

How design-based research and action research contribute to the development of a new design for learning

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Presenting as a matter of design – exploring designs for learning

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This article discusses how "reception" in media courses can be understood as "designs for learning". Teacher students, working with digital media production, meet in "receptions" where their works are presented, interpreted, and discussed. The analysis highlights presentation as an activity with its own setting that could be understood as an activity of interpretation and sign-making. The main argument is that a "presentation" can be understood as a learning sequence in itself.

INTRODUCTION

To present and discuss can be understood as important aspects of learning. With peers as an audience, it will be possible to motivate students to actively reflect upon texts and learning. Presenting is also an acknowledgment, reflected in its specific culture of recognition (cf. Reid, Burn, & Parker, 2002; Buckingham, 2003; Kearney & Schuck, 2006; Leijon, 2010; Selander & Kress, 2010). In this article, we will meet a group of teacher students. Their training program runs for three semesters. In this special project, the students are told to create new representations that related to their first course in their initial teacher training. They have been working with digital media production to do this. The students meet in a form called "reception", where they describe and interpret each other's films. This form of reception originates from semiotics (Koppfeldt, 2005) and emphasises the concept of design in terms of dialogues, interactions and multimodal texts. By concentrating on the concluding part of a formal learning process, this study focuses on design and meaning-making as phases of presentation – in this case as receptions – and the purpose is to illuminate the importance of presenting as design. In the article a model of a formal learning sequence is used (Selander, 2008a, b, c; Åkerfeldt, Benyamine, Selander & West, n.d.).

THEORETICAL FRAMING AND METHODOLOGICAL CONSIDERATIONS

The "reception" as a way of presenting learning designs origins from semiotics and the emphasis on interpretation of signs. To understand processes of presentation, like in receptions, I have found a theoretical frame in the design-theoretic perspective, called "Designs for Learning" (Selander, 2008a, b, c. Selander & Kress, 2010). The perspective discusses "designs for learning" as arrangements for learning in for example learning resources, buildings, classrooms and curriculum. However, there can also be a focus on designs in learning – highlighting the whole learning process of an individual, and not only the intended learning outcome.

A learner designs her way, choosing apt resources to transform her understanding into new representations (Selander & Kress, 2010). I consider this kind of design theory useful in understanding sign-making activities like the reception. The perspective also stresses participants' creation and production (Selander, 2008d) and thereby connects to reception as a form of presentation. The theoretical point of departure is Selander's (2008a, b, c) model of a formal learning sequence (see also Åkerfeldt, Benyamine, Selander & West, n.d.; Selander & Kress, 2010) where presenting is a final part. In this model the learning process in the primary transformation unit is framed by setting, institutional norms, curricula and learning resources, and there is usually a teacher, giving the learners information about a task. In a primary transformation unit, the learner is transforming the information and forming a representation of his or her understanding by using apt modes and media. This is a process of producing signs in shaping a representation of ones understanding. In the secondary transformation unit, representations are presented for discussions to an audience. That is, usually the teacher and the other students. During both transformation unit teachers invention, participant interest and social interaction and assessment play a crucial part for the learning process. The presenting form of reception could easily be placed in the secondary transformation unit, as a concluding part of a learning sequence where a result is presented, reflected upon and assessed. This article explores the phase of presenting as a learning sequence in itself. The model "Learning Design Sequences" is used as an overarching perspective to understand processes at the reception.

Furthermore, this article relates to studies with a multimodal perspective and an interest in learning, interaction and meaning-making in formal settings. Studies by Kress et al. (2001; 2005) present complex learning situations, and discuss how cultural shaped resources are available for meaning making in classroom interaction. (2008a). In addition Jewitt (2008) connects the complex pedagogic work in a classroom to the concept of design by arguing that we can understand meaning making as a multimodal process of design, when teachers and students shape representations while interacting in the classroom.

The study of Kress et al., (2005) highlights how one mode, like speech, are combined with or contradicted by for instance gestures and bodily positions. Flewitt's (2006) study also provides interesting discussions on how bodily resources like gestures, gazes and postures are used in communication among young children in a pre-school context. Similar discussions can be found in Heikkilä (2006). Moura (2006) writes about how a teacher introduces an assignment using different gestures and bodily positions. Bezemer (2008) confirms how communication in a pedagogic context is shaped not only through speech but also sometimes primarily through other modes.

Furthermore, a multimodal approach highlights how physical environment, as part of the setting, constitutes an essential element in communication. The room with its specific spatial arrangements, furniture, colours and lights, how people move in a room and their spatial positions, gestures and so on are all resources in meaning-making (Kress, 2003). The arrangement of furniture in a classroom can, for instance, contrast the ways a teacher orchestrates verbal interaction among pupils (Jewitt, 2008b). Likewise, changes in the physical layout affects the social relations in a classroom (Kress & Sidiropoulou, 2008). My study connects to the field through the multimodal approach to examine interaction in formal learning situations. It differs by its focus on higher education and the special interest in the pedagogical form of presentation.

SETTING THE SCENE

Before the phase of presentation as receptions, the students worked with digital media using digital video cameras and MP3 recorders. We meet the students at the phase of presentation, here called reception. While discussing the films, the participants separate the analysis into to levels of meaning. First they concentrate on the basic understanding of the text, and then on the interpretation of the text. These levels are called denotation and connotation (Nordström, 2003). The analysis ends with a feedback phase, where producers of the films express their intentions and their reactions to the interpretation made by the audience. The reception is closed with a joint reflection. In my analysis I am only interested in the interaction, and the films are not examined as such.

Video observation was chosen to understand student interactions during the receptions. A group of initially twenty-five then twenty-one student teachers were followed over two occasions during eleven receptions. This resulted in twenty-two hour filmed material to transcribe and analyse. The method of video observation affords a multimodal perspective in combining visual and auditory information (cf. Heikkilä, 2006; Norris, 2004; Pink, 2001; Rose, 2001; Sparrman, 2002). The receptions were analysed multi-modally (Norris, 2004). Norris positions modes like gaze, gesture, bodily position as equal or superordinate to the verbal modes, and offers models for detailed transcription and analysis that allows for analysis of complex, parallel multi-modal interaction. In this analysis, the focus is on speech, bodily position, gesture, gaze and pictures, and Norris's reasoning about how material objects, verbal and non-verbal modes carry interactional meaning when perceived. The analysis concentrates on utterances that resulted in visible responses.

FINDINGS

In this part I am going to present my conception of the model of formal learning sequence by connecting it to some excerpts from my thesis (Leijon, 2010). Shaping phases of presentation as the reception is based on a number of didactic choices, and is framed by the institution of teacher education. This

affects the didactic design of the project where students created fils. But it also affects the form of reception where the films were read and interpreted in a joint process, in order to create meaning. These activities can be seen as various aspects of designs in a learning process.

The reception can be understood as part of a formal learning sequence, and thereby may be placed in Selander's secondary transformation unit as presented above (2008a, b, c). A didactic design frames the reception. The students work with digital media production, designing their understandings of the task. When the time comes for reception it is also time for a new setting. The model "Learning Design Sequences" suggests a time aspect. The processes in the primary transformation unit, with transforming and forming representations of understanding, using available modes and media, precede the reflective stage of the secondary transformation unit. However, my analysis here is based on the assumption that the elements of the model will be simultaneously significant in those kinds of activities that receptions constitute. In the following I am going to argue that the phase of presentations cannot be understood through the secondary transformation unit alone. By highlighting the parallel multimodal processes were participants use several different modes, resources for learning, and the setting in their communication.

The reception can be understood as a dynamic process, where interpretations, reflections, and negotiations play an important role. Reception is thus an activity of sign-making. While discussing and analysing the films, the students transform information. They use available resources to shape the representations of their understanding. The idea that participants transform and form by using various resources is taken from the models primary transformation unit. However, I argue that this process of transformation also takes place within the secondary transformation unit. Below, I will present some examples that underpin the argument.

In my first excerpt, two students here named Disa and Marta, are interpreting a part of a sound text during a reception. The text is about the learning theory of constructivism, and the producers have tried to represent a typical learning situation, illustrating the theory. It's now up to Disa and Marta to represent their understanding of the text:

Marta: ... and the sound of a hammer makes me think of someone construction something ...

Marta raises her hand and forms it like a fist, moving it up and down.

Marta: ... like construction knowledge... She repeats her move.

Marta: ... that is, one is pounding and building something...

She is moving her hands upwards.

Disa: Wasn't the pupil talking about that?

Marta: Constructing? Yes, she said something like that, "I am constructing my knowl-

edge". So I guess that is what they did when they were pounding.

Marta turns to Disa, moving her fist up and down again.

This example shows how an utterance is given meaning and is re-shaped over and over again in a process of sign-making. From a multimodal perspective it is important to identify all the different modes that constitute parts of the communication (Kress & Sidiropoulou, 2008). Marta is designing her representation of her understanding. She is interpreting the element in the sound as pounding, like someone using a hammer. She talks about her understanding, but also shows her understanding by using her hands, forming a fist and moving it up and down, simulating a hammer blow. In the model of a learning design sequence, sign-making processes like these are placed in the primary transformation unit, preceding the reflective stage of the secondary transformation unit. However, also in the primary transformation unit, activities like transformations and sign-making processes include interpretations and choices. Disa's and Marta's interaction help us to understand that their representations include the activity of transformation and forming. Forming representations of ones understanding does not only take place in the primary transformation unit, but also in the secondary transformation unit. In this way, the reception cannot be understood through the secondary transformation unit alone.

Thus, what happens in the secondary transformation unit, in this case the reception, is a process of design, re-design and sign-making (cf. Jewitt, 2008a). Using the initial films and the apt resources, like speech and gestures, the participants design new texts. Marta and Disa are not only recipients; they are also themselves producers, presenting their own texts. They use their earlier joint design process as a resource during the discussion. They shift between the position as producers and the position as interpretive readers.

The following excerpt demonstrates another example of presenting as a sign-making process. The students Olga, Henry and Kim have collaborated as producers while making a film. In the phase of presentation they are using their earlier joint design as a resource while discussing the other student interpretation of their film:

Olga: It is true, as they say, that humor is an important ingredient ... It is more fun to watch...

Henry: More fun making the film...

Olga: Yes, more fun making...

Henry: Yes...

Olga: And then the message comes through more clearly. Maybe that is what we were thinking...

Kim: ... then we thought about the characters...

Olga connects to the other students qua audience in her utterance "as they say". Then Henry moves to their earlier joint production process, the making of the film. In responding to the audience they use the proceeding, collective design process. They connect to what they were thinking when they produced

the film. Their choices come to the foreground and are used as resources in a process of transformation, shaping a new text. When the participants meet in phases of presentation, like the reception, they meet as both producers and readers of a text. One moment you are a producer facing the interpretations from the audience. The next moment you act as an audience yourself. In this a way of understanding the relations between intentions and results are shaped (Buckingham, 2003). Seeing yourself and your results with the eyes of others, assuming an active and responsive attitude, and finally having the opportunity to meet the perspectives of different voices, are all elements of design on the way to shape meaning.

So far, I have tried to illustrate presentation as a sign making activity where aspects that are placed within the primary transformation unit not only precede the processes taking place in the secondary unit, but also play an active parallel part in presenting activities of the kind that receptions constitute. In the following I will show how participants use parts of the setting, as rooms, furniture and learning resources as papers and pencils during the phase of presentation.

The receptions in the study take place in an auditorium-style lecture-hall where the seats are arranged in terraces. The room has fixed furniture in levels with curved tables and swivel chairs and there is a clear direction towards a center in the lower parts of the room. Reshuffling is not an option. According to Kress et al (2005) the layout of a classroom is an essential aspect of meaning. Rooms like this can be perceived as controlling participants' activity, but can also be used by the participants as resources in a meaning making process as in the following example:

When the student Thea joins the discussion about a film, her bodily position communicates her activity. She moves forward, leaning over the table while talking. When her utterance is finished she leans backwards. The directionality of bodies in relation to the furniture and to other participants is something that can be found throughout my study. Body posture communicates levels of action (cf. Norris, 2004). Leaning forward in this seemingly constrained setting communicates availability and attention. Furthermore this action is combined with a usage of resources brought into the room by the students. Paper and pencil for example. Students take notes during the receptions. Writing can both communicate action and a degree of how much the participants are willing to take part. Like in this excerpt:

Teacher: Maybe you watched the movie Hillbilly yesterday on the TV?

Asta: No. [Asta changes her direction from facing the teacher to looking down at notes.

Teacher: Where we have an example of... (refers to a previous discussion about effects in film making).

[Asta chooses not to answer. When Asta can or will not connect to the utterance

made by the teacher she looks down at her notes, writing. Her action forces the teacher to turn to another student:]

Teacher: Anyone? What do you say? You must fill in here...

Taking notes combined with positioning the body in a closed way communicates that Asta is not available for interaction. It is a way of changing her expression, leaving the focus of attention presented by the teacher. She is now occupied with something else. Doing so, she uses the available resources in a combined way – the room and Asta's position in it, paper and pencil for taking notes and to signal participation. The paper and pencil are re-shaped in different ways, used as apt resources in a sign-making process. In Jewitt (2008b) it is the teachers design and re-design of a room that allows pupils to challenge the authoritative tone that may be perceived in a traditional classroom-layout. In my study the teacher accepts the physical setting as it is and there are strong signals from the auditorium-style room of what is possible to do. Rooms shapes the action, but are also shaped by those who acts. Even in strong physical settings there are affordances. Seemingly modest resources like bodily position on a chair or using a pen and paper are used in the sign-making process in my examples. This connects to Kress & Sidiropoulou (2008) in that the layout of a classroom has both social and didactic consequences. It also can be understood with the concept of learning as agency (Kress, 2010) as the participants choose apt resources both to accept and sometimes reject the framing and the didactic design.

My examples show how the setting and the available learning resources are significant for the participants in designing their way through the phases of presentation. The examples also highlight the presence and the multiplicity in the modes that are used parallel during presentation (Kress et al., 2005; Kress & Sidiropoulou, 2008). Let us return to the concepts "designs for learning" and "designs in learning" (Selander & Kress, 2010). The result reveals a movement between the two because physical setting and learning resources designed for learning does not only serve as conditions for learning but also as parts of design in learning. Transferred to the model of a formal learning sequence the examples highlight how "setting" is essential not only as conditions for the secondary transformation unit but also as active part within the unit. Again, this points to that aspects that are placed in the primary transformation unit, acquire meaning at the same time as aspects contained in the secondary unit. In this way I have tried to illuminate how presenting could be understood as a learning sequence and not as a part of the same.

DISCUSSION

In this article, the question of how the phase of presenting can be understood when exploring the model of a formal learning sequence has been scrutinized. The argument is that a presentation can be understood as a learning sequence in itself. In the following, an extended variant of the model "Learning Design Sequences" will be presented.

As previous research has shown, presentations are important parts of learning, where students present and discuss their understandings of an assignment and how these are externalised in the representations. Additional, a new text is designed at the moment of the reception itself. Reception is a pedagogical form of presentation with systematized parts for description and analysis (Koppfeldt, 2005). However, the findings in this study may be related to most forms of presenting. In the model of a formal learning sequence (Selander, 2008a, b, c; Åkerfeldt, Benyamine, Selander & West, n.d.; Selander & Kress, 2010) presenting includes aspects of discussions and meta-reflection. Koppfeldt (2005) believes that reflection on representations serves as a kind of external support to thinking. Then, what learning processes are initiated when students have to present the results of an assignment? If we understand presentation as a complex web of meaning making involving a multitude of modes while making signs, one way of tracing signs of learning in a formal context could be to examine presentations (cf. Kress, 2010; Selander & Kress, 2010).

Applying a design-theoretic perspective appears as a way to understand how meaning making is shaped in a communicative process like presenting, I argue that presentation is an activity with a setting of its own. My analysis also is based on the assumption that there exists simultaneity in presenting activities, like the kind reception constitutes. This connects to the fundamental idea of multimodality; humans interacting and using different modes, all of which exist simultaneously (cf. Jewitt, 2008a; Kress & van Leuween, 2001; Kress, 2010). My examples have shown how in the physical setting, the films becomes resources in sign-making processes when the students in the phase of presentation re-design the texts. The consequence is that presentation can be regarded as a learning sequence, and not only as a part of a learning sequence. I thereby propose an alternate way in thinking of the existing model in a partly extended way. The model in its original form visualizes some kind of time aspect. In my examples I have discussed simultaneity and parallel processes, I thereby elaborate the model using the different parts on the same time, so to speak thinking in parallel layers instead of parts that succeed one another. Selander's (2008a, b, c) theoretical model of a formal learning process is here discussed and in some aspects reformulated. In this respect, I hope that the article will be useful understanding phases of examination and presentation – such as the reception – as something more than just the concluding part of a learning process. Presenting do not only end formal sequences of learning, but constitutes important learning processes in their own right, and thereby constitutes a part of a larger unbounded flow of learning, that is not finalised.

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