'You're meant to read the writing?'

Young pupils negotiating meaning from digitally mediated multimodal texts

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The socio-technological changes in the communication and representation of meaning provide opportunities for more hybrid, intertextual, and creative texts, which go beyond traditional modes, conventions, and genres. In this ever more media-saturated construction of texts, digital literacies and multimodality play an important part in our print-based past (Palmeri 2012). Although as Jason Palmeri (2012) rightly points out, 'Composition Has Always Already Been Multimodal' (21) and 'All Media Were Once New' (85), pupils and teachers are nowadays expected to encounter and handle curricular content of a multimodal and interactive character, such as moving images, film, animations, slide shows, sound recordings, and digital games. Pupils learn to 'read' images and other modes of communication as well as print, and to 'write' non-print texts (Pennington 2014; Kress & Van Leeuwen 2006). The incremental integration of digital technologies in schools expands classroom's print-based practices with digital mediation, which enables the organising of ideas and meaning-processing using a broad range and combinations of modes and media (Kress 2003). This access to multiple semiotic systems in the representation of meaning requires the development

of literacy strategies to design and understand texts based on the communicative potential of semiotic content and affordances in the technology used (Jewitt & Kress 2003; Cope & Kalantzis 2000). This also entails identifying pedagogies and educational tools to support an informed, explicit teaching of multimodal design of digital texts (New London Group 1996; Merchant 2008; Walsh 2008; Bezemer & Kress 2016; Kalantzis et al. 2016).

This essay addresses didactics from an empirical perspective, exploring the significance of digital mediation and multimodal text design for pupils' understanding of specific content, and with it the role that teacher's scaffolding may have in such a modified learning environment with access to digital technologies. In particular, the study described here observes how 8-year-old pupils make meaning from an instructional text composed by peers on computers, about making a bunny out of gloves. Designed as a classroom study, the goal was to analyse what in the text design draws the pupils' attention, how they collaborate and negotiate the meaning and what literacy strategies they apply when interacting with and making meaning from the screen-based text: what are the pupils' modal preferences, how does the text design influence their reading, what modal and digital strategies do they apply, and what is the role of the teacher's scaffolding for their understanding. The study's didactical value lies in the understanding of the socio-technological changes in early literacy learning and instruction in the young pupils' and their teacher's technology-mediated constructs of the world explored.

Digital design of texts and teaching

Today it is problematic to argue that speech and writing are the primary representations of knowledge. Increased digitalisation, with more texts and more multimodal texts where you can easily combine images, audio, and writing in the same format, requires readers to be able to make meaning of and understand this diversity of expression. Meanings are shaped in new formats, which means that it is necessary to be alert to the hybridization and intertextuality of texts (New London Group 1996, 81–2), with its blending of

traditional texts and genres into multimodal products, as a way to connect to youth culture (Ware & Warschauer 2005).

Here I give an overview of what the previous research demonstrates in regard to pupils' multimodal reading and composition, as well as the research findings from classroom studies of teaching and instruction.

Pupils' multimodal meaning-making on-screen

Previous studies indicate that children aged 3–4 already demonstrate an understanding of multimodal text composition. For instance, in a study by Marsh (2006), 3– and 4-year-old children created animated films, and in a study by Merchant (2005), children experimented with font colour and content in text design. Shanahan (2013) demonstrates that pupils have a tacit knowledge in being able to combine semiotic signs into multimodal compositions. According to Warschauer, many pupils develop 'sophisticated artistic and compositional skills' (2008, 62) with which to explore multimodal genres such as movie trailers, poster advertisements and digital stories. This digital designing of texts is understood as being a more individualised, 'just-in-time' learning, where pupils interpret meaning across domains (Kress 2003; Warschauer 2008; Iedema 2003). Some scholars claim that digital composition enhances pupils' perception and conceptual understanding (for example, Schiller & Tillett 2004; Tomlinson 2013). Pupils are certainly able to combine visual and linguistic modes in creative ways (Mills 2011; Walsh 2008), beyond what is taught in the classroom (Shanahan 2013; Björkvall & Engblom 2010). The fact that pupils are motivated to combine semiotic resources digitally, however, does not imply that they are equipped with or naturally develop strategies for conveying meaning on-screen. On the contrary, Shanahan (2013) indicates in her study that pupils lack the meta-textual knowledge and strategies to design texts, and use the separate modes more strategically and in a way that is based on the communicative potential of semiotic content. Gilje (2010) also has examples of film-making practices where pupils were unable to transform meaning across modes. Digital, multimodal composition

on-screen is more about 'discovering the possibilities and limitations of sign-making systems' and the 'search for commonalities across different modes', and requires the development of generative thinking and problem-solving strategies (Mills 2011, 64).

The presence of multiple semiotic systems in the representation of meaning requires readers not only to decode verbal language, but also to apply the strategies that mean they can understand for example, visual images, animations, music, and the combination of those modes (Serafini 2012; Hull & Nelson 2005). Such literacy practices require a broader awareness of the potential of digital mediation in the construction of meaning (Kress & Van Leeuwen 2006; Cope & Kalantzis 2000), as well as reading strategies to navigate and interpret multimodal designs (Serafini 2012). Multimodality as an aspect of literacy, and the role it plays in classroom practice expands what it means to be literate (Walsh 2008). In research, the semiotic perspective on reading is explored in the visual and verbal dimensions of picture books (Sipe 1998) and the interpretative practices of children and young people (for example, Arizpe & Styles 2003; Jimenez & Meyer 2016). Moving beyond the standard reading strategies for print texts, Serafini (2012) expands the role of the reader of multimodal texts to that of 'reader–viewer', who engages in social practices to perceive and navigate the multimodal designs and simultaneously interpret and design the text being read.[1] Digital reading also involves the auditory and tactile dimensions of multimodal texts, and increases the degree of interactivity and participation on the reader's part (Al-Yaqout & Nikolajeva 2015).

Multimodal meaning-making and instruction

In school, pupils need to develop strategies for communicating meaning based on the affordances offered by the various modes of the various media (Hull & Nelson 2005). Through the interpretation of content, and the transfer of content into other contexts and formats, the pupils can make use of different semiotic resources as tools for thinking, learning to be critical of the use of different forms of semiotic representation (Mills 2011; Sofkova Hashemi

2014). Previous research on the composition of multimodal digital texts in the context of early literacy education suggests a need for a common discourse to address meta-awareness of the potential of digital mediation, here in meaning-making practices in school in regard to the teachers' content knowledge and assessment (for example, Bearne 2009; Unsworth 2006).

The incorporation of digital, multimodal meaning-making into classroom practice requires the development of communicative competences, and an awareness of the role that different technology and semiotic representations play in conveying meaning. Multimodality as the interrelation of two or more modes requires an understanding of the contribution which images, words, spatial layout, and other semiotic resources make to the construction of meaning (Jewitt & Kress 2003). Previous research indicates not only a lack of meta-textual and digital awareness in the classroom, but also strategies with which to design texts based on the communicative potential of semiotic content and affordances in the technology used (for example, Unsworth 2006; Towndrow, Nelson & Yusuf 2013; Sofkova Hashemi 2014; Godhe & Lindström 2014; Lyngfelt et al. 2017). Although teachers and pupils use digital media in the classroom to represent meaning multi-modally on-screen (by combining signs such as images, sound effects, music, and animations), teaching and assessment practice usually focuses on the written or spoken message, disregarding the other modal resources (Godhe & Lindström 2014; Öman & Sofkova Hashemi 2015; Cederlund & Sofkova Hashemi 2018). The traditions of teaching and subject cultures have been shown to influence the ways and extent to which digital technology and media are embedded in classroom practice (for example, Karaseva et al. 2013). In the social science subjects—history, religion, geography, civics—films and images are often used during instruction to complement reading and support the pupils visually. Written texts and printed books have a prominent place in Swedish as a school subject (Erixon 2010). Merchant (2008, 757) describes such classroom practices as *separating* literacy from 'technologies of literacy' instead of making it part of the subject (see also Sofkova Hashemi & Cederlund 2017).

Data, theory and methodology

In addition to the context, theoretical perspective, and the design of the present study, I will consider here the analytical instruments I used to explore where the pupils direct their semiotic attention when making meaning from multimodal digital texts.

Empirical setting and study design

The multimodal digital text that the pupils in this study make meaning of was composed by their peers in the context of a collaborative cross-class assignment. The assignment was conducted within the frame of a longitudinal project, 'Digital Arenas in Literacy Practices in Early Primary School' (DILS), which involved 82 pupils and 4 teachers at three state schools in Sweden with existing one-to-one investment in technology, where each pupil was equipped with a laptop or tablet computer.[2]

The teachers in the project collaborated on planning this cross-class assignment during one of a series of workshops in the DILS project, together with the researchers. Grounded in the overarching, long-term goal to engage the 8-year-old pupils in digital encounters in order to promote literacy development, the teachers decided to work on instructional texts, a text genre that is part of the syllabus for the subject of Swedish. The task was to become acquainted with instructional texts and both compose and interpret instructions in order to develop an understanding of this particular text genre. The teachers planned for both local work in their classes and cross-class tasks in collaboration with peers from the other schools. They arrived at a three-stage plan of work, which combined real instructions in diverse formats and the design of pupils' own instructional text, an exchange of texts with peers in the collaborating class and the interpretation of instructions, and finally a redesign of the instructional text in accordance with their peers' response. There were thus three stages to the assignment of the Design–Interpretation–Redesign of instructional texts (Fig. 5.1).

After a period of local work in class on the characteristic features

1. Design – local work in classes:
- Start with the pupils explaining and instructing
- Meet instructional text in different modes (writing, film, images)
- Discuss what is expressed best and in which mode
- Create instructional text to share whith cross-class peers

2. Interpretation – cross-class exchange:
- Follow the instructions from cross-class peers
- Give response in writing "Two stars & a wish"

3. Redesign – local work in class:
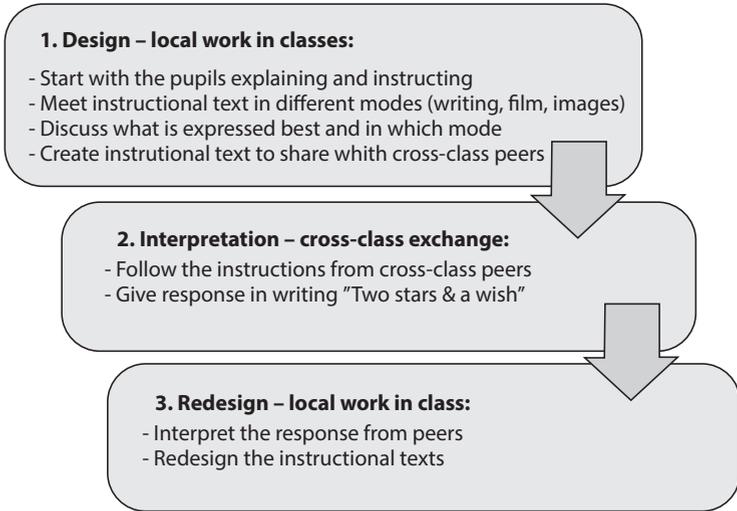- Interpret the response from peers
- Redesign the instructional texts

Figure 5.1. The stages to the assignment on instructional texts.

and formats of instructional texts (Stage 1)—cooking spaghetti, baking cakes, peeling apples, playing games, and other work that comes with instructions—the pupils created their own instructional texts in pairs on computers to share with peers in the collaborating class. They composed instructional texts for baking cakes and making sweets, making paper boats and paper-folding projects, making hand puppets from gloves, performing the 'Cup Song' (an a cappella song where the singers use plastic beakers as percussion),[3] and soccer rules and indoor or outdoor games. When it came to the distribution of design choices by twelve pairs of pupils who were creating these texts (Table 5.1), the compositions varied from written texts that used drawings or digital images to give the writing greater information value (four pairs), that combined writing with video (six pairs), or that used video alone (two pairs).[4]

In order to explore the pupils' semiotic focus as they followed the instructional text composed by their peers, the analytical objective in this study is the interpretation phase in the cross-class exchange of instructional texts (Stage 2). One pair of the pupils (here anonymised as Nelly and Erik) follow and interpret an instructional text on making a glove bunny, which was of the kind with both written

Choice of design	No. of texts	Instructional text
Written instructions with images	4	• recipe for chocolate sweets • recipe for sponge cake • recipe for chocolate muffins • rules for outdoor game "King"
Filmed instructions	2	• folding a paper bunny • performing the Cup Song
Written and filmed instructions	6	• making a glove bunny • folding a paper boat • making a hair bow • recipe for fruit with coconut • rules for blinking game • rules for football

Table 5.1. Overview of types of instructions and designs used for composing the texts.

and filmed parts (see Table 5.1). I also discuss their work on peer response in regard to semiotic attention when the pupils apply the 'two stars and a wish' method, a peer-response strategy for formative assessment that involves pupils in a reflective, active practice (Black & William 1998, 2012), giving constructive feedback limited to two positive points about their peer's successful achievement, followed by a comment about development and improvement (Webb & Jones 2009). Although peer feedback may not achieve the same quality as teacher feedback, pupils are quite capable of identifying strengths and weaknesses, and give concrete ideas on how to improve one another's work. This assessment technique is also considered to be self-assessing, because it ensures pupils' participation in the assessment of their own learning (Gardner 2012).

Methods

In regard to classroom research, the focus of this study is the pupils' specific practices when making meaning of multimodal digital texts, which situates literacy in the context of social practices in the classroom. Applying this practice-based ethnography, the data was collected in accordance with Heath and Street's (2008) ways of relating educational issues to ethnography in education. The

cross-class work was followed in each of the three classes on two separate occasions, with pupils making meaning from the instructional texts created by their peers and preparing and sharing their response to the text, applying the 'two stars and a wish' method. Data were gathered through ethnographic techniques examining the specific practices at macro– and micro-levels (Walford 2008). One stationary camera was placed to capture the whole-class activities at macro-level, and two to three researchers took field notes and photographs and made close-up video-recordings of the pupils' work in pairs. Semi-structured follow-up interviews were conducted with the teachers and pupils, and the pupils' work—the text compositions and peer responses—were collected (Kawulich 2005).

Analytical instruments

The study is informed by the theoretical perspectives of social semiotics (Bezemer & Kress 2016; Kress & Van Leeuwen 2006), where meaning-making is understood as a material, social, and textual practice. Moving beyond the linguistics and linearity of texts towards the communication of meaning in multiple modes requiring multiple aspects of literacy, or multiliteracies (New London Group 1996), the emphasis in this framework is placed on the design, production and presentation of a broad range of semiotic resources (or elements of design): linguistic, visual, spatial, gestural, and auditory (Cope & Kalantzis 2000). This is a revised view of the construction of meaning, understood as a transformation of available resources (available designs) into a new design by means of recreation and reproduction (redesign). In this, pupils are regarded as sign-makers who use signs (or modes), which are elements in which meaning and form are brought together in a relationship motivated by the interest and the intentions of the sign-maker (Bezemer & Kress 2008). The process of meaning-making is always subject to the situated practice and the availability of semiotic resources, meaning the observable actions and objects used for communication. In other words, it is a question of how different semiotic resources contribute to the construction of meaning in the context in which the pupils are

situated. The selected semiotic resources are then set in relation to the communicative means available to the pupils.

With the aim of exploring the semiotic focus of 8-year-old pupils when making meaning from and responding to peers' instructional text, I use social semiotic theory and the grammar of visual design to examine the overt purposes and intentions (the semiotic functions) of the instructional text, and what in the meaning of the text captures their attention. Based on functional grammar and Halliday's (1994) three types of linguistic meanings or metafunctions of texts (ideational, interpersonal, and textual), Kress and Van Leeuwen (2006) defined a grammar of the visual design of representational, interactional, and compositional meanings when analysing multimodal texts. When dealing with the representational metafunction, such an analysis reveals which participants and events (people, things, places, ideas) are present and which of them constitute meaning (Van Leeuwen 2005, 76–7). The interactional function concerns communicative interaction between these represented participants and the reader-viewer of the text by visual means such as direction of the gaze, distance, or angle of the camera. An analysis of the compositional meaning thus aims to demonstrate the configuration and layout of selected resources in texts. This can be signalled by the information value (for example, the placement of elements in the centre or margin of pages), salience (size, colour, overlap) or framing (lines, spaces, contrasts) (see also Machin 2007; Bateman 2008).

Results

Nelly and Erik follow instructions from their peers in the collaborating class on how to make a hand puppet that resembles a bunny from a pair of gloves. Focusing on the two pupils' and their meaning-making from this multimodal digital text, the analysis of the overt purpose and intention of the instructional text is first presented, revealing the semiotic functions of the text. This is followed by an analysis of the pupils' semiotic focus during the process of following the instructions and making the glove bunny, revealing what available resources in the design of the text receive their attention.

Purpose and intention of the instructional text

The peers' instructional text on making a glove bunny combines written and filmed versions of the instructions in a digital slideshow presentation. The pupils' peers had utilised the affordances of the digital tool composing a text that combined visual, auditory, and linguistic resources such as personal photographs, animations, colour, music, speech, writing, and film, giving the text a close personal distance to the reader-viewer.[5] They used a photograph in black and white on the front page of the two pupils sitting close to each other, smiling, with two fingers over their heads symbolising the bunny, followed by the title 'Glove bunny', also in black, and the names of the pupils as authors below the picture in pink (Table 5.2. slide 1). Then come the written instructions on the next slide, which begin with animated effects of three small black-and-white photographs of the pupils smiling and making funny faces flying in one by one, accompanied by stardust in different colours (Table 5.2. slide 2). The written instructions, in pink and italics, bounce into the centre of the page, covering almost the whole slide. This central placement gives the written text a prominent information value on the page. The pink colour makes a contrast on the white and yellow background. Besides the italics, there are no other dynamics in the text such as variation in the size or typeface or how the writing is structured on the page. It is rather hard to read this text, which runs over the page without any new lines or paragraphs for the steps in the instructions. The written instructions start with a greeting and an explanation of what the instructions are for and what you need to make a glove bunny, followed immediately by what to do in numbered steps. The written instructions pass by quickly in the slideshow, lasting for only three seconds (Table 5.2. slide 2).

The filmed version of the instructions that follows is framed by loud, cheerful music at the start and end of the film (Table 5.2. slides 3 & 5). Calm music then plays in the background during the whole of the filmed instructions. One of the peer pupil demonstrates the making of the glove bunny, sitting down in the classroom in front of the camera with the gloves (Table 5.2. slide 4). The other pupil (not visible in the picture) records the film and gives verbal instructions. The pupils use direct gaze and gestures as well as distance as semiotic
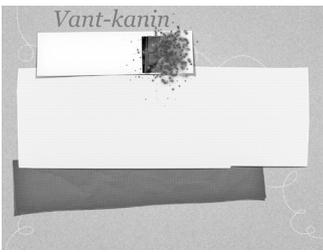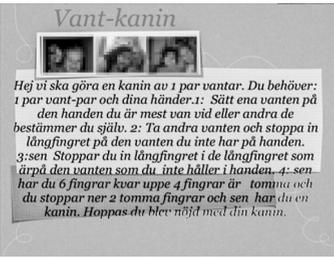
Time	Slide No.	Slide	Content and design
00:00	1		**Background:** light blue **Image:** black-and-white photo of the two pupils with fingers over their heads symbolising a bunny, centred and placed in the upper part of the page. **Writing:** title in black, lower case; their names in pink, written in capitals: glove bunny: BY PUPIL1 AND PUPIL2!!!!!!!!!!
00:01	2		**Background:** light blue; three frames in white or yellow **Writing:** title in green Glove bunny **Transition effects:** three black-and-white photos of the pupils fly in one by one accompanied by stardust in different colours; written text in pink flies in
00:08	2		**Background:** light blue; three frames in white and yellow **Writing:** title in green Glove bunny **Image:** three black-and-white photos of the pupils **Writing:** pink text on white and yellow background: *Hi we will make a bunny from 1 pair of gloves. You need:* *1 pair of glove-pairs and your hands.1: Put one glove on the hand you are most used to or the other hand that you decide yourself.* *2: Take the other glove and push in the middle finger on the glove you do not have on the hand.* *3: then you Push in the middle finger in the middle finger that is on the glove **that you do not hold in the hand**. 4: **then you have 6 fingers left up 4 fingers are empty** and you put down 2 empty fingers and then you have a bunny. Hope you are pleased with your bunny.* **Transition effect:** slide flies away

Table 5.2. Design of the instructional text for making a glove bunny.

00:10	3		**Transition effect:** loud music, picture appears and title flies in **Background:** light blue **Music:** loud volume **Image:** black-and-white photo of the two pupils with fingers over their heads symbolising a bunny, centred and placed in the upper part of the page. **Writing:** title in red on white background, lowercase bunny glove:
00:17	4		**Background:** light blue **Music:** calmer with lower volume **Gestures:** sits and looks at the camera, smiling; shows gloves and hands in front of the camera **Speech:** Hi, we will make a glove bunny. You need one pair of gloves and your hands. First put one glove on the hand you are most used to or the other hand, that you decide yourself. **< Transition effect: black-and-white picture of pupils appears with effects and dissolves>** Take the other glove and push in the middle finger on the glove that you do not have on the hand. **< Transition effect: black-and-white picture of pupils appears with effects and dissolves >** Then you put the middle finger in the other middle finger on the other glove. **Then you fold over the glove that is on the middle finger.** **< Transition effect: black-and-white picture of pupils appears with effects and dissolves>** **And then you pull down there on the glove that is on your hand and make sure that the thumb and forefinger are not visible.** Then you put down two of the fingers that do not have fingers in them. Then you have a bunny. Hope it went well! Bye!
01:56 02:09	5		**Transition effects:** loud music, pictures and names flying in **Background:** light blue **Music:** loud volume **Image:** colour and black-and-white photos of the two pupils, centred and placed in the upper part of the page; two half-clouds in light blue and pink with white text **Writing:** the names of pupils as authors in coloured half-clouds, centred. By Pupil1 By Pupil2

Table 5.2 continued.

resources, by zooming in on the presenting the pupil's hands and the gloves (Table 5.2. slide 4) and visually involving the reader-viewer, giving the text its interactional meaning. The steps of the filmed instructions for making the glove bunny are framed by visual transitions of the slideshow where the pupils again use animated effects and black-and-white photos of themselves. The filmed instructions are almost two minutes long (1:39 min). The instructional text ends with crescendoing music and, again, animations of colour and black-and-white photos flying in, accompanied by the pupils' names below the pictures in coloured clouds (Table 5.2. slide 5).

The written and filmed instructions render the same content to begin with, but gradually differences arise between the texts. Both versions signal the separate steps in the instructions, using numbers in the written version and animated transitions in the filmed version. Some parts of the steps are more developed in the writing and some are more developed in the filmed instructions (see Table 5.2.).

Making a glove bunny

Nelly's and Erik's process of making a glove bunny from the instructional text presented in the previous section is analysed here to explore which of the available resources in the text they focus their attention on and which literacy practices they engage in. The role of the teacher's instructional scaffolding during their meaning-making is discussed. Table 5.3 presents their semiotic focus and the literacy practices they engage in when making the glove bunny; the last row in the table indicates the decisions they make when shifting their attention.

Nelly and Erik spend almost the entire one-hour lesson (57 min) making the glove bunny, shifting between viewing and listening to the filmed part of the instructions and reading the written part. Nelly downloads the instructional text from their peers from the class Dropbox to the tablet computer and the pupils start to watch the slideshow. The written instructions pass by quickly and the pupils watch the filmed version. Silently they watch and listen to what is going on and Erik gets up and brings his black gloves and starts to make the bunny. The sound is weak and at some point Nelly comments: 'We can't hear what they say'. 'No, but we see what they do',

Semiotic Focus	Film (13 min)	Writing (7 min)	Film (2 min)	Writing (13 min)	Film (22 min)
Literacy Practices	Download file Start presentation Watch and listen Adjust volume Rewind Start over Bring gloves Watch and listen E makes bunny	Call teacher Pause screen Read aloud E makes bunny Discuss	Lean to hear Watch and listen Discuss E makes bunny	Read step by step E makes bunny Count fingers	Scroll Compare Start over Watch and listen N and E each work on own bunny N finished N instructs
Shift in Focus	→ Agree they cannot hear or see clearly	→ Continue with film	→ Decide to look at writing	→ Think that they are finished	→ Finished

Table 5.3. Shifts in semiotic focus and literacy practices during meaning making.

encourages Erik and continues working on the bunny. They continue to play the slideshow and realise that they also have difficulties in seeing what is going on in parts of the filmed instructions, since the gloves that the peer pupil is working with in the film are not always visible in the picture. 'You could not see anything', says Erik.

After thirteen minutes of trying to make the glove bunny, they call over the teacher, who almost immediately draws their attention to reading the written instructions that swish by in the slideshow, lasting for only three seconds. Here is the excerpt from the conversation with the teacher after Erik starts the slideshow:

> Excerpt 1: Pupils call for the teacher's attention
> [Erik hits the play button to start the slideshow from the beginning]
> Teacher: Oh! Could you read it? [Exclaiming; referring to the written instructions that pass by quickly]
> Erik: No.
> Nelly: No.
> Teacher: What can you do then?
> Erik: Pause. [Pauses the screen]
> Teacher: Exactly. [Nods in assent]
> Nelly: *You're meant to read the text?* [Surprised; referring to the written instructions.]

> Teacher: Perhaps it's good that you know what it says in any case, or what do you think?
> Nelly: mm.
> Teacher: What if the whole explanation was there?
> [Nelly and Erik both sit down and follow the paused written instructions displayed on the screen. Nelly begins to read aloud. The teacher leans over the pupils and follows the pupils reading.]
> Nelly: Hi we will make a bu– bunny from one pai– pair of gloves … [Reads slowly.]
> Teacher: GOOD! [Loudly and clearly.] Now I'll leave you for a moment to read through it FIRST and then try, that's a tip. [Leaves the pupils.]

As the excerpt from the conversation with the teacher reveals, the pupils engaged in viewing and listening do not initially pay attention to the written instructions in the slideshow, and Nelly explicitly asks if they are even meant to. She then starts to read the instructions aloud. Erik stops her in the middle and they go over what they have understood so far and Erik makes the glove bunny. After seven minutes of reading, they abandon the written instructions and turn to the film again. The poor sound quality of the film is still an issue, so they lean in towards the tablet to hear. They make the glove bunny, but something is still not right, and Erik is frustrated that it is not working: 'Shouldn't you have it on your hand?' he wonders, and Nelly disagrees about his method: 'What about folding it again?' she asks. They decide to read the written instructions again, going through them step by step. After a while (13 min), they seem to have succeeded. However, the bunny does not look like the one made by their peers, and when they count the glove fingers they realise that something is not right. Now they examine the filmed instructions once more. Nelly fetches her own pair of gloves and they both try making the bunny. Fifteen minutes later (50 minutes in total) Nelly succeeds, and shows Erik how to make the bunny. They compare the results and proudly show their glove bunnies to their classmates and the teacher.

Although the instructional text as a whole invites interpretation of written, spoken, visual, and auditory designs, the meanings and

00:00	00:13	00:20	00:22	00:35	00:57
Film	Writing	Film	Writing	Film	

Figure 5.2. Distribution of semiotic focus over modes and time.

semiotic functions represented in the text and the pupils' focus on the speech and visual resources causes them primarily to view and listen, and to spend less time on making meaning from the written instructions. From their shifts of semiotic focus one sees the distribution by modality and time (Fig. 5.2). The visual and oral designs of the filmed part of the instructional text are central in the pupils' reading–viewing, who spend a total of more than half the time (37 min) on the filmed instructions and one-third (20 min) on the written instructions. The poor voice quality and not being able to see the activity of the peers in the video means that the pupils also engage in digital practices such as adjusting the volume, rewinding and scrolling the film, and shifting their attention to the written message. Furthermore, the conversation between the pupils signals their preference for keeping their attention on the film and that they can see what is going on even though the sound is poor. Here they signal their awareness of using several modes when making meaning from the filmed instructions—viewing and listening (Walsh 2008).

The pupils shift their semiotic focus between the modalities when they are faced with critical choices. Overall they engage more in making meaning from the oral and visual elements due to the text design that (unintentionally) gives writing a less prominent role. However, both the written and filmed instructions contributed to their understanding, and it is not until they avail themselves of all the semiotic resources of the text (written, visual, and spoken) that they finally succeed in following the instructions and making the glove bunny.

Semiotic focus in peer response

When Nelly and Erik put together their response to the peers, they start by comparing the design of their own instructional text with the peers' text, checking that the names of the peers are there. For the 'stars' they take inspiration from the class work on instructional texts, which is displayed as a list on the whiteboard in the

TWO STARS AND A WISH
to:

that you had a heading.

that you showed what was needed.

that you should have your hands a little further up because we did not really see what you did.

Figure 5.3. Semiotic focus in response to peers.

classroom—'Title, What you need, "Doing words", Clear order'. They choose to say to their peers that having a title for their instructions was a good thing to do, as was showing what was needed (Fig. 5.3). The use of the word 'show' in their response indicates that their semiotic focus on the filmed instructions and visual resources continued.

Regarding their constructive feedback to the peers (the 'wish'), Nelly first insisted on making their peers aware of the poor visual clarity of the filmed instructions, especially what to do with their hands, as the following excerpt from the conversation between Nelly and Erik shows:

> Excerpt 2: Pupils negotiating about the 'wish' in their peer response
> Nelly: They should have shown that.
> Erik: That you should hold up your hands.
> Nelly: We did not see how you did that.

For the wish element of the peer response, they continue to focus on the visual design and demonstrate their awareness of the compositional, interactional functions of the filmed instructions that affected their comprehension, whereas the design of the written instructions went unmentioned.

Discussion and conclusion

The hybridity of the instructional text in the blend of semiotic resources (writing, speaking, animations, photographs, film, music) designed as a multimodal product, affords the pupils a wide range

of available designs. By focusing on the semiotic meanings of this multimodal digital text, this study reveals not only what semiotic resources capture pupils' attention when making meaning of the text, but also how the semiotic functions of the text influenced their understanding. Observations of the pupils' actions and negotiations further demonstrate the significance of the teacher's scaffolding in the pupils' shifts in semiotic attention.

As novice readers of the written word, the pupils concentrate on viewing and listening to the filmed instructions, and their desire to succeed is revealed in their conversation. Initially, none of the pupils notice, let alone use, the written version of the instructions to make meaning of the text—that is, until the teacher directs their attention towards the writing. Revealing the semiotic functions of the instructional text by means of the grammar of visual design (Kress & Van Leeuwen 2006) demonstrates that the pupils' semiotic focus is motivated by the representational, interactional, and compositional meanings of the text. Although the written instructions have a central information value in the composition of the slide in question, the three-second slot in the slide presentation and the composition as a running text make it less valuable for the pupils to notice. Instead they pay attention to the filmed instructions that are framed by animations and loud music, and which invite them to interact by means of the direct gaze and zooming in on the hands of the peers. In their peer feedback, they also refer to their experience of the visual design, and in a constructive way assess their own learning of the semiotic functions in that particular mode (Gardner 2012).

The pupils make meaning from a mix of genres (written text, film, slideshow), which implies the involvement of literacy strategies used with print-based texts and multimodal literacy strategies. They also engage in screen-based practices to adjust the volume, rewind, pause, and scroll through the digital text. The findings of this study thus clearly demonstrate the socio-technological changes in classroom practice when making meaning from digitally mediated multimodal texts, which often take this hybrid form and thus require an active engagement on the part of the reader if they are to understand the semiotic and digital potential of the text. This entails a knowledge of

the meaning-making systems used in text production, and the ability to process multiple genres and combinations of modes (Kress 2010), as well as digital awareness and knowledge. The pupils' focus on the spoken and visual elements of the instructional text demonstrates the significance not only of a multimodal and digital understanding of texts, but also of the teacher scaffolding promoting shifts in modal focus and the use of digital literacy strategies. For classroom practice, this involves considering both the production and reception of texts, and a detailed understanding of the multimodal design of texts as well as the digital context (for example, Serafini 2012; Bearne 2009). The didactical consequences for early literacy education thus entail the development of multimodal and digital pedagogies to support an understanding of multimodal design of digital texts and the semiotic work that young pupils engage in when 'reading' print, film, music, and images. Informed teaching practice is needed to achieve understanding of text hybridity, how modes combine in multimodal ensembles, and the development of literacy and digital strategies to convey and make meaning of multimodal texts on-screen.

Notes

1 Serafini's reconceptualization (2012) expands the Freebody and Luke (2003) four resources model of the reader as code-breaker, text participant, text user, and text analyst.

2 The author wishes to thank the Marcus and Amalia Wallenberg Foundation for its support and particularly all the teachers and pupils for their participation in the research project 'Digital Arenas in Literacy Practices in Early Primary School' (2012–2015). dilsprojektet.wordpress.com

3 The 'Cup Song' originates from the Carter Family song 'When I'm Gone' from 1931 and became popular after Anna Kendrick covered it for the 2012 film Pitch Perfect.

4 The twelve texts were selected for observation based on the involvement of the pupils that were the focus of the DILS project, who were selected in joint consultation with their teachers.

5 Distance concerns the apparent social distance to the reader-viewer and relates to image cropping, whether face or head (intimate), at the waist (personal), full-length (social), or with several people (public) (Kress & Van Leeuwen 1996, 129–31).

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