GY11 - två jämbördiga ämnen? [Swedish and Swedish as a second language in the 2011 curriculum for upper secondary school - two equal subjects?]. *Forskning om undervisning och lärande* [Research about teaching and learning], *11*, 44-60.

Edwards, R., Ivanič, R., & Mannion, G. (2009). The Scrumpled Geography of Literacies for Learning. *Discourse: Studies in the Cultural Politics of Education, 30*(4), 483-499.

Elmfeldt, J., & Erixon, P-O. (2004). Genrer i rörelse - estetiska textpraktiker i gymnasieskolan. In S. Thorson (Ed.), *Andra nationella konferensen i svenska med didaktisk inriktning.* Göteborg: Nationella nätverket för svenska med didaktisk inriktning.

Engeström, Y. (1987). *Learning by expanding: an activity-theoretical approach to developmental research.* Helsinki: Orienta-konsultit.

Engeström, Y. (1991). Non Scolae Sed Vitae Discimus: Toward Overcoming the Encapsulation of School Learning, *Learning and Instruction, 1*, 243-259.

Engeström, Y. (1993). Developmental studies of work as a testbench of activity theory: The case of primary care medical practice. In S. Chaiklin & J. Lave (Eds.), *Understanding practice: perspectives on activity and context* (pp. 64-103). Cambridge: Cambridge Univ. Press.

Engeström, Y. (1995). Objects, contradicitions and collaboration in medical cognition: an activity-theoretical perspective. *Artifical Intelligence in Medicine, 7*, 395-412.

Engeström, Y. (1998). Reorganizing the motivational sphere of classroom culture: An activity theoretical analysis of planning in a teacher team. In F. Seeger, J. Voight & U. Waschescio (Eds.), *The culture of the mathematics classroom* (pp. 76-103). New York: Cambridge University Press.

Engeström, Y. (2009). Expansive learning: toward an activity-theoretical reconceptualization. In K. Illeris (Ed.), *Contemporary theories of learning: learning theorists in their own words* (pp. 53-73). New York: Routledge.

Engeström, Y., Engeström, R., & Kärkkäinen, M. (1995). Polycontextuality and boundary crossing in expert cognition: Learning and problem solving in complex work activities. *Learning and Instruction, 5*(4), 319-336.

Engeström, Y., & Miettinen, R. (1999). Introduction. In Y. Engeström, R. Miettinen & R. Ounamaki (Eds.), *Perspectives on activitiy theory* (pp. 1-16). Helsinki, Finland: Orienta-Konsultit Oy.

Engeström, Y., Engeström, R., & Suntio, A. (2002). Can a School Community Learn to Master Its Own Future? An Activity-Theoretical Study of Expansive Learning Among Middle School Teachers. In G. Wells & G. Claxton (Eds.), *Learning for Life in the 21st Century*. Oxford, UK: Blackwell Publishers.

Engeström, Y., & Sannino, A. (2010). Studies of expansive learning: Foundations, findings and future challenges. *Educational Research Review, 5*(1), 1-24.

Erstad, O. (2007). Conceiving Digital Literacies in Schools - Norwegian Experiences. *Digital Literacy, volume 210 of CEUR Workshop Proceedings.* Retrieved from; http://ftp.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-310/paper01.pdf

Erstad, O. (2008). Changing assessment practices and the role of ICT. In J. Voogt & G. Knezek (Eds.), *International Handbook of Information Technology in Primary and Secondary Education* (pp. 181-194). New York: Springer.

Erstad, O., & Silseth, K. (2008). Agency in digital storytelling: Challenging the educational practice. In K. Lundby (Ed.), *Digital Storytelling, Meditized Stories* (pp. 213-232). New York: P. Lang.

Erstad, O., & Wertsch, J. (2008). Tales of mediation: Narrative and digital media as cultural tools. In K. Lundby (Ed.), *Digital Storytelling, Meditized Stories* (pp. 21-40). New York: P. Lang.

European Commission (2013). *Survey of Schools: ICT in Education Benchmarking Access, Use and Attitudes to Technology in Europe's Schools. Final Study Instructions for Typesetting Manuscripts (Paper's Title)* 23 *Report February 2013.* Retrieved from; https://ec.europa.eu/digitalagenda/sites/digital-agenda/files/KK-31-13-401-EN-N.pdf

Fleischer, H. (2013). *En elev - en dator: Kunskapsbildningens kvalitet och villkor i den datoriserade skolan* [One student - one computer. The quality of and conditions for knowledge formation in the digitalised school]. Jönköping University, dissertation series No. 21, 2013.

Foot, K.A. (2002). Pursuing an Evolving Ubject: A Case Study in Object Formation and Identification. *Mind, Culture and Activity, 9*(2), 132-149.

Gee, J.P. (2000). The New Literacy Studies: from socially situated to the work of the social. In: D. Barton, M. Hamilton & R. Ivanič (Eds.), *Situated Literacies: Reading and Writing in Context* (pp. 180-196). London: Routledge.

Gee, J.P. (2004). *Situated language learning: a critique of traditional schooling.* New York: Routledge.

Gipps, C. (1999). Socio-Cultural Aspects of Assessment. *Review of Research in Education, 24,* 355-392.

Gipps, C. (2002). Sociocultural perpsectives on assessment. In G. Wells & G. Claxton (Eds.), *Learning for life in the 21st century* (pp. 73-83). Oxford: Blackwell Publishers.

Gipps, C., & Cumming, J. (2005) Assessing literacies. In N. Bascia (Eds). *International Handbook of educational policy* (pp. 695-713). Dordrecht: Springer

Gobo, G. (2004). Sampling, representativeness and generalizability. In C. Seale, G. Gobo, J.F Gubrium & D. Silverman (Eds.), *Qualitative Research Practice* (pp. 435- 456). London: SAGE.

Godhe, A.-L. (2012). *Creating multimodal texts in language education.* ROSA report nr 14, Institutionen för Svenska som andraspråk, Göteborgs universitet. Retrieved from http://hdl.handle.net/2077/30416

Gustafsson, J-E., & Rosén, M. (2009). *Computer Availability at Home and Reading Acheivement.* Paper presented at the 13th biennal conference for Research on Learning and Instruction in Amsterdam, the Netherlands, August 25-29.

Han, J.H.J. (2010). Neither friends nor foes: Thoughts on ethnographic distance. *Geoforum, 41*, 11-14.

Hargreaves, A., & Shirley, D. (2009). *The Fourth Way: The Inspiring Future for Educational Change.* Corwin Press.

Hattie, J. (2008). *Visible learning: A Synthesis of Over 800 Meta-Analyses Relating to Acheivement.* New York: Routledge.

Heap, J.L. (1989). Writing as social action. *Theory into Practice, 28*(2), 148-153.

Heath, S.B., & Street, B. (2008). *Ethnography: approaches to language and literacy research.* New York: Teachers College Press.

Heikkilä, M., & Sahlström, F. (2003). Om användning av videoinspelning i fältarbete [About using videorecoding in field work]. *Pedagogisk forskning i Sverige, 8*(1-2), 24-41.

Hermansson, C. (2013). *Nomadic Writing: Exploring Processes of Writing in Early Childhood Education.* Karlstad: Faculty of Arts and Social Sciences, Karlstad University Studies 2013:17.

Hew, K. F., & Brush, T. (2006). Integrating technology into K-12 teaching and learning: current knowledge gaps and recommendations for future research. *Educational Technology Research Development, 52*, 223-252.

Hull, G.A. (2003). At last: Youth Culture and Digital Media: New Literacies for New Times. *Research in the Teaching of English, 38*(2), 229-233.

Hull, G.A., & Katz, M-L. (2006). Crafting an Agentive Self: Case Studies of Digital Storytelling. *Research in the Teaching of English, 41*(1), 43-81.

Hull, G. A., & Nelson, M. E. (2005). Locating the Semiotic Power of Multimodality. *Written Communication, 22*(2), 224-261.

Hung, H-T., Chiu, Y-C. J., & Yeh, H-C. (2013). Multimodal assessment of and for learning: A theory-driven design rubric. *British Journal of Educational Technology*, *44*(3), 400-409.

Ivanič, R., Edwards, R., Satchwell, C., & Smith, J. (2007). Possibilities for pedagogy in further education: harnessing the abundance of literacy. *British Educational Research Journal, 33*(5), 703-721.

Ivarsson, J., Linderoth, J., & Säljö, R. (2008) Representation in practices: a socio-cultural approach to multimodality in reasoning. In; Jewitt, C. (Ed.), *The Routledge handbook of multimodal analysis*. London: Routledge.

Jefersson, G. (1984). Transcription Notation. In J. Atkinson & J. Heritage (Eds.), *Structures of Social Interaction*. New York: Cambridge University Press.

Jenkins, H. (2006). *Fans, bloggers and gamers: Exploring Participatory Culture*. New York: New York university press.

Jenkins, H., Clinton, K., Purushotma, R., Robison, A.J., & Weigel, M. (2006). *Confronting the Challenges of Participatory Culture: Media Educa-*

tion for the 21st Century. Retrieved from http://www.macfound.org/media/article_pdfs/JENKINS_WHITE_PAPER.PDF

Jewitt, C. (2003). Re-thinking Assessment: Multimodality, literacy and computer-mediated learning. *Assessment in Education: Principles, Policy & Practice*, *10*(1), 83-102.

Jewitt, C. (2006). *Technology, literacy and learning: a multimodal approach*. London: Routledge.

Jewitt, C. (2008). Multimodality and Literacy in School Classrooms. *Review of Research in Education, 32*(1), *241-267*

Jewitt, C., & Kress, G. (2004). *Multimodal literacy*. New York: Peter Lang publishing Inc.

Jewitt, C., Bezemer, J., Jones, K., & Kress, G. (2009). Changing English? The impact of technology and policy on a school subject in the 21st century. *English Teaching: Practice & Critique, 8*(3), 8-20.

Johnson, D., & Kress, G. (2003). Globalisation, Literacy and Society: Redesigning pedagogy and assessment. *Assessment in Education: Principles, Policy & Practice, 10*(1), 5-14.

Jordan, B., & Henderson, A. (1995). Interaction Analysis: Foundations and Practice. *The Journal of the Learning Sciences, 4*(1), 39-103.

Joseph, D. (2004). The Practice of Design-Based Research: Uncovering the Interplay Between Design, Research, and the Real-World Context. *Educational Psychologist, 39*(4), 235-242.

Kaptelinin, V., & Nardi, B.A. (2006). *Acting with technology: Activity theory and interaction design*. Cambridge: MIT Press.

Karlsohn, T. (2009). Skolans IT-bubbla: Teknik och retorik i historisk belysning. In Karlsohn, T. (Ed.), *Samhälle, teknik och lärande* (pp. 171-191). Stockholm: Carlssons.

Kjällander, S. (2011). *Designs for Learning in an Extended Digital Environment: Case studies of Social Interaction in the Social Science Classroom.* Stockholm university, Faculty of Social Science, Department of Education.

Klapp Lekholm, A. (2008). *Grades and grade assignment: effects of student and school characteristics.* Göteborg studies in educational sciences, 269: University of Gothenburg.

Korp, H. (2003). *Kunskapsbedömning: hur, vad och varför.* Stockholm: Myndigheten för skolutveckling.

Kozma, R.B. (2003). ICT and educational change: A Global Phenomenon. In B. Kozma & J.M. Voogt (Eds.), *Technology, innovation and educational change: a global perspective* (pp. 1-18). International Society for Technology in Education (ISTE), cop.

Kress, G. (2009). What is mode? In Jewitt, C. (Ed.), *The Routledge Handbook of Multimodal Analysis* (pp. 54-67). London: Routledge, .

Kress, G. (2010). *Multimodality: A social semiotic approach to comtemporary communication.* London: Routledge.

Kuuti, K. (1996). Activity Theory as a Potential Framework for Human-Computer Interaction Research. In Nardi B. (Ed.), *Context and Consciousness: Activity Theory and Human-Computer Interaction* (pp. 17-44). Cambridge, Mass: The MIT Press.

Lankshear, C., & Knobel, M. (2008). *New Literacies: Everyday Practices and Classroom Learning.* Maidenhead; Open University Press.

Leahy, S., & Wiliam, D. (2009). *From teachers to schools: scaling up professional development for formative assessment.* Paper presented at AERA 2009. Retrieved from www.dylanwiliam.net

Lemke, J.L. (2000). Across the scales of time: Artifacts, activities and meanings in ecosocial systems. *Mind, Culture and Activity 7*(4), 273-290.

Lemke, J.L. (2001) The long and the Short of It: Comments on Multiple Timescale Studies of Human Activity. *Journal of the learning sciences*, *10*(1-2), 17-26.

Lilja, P. (2012). *Contextualizing inquiry: Negotiations of tasks, tools and actions in an upper secondary classroom.* Göteborg studies in educational sciences, 327: University of Gothenburg.

Lindwall, O. (2008). *Labwork in Science Education: Instruction, inscription and the practical acheivement of understanding.* Linköping studies in arts and science, 426: Linköping University.

Linell, P. (2009). *Rethinking language, mind, and world dialogically: interactional and contextual theories of human sense-making.* Charlotte, NC: Information Age Publ.

Livingstone, S. (2004). The Challenge of Changing Audiences: Or, What is the Audience Researcher to Do in the Age of the Internet? *European Journal of Communication, 19*(1), 75-86.

Livingstone, S., Bober M., & Helsper E. (2005). Active participanation or just more information? *Information, Communication & Society*, *8*(3), 287-314.

Lowenthal, P. (2009). Digital Storytelling in Education: An Emerging Institutional Technology? In J. Hartley & K. McWilliam (Eds.), *Story Circle: digital storytelling around the world* (pp. 252-259). Chichester: Wiley-Blackwell.

Lundahl, C., & Folke-Fichtelius M. (2010). *Bedömning i och av skolan - praktik, principer, politik* [Assessment in and of school - practice, principals, politics]. Lund: Studentlitteratur.

Malmgren, G. (1999). Svenskämnets identitetskriser – moderniseringar och motstånd [The subject of Swedish´s identity crisis - modernisation and resistance]. In J. Thavenius (Ed.), *Svenskämnets historia.* Lund: Studentlitteratur.

McKenney, S., & Reeves, T.C. (2012). *Conducting Educational Design Research.* New York, NY: Routledge.

Medierådet [The Swedish Media Council] (2008). *Ungar och medier 2008: Fakta om barns och ungas användning och uppfattning av medier.* [Youngsters and Media, 2008. Facts about children and youngsters use and experience of media]. Retrieved from; http://www.statensmedierad.se/upload/Rapporter_pdf/Ungar_&_Medier_2008.pdf

Mercer, N., Littleton, K., & Wegerif, R. (2004). Methods for studying the Processes of Interaction and Collaborative Activity in Computerbased Educational Activities. *Technology, Pedagogy and Education*, *12*(2), 195-212.

Myers, M. (1996). *Changing our minds: Negotiating English and literacy,* National Council of Teachers of English. Retrieved from http://files.eric.ed.gov/fulltext/ED390061.pdf

Myndigheten för skolutveckling [The Swedish National Agency for School Improvement] (2004). *Att läsa och skriva: En kunskapsöversikt baserad på forskning och dokumenterad erfarenhet* [To read and write. A systematic review based on research and documented experience]. Retrieved from http://www.multimedia.skolverket.se/data/object/5318/531824.pdf. Stockholm: Myndigheten för skolutveckling

Nardi, B.A. (2005). Objects of Desire: Power and Passion in Collaborative Activity. *Mind, Culture and Activity, 12*(1), 37-51.

New London Group. (1996). A pedagogy of multiliteracies: designing social futures. *Harvard Educational Review, 66*(1), 60-92.

Norlund, A. (2009). *Kritisk sakprosaläsning i gymnasieskolan: didaktiska perspektiv på läroböcker, lärare och nationella prov* [Critical reading of nonfiction in Upper Seconday School: Didactical perspectives on textbooks, teachers and national tests]. Göteborg studies in educational sciences, 273: University of Gothenburg.

Nordenfors, M. (2011). *Skriftspråksutveckling under högstadiet* [The development of written language through secondary school]. Göteborg studies in Scandinavian linguistics, 16: University of Gothenburg.

Nyström, C. (2003). *Argumentera! : en presentation av gymnasisters argumenterande texter i databasen ARGUS*. Uppsala: Rapport Nr 209, Uppsala universitet.

Oldham, J. (2005). Literacy and media in Secondary Schools in the United Kingdom. In B. Street (Ed), *Literacies Across Educational Contexts: Mediating Learning and Teaching* (pp. 170-187). Philadelphia: Caslon.

Olin-Scheller, C. (2006). *Mellan Dante och Big Brother : en studie om gymnasieelevers textvärldar* [Between Dante and Big Brother: Textual worlds of Swedish upper secondary school students]. Karlstad: Karlstad university studies 2006:67.

Parmenius Swärd, S. (2008). *Skrivande som handling och möte - gymnasieelever om skrivuppgifter, tidsvillkor och bedömning i svenskämnet* [Writing as action and interaction - upper secondary school students on writing tasks, time conditions and assessment in the subject of Swedish]. Malmö Studies in Educational Sciences No 42, Malmö högskola, Lärarutbildningen.

Persson, M. (2007). *Varför läsa litteratur? : om litteraturundervisningen efter den kulturella vändningen* [Why read litteratur? : about litterature education after the cultural turn]. Lund: Studentlitteratur

Resnick, L.B. (1987). Learning in school and out. *Educational Researcher, 16*(9), 13-20.

Roth, W-M., (2001). Situating cognition, *The Journal of the Learning Sciences 10*(1-2):27-61.

Sadler, D.R. (1989). Formative assessment and the design of instructional systems. *Instructional science, 18*, 119-144.

Sahlberg, P. (2010). *Finnish Lessons: What can the world learn from educational change in Finland?* New York: Teachers College Press.

Sannino, A. (2008). Sustaining a non-dominant activity in school: Only a utopia? *Journal of Educational Change, 9,* 329-338.

Scribner, S., & Cole, M. (1981). *The Psychology of Literacy.* Cambridge Harvard University Press.

Shipka, J. (2011). *Toward a compostion made whole.* Pittsburgh, Pa: University of Pittsburgh Press.

Skolverket [The Swedish National Agency for Education]. (2000). *Skolverkets föreskrifter om kursplaner och betygskriterier för kurser i ämnet svenska i gymnasieskolan och inom gymnasial vuxenutbildning, Lpf94* [Curriculum for upper secondary school before 2011, The National Agency for Education's directions for curriculum and grading critieria in courses in the subject of Swedish at upper secondary school and adult education]. Retrieved December 2008 from http://www3.skolverket.se/ki03/front.aspx?sprak=SV&ar=0708&infotyp=8&skolform=21&id=SV&extraId=

Skolverket [The Swedish National Agency for Education]. (2011a). *Läroplan, examensmål och gymnasiegemensamma ämnen för gymnasieskola 2011* [Curriculum for upper secondary school 2011]. Stockholm: Skolverket. Retrieved May 2012 from http://www.skolverket.se/om-skolverket/andra-sprak-och-lattlast/in-english/publications

Skolverket [The Swedish National Agency for Education]. (2011b). *Läroplan för grundskolan, förskoleklassen och fritidshemmet 2011* [Curriculum for the compulsory school, preschool class and the recreation cen-

tre, 2011]. Stockholm: Skolverket. Retrieved May 2012 from http://
www.skolverket.se/om-skolverket/andra-sprak-och-lattlast/in-
english/publications

Skolverket [The Swedish National Agency for Education]. (2011c). *Kom-
mentarer till gymnasieskolans ämnesplan i svenska som andraspråk* [Com-
ments on the syllabus in the subject of Swedish as a second language
at upper secondary school]. Retrieved March 2012 from http://
www.skolverket.se/laroplaner-amnen-och-kurser/gymnasieutbild-
ning/gymnasieskola/sok-amnen-kurser-och-program/search.htm
?alphaSearchString=&searchType=FREETEXT&searchRange=C
OURSE&subjectCategory=&searchString=matematik

Skolverket [The Swedish National Agency for Education]. (2012). *Kom-
mentarer till gymnasieskolans ämnesplan i svenska* [Comments on the
syllabus in the subject of Swedish at upper secondary school].
Retrieved September 2012 from http://www.skolverket.se/laro-
planer-amnen-och-kurser/gymnasieutbildning/gymnasieskola/sve
?tos=gy&subjectCode=sve&lang=sv

Skolverket [The Swedish National Agency for Education]. (2013a). *It-
användning och it-kompetens i skolan, rapport 386* [It use and it com-
petency in schools, report 386]. Retrieved September 2013 from
http://www.skolverket.se/publikationer?id=3005

Skolverket [The Swedish National Agency for Education]. (2013b). *For-
skning för klassrummet - vetenskaplig grund och beprövad erfarenhet i prak-
tiken* [Research for the classroom - scientific ground and proven
experience in practice]. Retrieved November 2013 from http://
www.skolverket.se/om-skolverket/visa-enskild-publikation?_
xurl_=http%3A%2F%2Fwww5.skolverket.se%2Fwtpub%2Fws%
2Fskolbok%2Fwpubext%2Ftrycksak%2FRecord%3Fk%3D3095

Skolverket [The Swedish National Agency for Education]. (2013c). *PISA
2012 - 15-åringars kunskaper i matematik, läsförståelse och naturvetenskap,
resultat i koncentrat, rapport 398* [PISA 2012 - 15-year olds knowl-
edge in mathematics, reading comprehension and natural sci-

ence, compiled results, report 398]. Retrieved January 2014 from www.skolverket.se/om-skolverket/visa-enskild-publikation?_xurl_=http%3A%2F%2Fwww5-skolverket.se%2Ftwpub%2Fws%2Fskolbok%2Fwpubext%2Ftrycksak%2FBlob%2Fpdf3127.pdf%3Fk%3D3127

SOU 2012:10. (2012). *Läsarnas marknad, marknadens läsare - en forskningsantologi.* Statens offentliga utredningar. Stockholm: Fritze.

Star, S. L., & Griesemer, J. R. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science, 19*(3), 387-420.

Street, B. (1995). *Social Literacies: Critical approaces to literacy in development, ethnography and education.* London: Longman.

Street, B. (1998). New Literacies in Theory and Practice: What are the Implications for Language in Education? *Linguistics and Education 10*(1), 1–24.

Street, B. (2005). Introduction: New Literacy Studies and Literacies across Educational Contexts. In B. Street (Ed.), *Literacies Across Educational Contexts: Mediating Learning and Teaching* (pp. 1-21). Philadelphia: Caslon.

Street, B. (2009). Ethnography of Writing and Reading. In D.R. Olson & N. Torrance (Eds.), *The Cambridge Handbook of Literacy* (pp. 329-345). Cambridge: Cambridge University Press.

Säljö, R. (2000). *Lärande i praktiken : ett sociokulturellt perspektiv* [Learning in practice: A socio cultural perspective]. Stockholm: Prisma.

Säljö, R. (2010). Digital tools and challenges to institutional traditions of learning: technologies, social memory and the performative nature of learning. *Journal of Computer Assissted Learning, 26*, 53-64.

Säljö, R., Jakobsson, A., Lilja, P., Mäkitalo, Å., & Åberg, M. (2011). *Att förädla information till kunskap: lärande och klassrumsarbete i mediesamhället* [To refine information into knowledge: learning and classroom-work in the media society]. Stockholm: Norstedts.

Tallvid, M. (2010). *En till En Falkenbergs väg till Framtiden?* [One to One Falkenbergs road to the Future?] Falkenberg: Falkenbergs kommun. Retrieved from http://www.falkenberg.se/download/18.12b597ff13e82d4f578f16/1369079034794/En-till-En%2BFalkenbergs%2Bv%25C3%25A4g%2Btill%2BFramtiden%253F.pdf

Taras, M. (2005). Assessment - summative and formative - some theoretical reflections. *British Journal of Educational Studies, 53*(4), 466-478.

Turner, K. H., & Katic, E. K. (2009). The Influence of Technological Literacy on Students' Writing. *Journal of Educational Computing Research, 41*(3), 253-270.

Warschauer, M., & Ware, P. (2008). Learning, Change and Power: Competing Frames of Technology and Literacy. In J. Coiro, M. Knobel, C. Lankshear & D. J. Leu (Eds.), *Handbook of Research on New Literacies* (pp. 215-240). New York: Lawrence Erlbaum Associates.

Wells, G. (1999). *Dialogic Inquiry: Towards a Sociocultural Practice and Theory of Education.* Cambridge: Cambridge University Press.

Wertsch, J.V. (1991). *Voices of the mind: a sociocultural approach to mediated action.* Cambridge, University Press.

Wertsch, J. V. (1998). *Mind as action.* New York: Oxford University Press.

William, D. (2013). Assessment: The Bridge between Teaching and Learning. *Voices from the Middle, 21*(2).

Yin, R.K. (2003). *Case Study: design and methods.* Thousand Oaks, Calif.: Sage Publications.

Zuengeler, J., Ford, C., & Fassnacht, C. (1998). *Analyst Eyes and Camera Eyes: Theoretical and Technological Considerations in "seeing" the Details of Classroom Interaction.* Retrieved October 2010 from http://www.eric.ed.gov/PDFS/ED427333.pdf

Östlund-Stjärnegårdh, E. (2002). *Godkänd i svenska? - bedömning och analys av gymnasieelevers texter* [Passed in Swedish? - assessment and analyses of upper secondary school students texts]. Uppsala: Skrifter utgivna av institutionen för Nordiska språk, nr 57, Uppsala universitet.