Multimodality in Language Education – Exploring the Boundaries of Digital Texts

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Abstract: Considering the challenges of contemporary communication, largely due to the rapid development of media technology, the purpose of this article is to discuss the implications that these challenges may have for language education. In a digitalized society, texts more often than not include several modes, such as images, symbols, film clips and sound. What does this widened notion of texts mean for language subjects and teachers and how are these changes in texts reflected in curricula? In the article we use a multimodal framework to understand and discuss meaning-making when a widened notion of texts is incorporated in language education and the conflicts that may occur are discussed from an activity theoretical point of view. We conclude by arguing for native language education to fully embrace and recognize multimodal meaning-making.

Keywords: Multimodal texts, language education, literacy

1. Introduction

Education today faces many challenges. In Sweden, the results of the PISA and PIRLS tests have revealed a declining trend which also includes reading comprehension. These tests have had a great impact on the political debate and have led to changes in curricula (Skolverket, 2011) with the aim to focus on basic skills and be more precise about standards concerning both teaching and learning. At the same time, technological advances means that meaning-making today involves texts which are increasingly multimodal, so that young people are socialized into a world where communication is accomplished by using a number of meaning-making modes (Statens Medieråd, 2015). In other words, young people read and create texts which are often a combination of written texts, pictures, moving images and sound mediated through digital devices such as computers and mobile phones. New methods of communication thrive in informal settings, whereas formal education often clings to traditional ways of making meaning, for example, when requiring written, paper-based texts from the students (e.g. Kress, 2010). At this moment in time, Swedish curricula are about to be changed again, this time the changes are made in order to strengthen students' digital competence (SKOLFS, 2017:16).

Many young people today have constant access to texts in different modes and through different media. Widening the concept of *text,* to modes other than the verbal opens up other ways of meaning-making, and calls for new apt concepts to fit the communicative possibilities. Björkvall (2009) explains that 'text' in a multimodal perspective can be seen as different modes that may appear in various materialities. A verbal written text, for example, can be materialized as print on paper but also on a computer screen. But as texts, according to Björkvall (2009), are meaningful and coherent with a beginning and an end, it is difficult to talk about texts, based on this definition, when it comes to, for example blogs, websites and fan fiction. As a more apt overall concept, we use *meaning offering*, and consider it as being equivalent to *available design* (further explained and developed below). A meaning offering is connected both to the intended and the perceived meaning (Selander & Kress, 2010). As pointed out by Kress (2003), the development of technology, puts meaning-making in a new light. Other changes in society that needs to be taken into account include an increasing flexibility in the labor market, globalization, individualization, and increasingly multicultural societies (Cope & Kalantzis, 2010; Kalantzis & Cope, 2012). All of these changes affect teaching and learning in educational settings.

Despite the changing conditions for meaning-making, verbal communication in the shape of traditional reading and writing, continue to be necessary skills. They are crucial in society in order for citizens to take active part in democratic processes and citizenship. To acknowledge the way young people experience texts and, at the same time, support their reading and writing development, is a challenge for all teachers, but maybe in particular for native language teachers, i.e. teachers in the subject of Swedish in Sweden. In the syllabus and other documents that regulates the subject of Swedish, the development of students' media and communication skills are recognized to some extent. The content of the subject has been expanded when incorporating movies, blogs and digital techniques for producing communication in the curricula. However, the revisions that are currently being made in the national Swedish curricula in order to strengthen digital competences in different subjects largely denote digital competence as concerning the use of digital tools and do not address changes in content to any great extent. This way of relating to changes arisen due to alterations in communication, is by Lankshear and Knobel (2008) considered to belong to an 'old' mindset. The use of digital devices for writing typographical texts can be taken as an example of the old mindset, where an established practice has been altered by the use of technology so that the writing of texts today is often done by using keyboard and screens, rather than pen and paper. Lankshear and Knobel (ibid.) consider an expanded concept of literacy to relate to a 'new' mindset, not to new as a measurement of time. This new mindset is understood as more collaborative and participatory. Knowledge is considered to be collective and distributed rather than centered on individual expertise. Furthermore, a new mindset means that technology is used to do something different, as compared to an old mindset, where well-known things are done but with more, or other, technology. With a new mindset, something different, like a multimodal text, could be created with the use of technology. This is however not a practice that has been widely adopted in education. Currently, formal learning in school is dominated by the reading and writing of traditional texts, whereas informal learning, often connected to activities outside of school, encourages young people to develop other skills and competences in meaning-making which involves producing and consuming[1] multimodal and multimedial texts (Kress, 2010). This change cannot be ignored by formal education, instead the challenges that this presents for formal education need to be addressed, in order to provide adequate education for the future.

In research on literacy, a need for new theoretical ways to discuss reading and writing skills has been discerned (e.g. Alexander & Fox, 2004; Skaftun, 2010). We argue, among others (e.g. Adami, 2015; Lemke, 2006), that this discussion needs to be widened and applied to communicative skills as a whole in trying to answer questions such as: What does it mean to be able to express meaning in contemporary societies? What competences will be needed in the future to be an active citizen? Which subjects in school should be responsible for developing the students' wider literacy competences? How can new media technology be incorporated in curricula and syllabi? These are all questions that are important to native language teachers in particular.

Jewitt (2006) points out that by using 'literacy', the old, hierarchical way of grading modes is maintained. Contemporary communication in diverse modes and media, among a diversity of rapidly changing social and cultural contexts, need new and flexible competences and skills, defined as *multiliteracies* (e.g. Kalantzis & Cope, 2012). To talk about 'multiliteracies' instead of just 'literacy' builds on a socio cultural and critical understanding of 'literacy', but also adds the multimodal and multimedial aspects of communication. Literacy practices in education are affected by the institutional context and therefore the activities that teachers and students engage in need to be related to this setting. Whether meaning expressed in a variety of modes, will be recognized as learning depends upon, and is affected by, rules in the educational setting, such as curricula, but also by traditions in certain communities, such as language teachers, and established ways of working within the subject (Selander & Kress, 2010). In order to understand, and perhaps explain, the literacy practices that teachers and students engage in in the language-classroom, they have to be related to these, often invisible, aspects and how they affect both the practice as such as and what is recognized as learning. This will in the following analysis be done with the use of analytical tools from Cultural Historical Activity Theory (hereafter CHAT) as conceptualized by Engeström (e.g. 1998).

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[1] The concept of *prosumer* can be used to talk about the combined role of both producer and consumer (Toffler, 1980).

2. Theoretical Framework – Multimodality and Activity Theory

Multimodal theory formation, developed since the 1990s, is undergoing a dynamic discussion concerning its possibilities, limitations, concepts and research possibilities (Jewitt 2014a; Jewitt 2014b). We consider it an apt perspective for discussions about the meaning of education and teaching in the media landscape of contemporary societies.

From a multimodal perspective, meaning-making is possible in different modes and media in a non-hierarchic, ecological way (Barton, 2007; Kress, 2010). All modes (in Kalantzis & Cope, 2012: audio, visual, gestural, tactile, spatial, verbal spoken, verbal written) have full meaning potential which means that a meaning-offering can convey ideational, interpersonal and textual meaning[2] in its own right. This non-hierarchic approach to understand meaning-making can be used for discussions of how and to what extent different modes are used and recognized as learning in formal education both in, for example, teachers' actual planning and in assessment.

In a socio-cultural perspective, learning is social, situated and mediated (Säljö, 2005). With a multimodal approach, the mediation applies to the meaning potential of all modes, i.e. meaning is made, distributed, interpreted and remade through many communicational resources (cf. Jewitt, 2008, Kress & Van Leeuwen, 2001).

In adapting a terminology for speaking about meaning-making through various and equal modes, *design* is a useful concept and a way to talk about meaning-making and learning simultaneously. Whilst meaning is actively designed by the individual, patterns and conventions are also inherited and affect the design process. In this view, teachers are regarded as designers of learning processes and environments and students' as designers of their learning (cf. New London Group, 1996; Selander & Kress, 2010). Conceptualizing education and learning as a process of designing meaning-making differs from views on learning as a process of transferring knowledge (cf. Säljö, 2010).

Cope and Kalantzis (2010), Jewitt (2006), Kress (2003; 2010) and Kress & van Leuween (2001) all use *multimodal design* as an overall concept. *Designing* is the active process which is used to conceptualize meaning-making at different levels: in work with assignments (*available design*) students create (*design*) new meaning (*redesign*) (Kress & van Leeuwen, 2001). *Meaning-offering*, as mentioned above, is a concept that can be used regardless of mode or medium. Meaning-offering, as well as meaning-making, are related to the design process as shown in Table 1 below.

Table 1: Concept in the design process

Meaning-offering	Meaning-making	Representation/ new meaning-offering
Available design	Designing	Redesign/ new available design

Talking about reading, creating and discussing texts as 'design', brings the whole design process within the focus of interest. It also means that reading is seen as one of several possible ways to make meaning (cf. Jewitt 2006). By viewing all modes as having full meaning potential, the multimodal approach questions the primacy of the written or spoken word in society in general, and in education in particular. Since multimodal texts are becoming increasingly important and common in the communicational landscape of today, this challenges the conception and evaluation of literacy in education and what is recognized as learning. From the theoretical standpoint of CHAT, activities are conceptualized as *activity systems* containing different components. The components at the local level of the activity system are the persons engaging in the activity, the tools that are used and the object, or outcome, of the activity. Engeström (1998) calls the *subject*, *object* and *mediating tools* "the tip of the iceberg" as they are "visible instrumental actions of teachers and students" (ibid., p. 79). The components at the systemic level are *community*, *rules* and *division of labor* (Engeström, 1987). These less visible components contain the structure of school systems, whereas the local level relates to content and methods of teaching (Engeström, 1998). Changes in these components lead to tensions and

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[2] Drawing on *Systemic Functional Grammar* (Halliday, 1985), the meaning potential in a multimodal perspective is applicable in all modes. Ideational, interpersonal and textual meaning refers to different functions of the meaning-offering. The ideational function expresses our experiences of the outer world. The interpersonal function deals with our relations to others and the textual function refers to how information is organized.

contradictions between the components and in and between activity systems and these tensions may, in turn, lead to change.

The tools that we use today for expressing meaning are often some kind of technological, digital device. With these devices, messages can be conveyed in a number of modes that were not possible when we mainly used pen and paper. This means that the tools and the object of activity systems have been altered and this affects the other components. When considering what is recognized as learning, the systemic components are important to consider as they relate to the historical aspects of classroom activities. In order for the outcomes of the activities to be recognized as learning, teachers, as a community, will have to recognize these outcomes as meaningful and part of the content of the subject. Moreover, these outcomes need to be related to curricula and syllabi in order for teachers to be able to assess what students do. Previous research has shown that the division of labor in the classroom is affected by the introduction of personal digital tools in classrooms (e.g. Tallvid, 2014), since these tools give students access to an abundance of information which may challenge the teachers authority and expand the object of the activity. Traditional roles where the teacher is the expert is thereby challenged and since students may use tools that are not familiar to the teacher to accomplish the object of the activity, the teacher's ability to both support and constrain the actions of the students' may diminish.

3. Multimodal Meaning-making – Example and Analysis

Assessment is an important factor of how learning is perceived and established (e.g. Drotner & Erstad, 2014). As shown in research (e.g. Godhe, 2014) assessment practices are crucial in determining what is recognized as learning. Other important aspects are the teaching and the assignments (Selander & Kress, 2010). In a multimodal perspective, assignments can encourage students to use multimodal meaning-making in their design process, and the extent to which they do so may depend on how the assignment is expressed and prepared through teaching.

The following example outlines the local level in the activity system and how students create meaning consisting of several modes with digital tools. A class in the second year of upper secondary school in Sweden is working with poetry in the subject of Swedish. The students are to examine what has been considered as poetry through history; who has been writing, what, how and for whom. This forms a part of the available design they have access to when they are given the assignment to create a poem of their own. In this particular class, the teacher had the aim of teaching from a multimodal perspective, trying to encourage the use of different modes for communication. This is noticeable in the assignment, which is also an important aspect in enabling for the recognition of the use of other modes than the verbal in the making of poetry. The students were given the assignment:

"Create poetry! What do you want to express? Can you express it in different ways?"

Another way (and, to our experience, a more common way) would be to give an assignment like;

"Write your own poem and illustrate your poem with a picture".

In the given assignment, there are no preference of mode ("create" instead of "write") and no definition of how to use different modes. O Instead, there is an opening towards the students own choice since direct questions are used in the assignment. This is, in our opinion, one aspect of the assignment which renders possible the recognition of multimodal meaning-making as learning. Below is an example of how a student chose to present the assignment.

In picture 1 the modes used are visual (color, size, background, vector) and verbal writing but in presenting the poem in class also verbal speech and audio (beginning with silence followed by a recorded voice that whispered the lyrics in a cold staccato voice). Moreover, the classmates were involved since the silence in the beginning resulted in students moving towards the screen to be able to read.

Picture 1;
all cities look the same in the dark
even feelings are erased
blurred together where there is darkness
hold on, hold on
until the morning comes
there are cities unlike all others

Based on the example, and our knowledge of the circumstances, we argue that the teacher tried to make it clear in the lectures what a multimodal approach to communication implies. Although this was new to the students, they show in their solutions that they have tried to use several modes and specific semiotic resources in creating their poetic meaning-offerings.

It is not unusual for teachers to encourage the use of different modes and digital media for student work but, as research show, it is more unusual to recognize it as learning both in the assignment and in assessment (Godhe, 2014; Oldham, 2005; Selander & Kress, 2010). In the example above, the multimodal perspective encourages questions about how the semiotic resources of the various modes are used and perceived by the students and accordingly the presentation in class involved the students explaining their choices of modes, the resources used and their intentions of making meaning and how the multimodal approach affected the meaning potential. The students' reflections over the design process, was then used as a base for the assessment and grading. The teaching of poetry in this example is an example of how multimodal meaning-making can be recognized through teaching, the assignment and assessment.

To be able to understand how to use different modes, and the various resources connected to them requires competences that go beyond the competences needed for verbal meaning-making as writing, or oral meaning-making. The important question to ask is what this means for the competences needed as a language teacher?

3.1 Analysis; Levels of Meaning-making

In the design process meaning-making can be referred to at different levels, as shown in figure 1 below. On a general level, meaning-making concerns understanding meaning offerings in a similar way, regardless of mode or media. On the general level, the understanding deals with questions of sender, purpose of message and transmission, which concern overall questions about the ideational, interpersonal and textual meanings that can be perceived when examining the meaning offering on a general level (cf. Kress 2008). The general level is necessary, but today no longer enough. If meaning-making is considered and taught drawing on the idea that all modes are equal and have full meaning potential, there is also a need for an understanding of how the semiotic resources in the various modes work, which point to the specific level of meaning-making. For a language teacher, the specific meaning-making of verbal oral and writing are competences that are well established within the subject and which are known and practiced by both teachers and students. For example, in order to examine the specific level of verbal meaning-making in poems, the focus in the teaching is on voice, figurative

language, intertextual connections, meter and rhyme. Examining this specific level in a meaning offering promotes understanding of how the specific resources are used to create meaning.
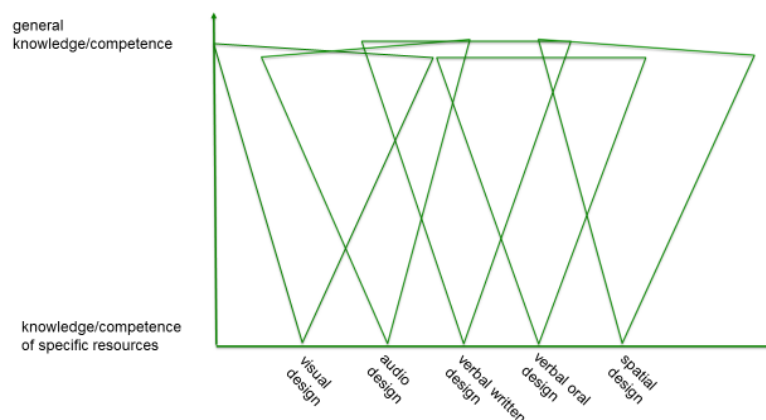

Figure1: meaning-making on different levels. From Tønnessen (2011).

To fully understand the meaning-offerings exemplified in the poems above the teacher and students need to understand the specific level, not only for the verbal mode but also for the audio, visual and spatial modes. In the example above, this would involve the need for discussions about, the size of the writing, the placement of the writing in the left hand corner, the color of the writing and background, and the silence followed by the digital voice and, additionally, how the different modes work together.

3.2 Analysis; Tensions and Contradictions

In the example above, it is evident that using digital devices to communicate, changes the nature of the message since digital communication facilitates multimodal communication. This means that the activity of reading and writing, in educational settings as well as in other settings, is affected (cf. Lemke 2006). In an educational context, these changes need to be related to factors at the systemic level in order to understand, and potentially explain, how and why tensions and contradictions occur when attempting to change practices (c.f. Engeström, 1998).

Classroom practices are governed by rules such as the curricula. Syllabi and curricula are written based on conceptions of what different subjects contain and what students should learn in these subjects. Subject traditions affect what both teachers and students perceive as the content of the subject, which in turn influence how and to what extent digital tools are incorporated in the teaching (Selwyn, 1999). The content of the particular course in Swedish discussed in this article, for example, the content is specified in 11 statements. Only of these concerns multimodal meaning-making: "Configuration of texts for various purposes and media, including various multimedia texts where, for example, written text, pictures and sound interacts" (Skolverket, 2011).

The predominance of verbal language (spoken and written words) relates to conceptions of the subject and the subject culture, but also to how the subject is conceptualized in the curricula (Godhe, 2014). As pointed out by Oldham (2005), the way performance is measured in assessment of language subjects means that multimodality is largely overlooked and in so doing we may also overlook what is gained by students, since assessments are made based on a certain conception of what is of value. Studies in Norway show that the expansion of texts to include multimodality, is not a notion that is self-evident or established by teachers in general (Matre et al., 2011). Hjukse (2010) points out the difficulties in assessing texts containing several modes and stresses the need for teachers to address these issues. In the Swedish curricula, recent changes has meant that the concept of a widened notion of texts has been removed and replaced by a more implicit understanding of texts as incorporating all modes. This unclear definition opens up for interpretations and, seen in the light of the Norwegian studies, is not beneficial for teachers' assessment of multimodality. In the course syllabus referred to above, one out of five assessment criteria can be interpreted as pointing to multimodal meaning-making: "the student can […] configure various genres of text graphically and can […] motivate choice of illustration, disposition and over all outline" (Skolverket, 2011).

This leads us to the question posed earlier, what competences are needed by teachers today? Is it possible for teachers to exclusively focus on traditional meaning offerings like written texts, thereby ignoring a large proportion of the meaning-offerings that the students come into contact with on a daily basis? There are several possible ways to answer these questions and the answers have consequences for how contemporary meaning-making is dealt with within education. In our view, if subjects are to go multimodal *all the way,* there is a need for developing knowledge and competences about the specific semiotic recourses connected to other modes than the verbal. Remaining where most subjects are at present, teaching, assignments and assessment take into account general meaning-making for all modes, but only deal with the specific in relation to the verbal modes. This is going multimodal *half way.* There is also the possibility of only engaging in meaning-making that is verbal writing or oral on both general and specific levels. Then the multimodal meaning-making in subjects go *no way*. We argue that language subjects need to take into consideration various modes and media in teaching communication for today and the future. This means multimodality in subjects needs to go *all the way* and calls for further changes in curricula.

4. Conclusion and Discussion

In order to tackle what is sometimes referred to as a literacy deficit in younger generations, our suggestion is to widen subjects to fully embrace and recognize meaning-making regardless of mode and media. The purpose of this article is to discuss the challenges that face language education due to the rapid changes in the communicational language which has led to abundance of multimodal texts in contemporary societies. As stated by Cope et al. (2011:84), to use words alone is simply not enough to express meaning in contemporary societies. Based on the presented example, as well as previous research within the field, we will conclude by arguing for subjects in general, and language subjects in particular, to fully embrace and recognize multimodal meaning-making as important for students to understand and reflect upon, both as consumers and producers in the contemporary communicational landscape.

For this to happen, we argue that meaning-making in education needs to be based on a non-hierarchical and inclusive view on modes and media in order to create a readiness and flexibility for the demands of a rapidly-changing society, now and in the future. Taking this stance means that we have to deal with challenging changes in how subjects are conceptualized. Moreover, this has implications for teacher education and the professional development of practicing teachers since these educational efforts need to include and practically work with a widened concept of meaning-making within all subjects. Language subjects need to play an important role in developing students' wider literacy competences, but multimodal meaning-making needs to be considered and evaluated in all subjects.

Elmfeldt and Erixon (2004) state that while writing is considered by both students and teachers to belong to language subjects, modes such as images and sound, are regarded as adhering to other more practical or esthetical subjects. Hobbs (2006) claims that incorporating media technology has been more difficult in language subjects than in other subjects and refers to this as a type of 'digital divide' to the detriment of language teachers. To change conceptions of what language subjects include, changes are needed in curricula, but also in the competences required by language teachers. While national Swedish curricula for primary and secondary school have been changed to strengthen students' digital competence, there is currently no similar initiative to change teacher education. We argue that that there is therefore an apparent risk that the conception of what the subject of Swedish contains will continue to be based on verbal meaning making within teacher education. This will make the process of changing the conceptualization, and widening the content, of the subject amongst language teachers in general slower and more difficult. A major issue when discussing language subjects in Sweden appears to be students' lack of interest and reluctance to read. However, considering reading in a broader sense, we nowadays consume and produce a considerable amount of texts on a daily basis and on top of that storytelling is abundant, if including the consumption of multimedia productions. By embracing multimodal and multimedial meaning-making and incorporating it as valuable learning in language subjects, students and teachers could access and assess students' complete literacy competences, instead of focusing on some practices, while largely ignoring others. Recognizing the ways in which students consume and produce meaning would probably mean that students also find language subjects more interesting to engage in. By comparing and juxtaposing different kinds of meaning-making it would be

possible to discuss what can be gained and what may be lost by conveying meaning in a certain way. How does an instructional film-clip compare to a written instruction? What are the advantages and disadvantages of using different modes? What is it that it is possible to convey in written text and what messages benefits from using images and sounds? What is literature today? Are, for example, films and TV-series included in the concept of literature?

Raising these kinds of questions in classrooms and in teacher education would also make it possible to discuss and actually teach about different kinds of reading. As suggested by Kress (2010), different kinds of reading skills are required for different activities. Kress takes the example of game-players and argues that when playing a game, reading is required for obtaining information at a particular point in time. This kind of reading differs from the kind of reading that is generally in focus in schools. In education reading predominantly refers to the reading of longer texts where the reader is required to concentrate their attention on the text during extended periods of time (ibid.). According to Kress, this kind of reading can no longer define what reading is; instead it needs to be taught as a special task. Instead of regarding this kind of reading as the definition of what reading is, teachers and students need to explore what different kinds of reading mean, as well as when, and why, they are needed. Raising students, and teachers, awareness of the purpose of different kinds of texts and the reading of them is essential in order to develop the students' ability to create meaning and become active citizens in the society of today and tomorrow.

The importance of taking a critical stance towards information in general has always been a salient part of literacy, but due to the tremendous accumulation of accessible information through digital devices, this competence is becoming increasingly important. In order for students to be able to take a critical stance in relation to information, whichever way it is mediated, the way the modes are assembled and how they affect each other and the message that is conveyed, needs to be discussed with students. As shown in the example in this article, such discussions can serve as the basis for assessment and evaluation of student productions. Furthermore, having these discussions about texts is a way to work with critical literacy so that students become critically aware of how meaning is made and are able to be critical towards messages in all shapes and forms.

When students are given access to an abundance of information through the use of different digital devices, the division of labor in the classroom is affected (e.g. Tallvid, 2014). Established roles where the teachers are able to support and constrain the students work may be challenged, as well as the teachers' position as an expert in the classroom. Acknowledging these changes and working with the possibilities of having several experts in the classroom, we argue, may also be part of the solution. Due to the rapid development of different digital media, programs, applications and so on, it is impossible for any single teacher to keep updated with everything. However, applying the concept of distributed knowledge, as suggested by for example Lankshear and Knobel (2008), means that the teacher's and the students' combined knowledge needs to be taken into account in the classroom. The teacher may not know which applications to use but students may know and be able to teach each other and the teacher. This does not mean handing over the responsibility to the students, since the teacher needs to organize the activities in the classroom so that they are directed towards established goals and criteria that the students work to obtain. Similarly, the distributed knowledge amongst colleagues, at the local workplace as well as in networked communities of teachers, could also be considered and consciously worked with so that teachers work together to solve common dilemmas and to learn from each other.

Recent surveys of the digitalization in Swedish schools show that the access to digital devices in general is high, but the use of these devices is restricted in many subjects (Skolverket, 2016). Teachers consider themselves to be in need of professional development focusing on the pedagogical use of digital tools. We argue that it is of importance for professional development to focus on the general contributions that the digitalization of education potentially conveys and avoid focusing on ever-changing aspects, such as applications. Moreover, it is necessary to relate the use of digital devices to the subject in question in order to establish and discuss the particular ways that digitalization affect different subjects. Potentially positive, as well as negative, ways in which the content of the subject may be affected, needs to be related to in order to come to a workable solution of the pedagogical role that digitalization plays in educational settings. Furthermore, changes in the communicational landscape and how these may affect the subject, needs to be considered. This includes the concept of multiliteracies where meaning-making in different modes and media are evaluated and embraced in the teaching.

To sum up, we argue for a need to change the conceptualization of subjects in general, and language subjects in particular, so that they become multimodal all the way. In order to accomplish this, changes are needed in the rules that govern teaching, such as curricula and syllabi. Moreover, changes in how the community of teachers of languages regards the subject are needed. This involves practicing teachers, as well as those who are currently studying to become teachers, and therefore affects both teacher education and professional development of teachers. As part of the solution, changes in division of labor, both in the classroom and in the staff room, needs to be taken into account and worked with so that the combined knowledge of all parties involved is utilized. If language subjects do not seriously consider and evaluate contemporary meaning-making, they run the risk of becoming 'encapsulated' in the game of schooling (Engeström, 1991; Resnick, 1987). This means that activities carried out in the language subjects have little, or nothing, to do with the meaning-making that students engage in outside of school, since the use of digital technologies are added onto institutionalized practices instead of captivating the full potential that the changes in mediational means carry for meaning-making practices.

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