



“Can you take a wild guess?” Using images and expanding knowledge through interaction in the teaching and learning of history



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ARTICLE INFO

Article history:

Received 9 April 2021

Revised 24 June 2021

Accepted 30 June 2021

Keywords:

Classroom discourse

Disciplinary literacy

History teaching

Legitimation code theory

Linguistically diverse classrooms

Systemic-functional linguistics

ABSTRACT

This article contributes knowledge about disciplinary literacy practices in school history, with a particular focus on how key subject-related concepts are visually and orally represented and negotiated in teacher-student interaction. Based on a classroom study of history teaching in a linguistically diverse classroom in Grade 6, we use social-semiotic theories to analyze properties of the images themselves and how they are employed as resources in oral interaction, with particular focus on students' potential involvement in discursive shifts between everyday and disciplinary wordings. The results show that decontextualized, generic images, particularly those of abstract concepts, can obstruct students' participation in subject-related discourse. Students' discursive mobility can also be limited by interaction-driven guessing games about key subject-related concepts and misleading use of everyday language. The results also show how L2 students' creative use of linguistic resources, connections to learners' prior knowledge, and reiteration of subject-related concepts can constitute valuable parts of discursive shifts. Implications for using images and oral interaction in ways that support disciplinary learning in history are discussed.

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1. Introduction

The study responds to the need of insight into teachers' use of images and oral interaction to support disciplinary literacy in linguistically diverse history classrooms. Focusing on texts encountered in school history, previous research has shown that history relies on a progression of genres drawing resources of chronology, causality, and rhetoric organization (e.g., Coffin, 1997; Fang, 2012; Martin & Rose, 2008). Studies in disciplinary literacy also point to the importance of teaching the students to critically examine and form written arguments based on authentic sources (Howard & Guidry, 2017; Monte-Sano, De La Paz & Felton, 2014; Shanahan & Shanahan, 2008). Moreover, studies of history teaching have highlighted features such as information flow, abstraction, and condensation in written texts (e.g., Macnaught, Maton, Martin & Matruglio, 2013; Martin, 2013). Overall, there is an emphasis on teachers promoting students' learning and communicating knowledge through writing (see Applebee & Langer, 2013; Christensen et al., 2014; Monte-Sano & De La Paz, 2012; Ohrem Bakke, 2019; Staf, 2019). Teachers' use of oral interaction and images to support linguistically diverse primary

school students' understanding of key subject-related concepts, or *power words* (Martin, 2013), in history has not been explored to the same extent. Reporting from a study of history teaching in a Swedish Grade 6 with many second-language (L2) learners (about 40 percent of the students in the class), the present article addresses that topic.

Learning about key terms relating to the content area is often seen as an important first step in building relevant field knowledge. Teaching strategies that have been shown to be effective in classrooms with many L2 learners include teaching and eliciting vocabulary through pictures and exemplifications, building word banks with definitions, using the words in sentences, and drawing pictures representing the words (e.g., Alasgarova, 2018; Brinton, Snow & Wesche, 2003; Hansen & Weisman, 2010; Szpara & Ahmad, 2007). Overall, the use of images is widely considered an important resource for facilitating comprehensible input in the content and language-integrated teaching that is often advocated for L2 classrooms (e.g., Brinton, Snow, & Wesche, 2003; Hajer & Meestringa, 2014; Hammond & Gibbons, 2005; Larsen-Freeman & Anderson, 2011). However, the reception of images depends on many factors, such as their characteristics, the context in which they are used, and the students' ability to draw on socially shared knowledge (e.g., Barthes, 1998). Our view is that images should not merely be considered as “supporting material,” but as part of a social-semiotic instructional discourse (see Bernstein, 2000;

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Martin, 2009; Nygård Larsson, 2011). Like written texts, images can convey meaning in ways that are, to varying degrees, suited to the subject content negotiated and the experiences of the students. Images can also facilitate connections to personal experience and knowledge acquired outside school, which is highly relevant in relation to the screen culture children are growing up in and the orientation to visual, rather than written modes of communication (e.g., Gee, 2011; Kress, 2003; Ståhl et al., 2018). Making connections to outside school experiences and informal learning also aligns with ideals for scaffolding L2 learners by connecting to their lives and activating their background knowledge (e.g., Cummins, 2016; García, 2017). Moreover, concrete examples on the use or properties of images usually draw on science teaching (e.g., Martin & Rose, 2008; Unsworth & Cléirigh, 2014). An important aim of the present study is to contribute knowledge about the properties and use of images in the context of history teaching.

In this study, we will also take an interest in how the participant teacher involved the students in classroom dialogue. While the importance of oral interaction for promoting L2 learners' development of content knowledge and language is widely acknowledged, there are different perspectives on how the classroom discourse should be organized. As Rose and Martin (2012) discussed, text-driven orientations like the genre-based pedagogy and *Reading to Learn* approaches advocated by the authors emphasize the careful structuring of classroom discourse to scaffold students' understanding of written texts. This can be contrasted with interaction-driven approaches that advocate students' opportunities to contribute to classroom discourse (see Dysthe, 1993; Mercer & Littleton, 2007; Nystrand & Gamoran, 1991). In Sweden, besides genre pedagogy approaches, a widespread ideal is "the multivoiced classroom" (Dysthe, 1996; Liberg, 2003), according to which it is desirable for the teacher to avoid strongly framed interactional structures, such as the iconic triadic pattern of initiation, exchange, and follow-up (IRF), and instead ask students open questions. However, a classroom study in Swedish primary education focusing partly on explanations of words from a text (Walldén, 2019b, 2020b) showed that open-ended exchanges, in which the teacher was interested in what the students thought different words meant, often led to L2 students being engaged in a guessing game, which was unproductive to meaningful participation and understanding of the text.

From the perspective of Systemic-Functional Linguistics (SFL) and Legitimation Code Theory (LCT), classroom discourse has been discussed in terms of *semantic waves*, or as an interactional strategy of bridging everyday and disciplinary discourses. Focusing on teaching in Year 11 biology and history, the DISKS project in Sydney, Australia, frequently found *downward semantic shifts*, meaning that teachers often unpacked technical and abstract discourse, using examples and resources of everyday language, but rarely demonstrated how everyday expressions could be repacked into disciplinary language by *upward semantic shifts* (e.g., Maton, 2013). A study of Swedish Grade 6 students focusing on geography showed a similar result: the teacher unpacked abstract concepts such as *population* without rephrasing them in similar abstract terms (Walldén, 2019a). Studies on the negotiation of knowledge in science show how the use of everyday wordings can figure as a resource in knowledge building (Nygård Larsson, 2018), but can also be misleading (Danielsson, Löfgren, & Pettersson, 2018; Nygård Larsson & Jakobsson, 2017). While previous research has highlighted how discourse-bridging interaction is shaped by the affordances of the texts used in the teaching of social studies (e.g., Walldén, 2020a), less attention has been given to how images are employed in the instruction.

Therefore, the aim of this article is to contribute knowledge about how images and oral interaction are used to negotiate knowledge about subject-related words in the teaching of sixth-

grade history. In particular, we will answer the following questions:

- How can the images in history teaching be understood from a social semiotic perspective?
- How are the images employed in the interaction in relation to the subject-related words they portray?
- How are resources of everyday and subject-related language used in the interactional exchanges?

2. Theoretical framework

In the present study, we use a social semiotic perspective informed by SFL and LCT to explore how content knowledge in history is negotiated in oral classroom discourse based on images and subject-related words. First, we will describe how the negotiation of content knowledge can be understood in terms of bridging everyday and disciplinary discourses through discursive movements. Secondly, we will discuss how properties of images, including their affordances for mediating content knowledge, can be understood using social-semiotic analysis.

2.1. Bridging discourses in the teaching and learning of history

The central concern for the present study is the opportunities for learners to engage with the subject of history through resources of language. Studies based on SFL show that the language of history is highly abstract (e.g., Martin, 1990/1993; Fitzgerald, 2019; Unsworth, 1999). An important linguistic resource is *grammatical metaphor* describing *incongruent* linguistic realization of meaning. For example, a process (such as *resist*) can be represented as a thing (*resistance*), which can be further described and classified (for example, *significant internal resistance*) (see Walldén, 2019a). Apart from such nominalizations, the concept of grammatical metaphor also covers processes transformed into qualities (such as *resistant*) and logical relations expressed not through conjunctions (such as *because*) but processes (such as *lead to*) or preposition (such as *due to*). Previous studies have shown that teachers often unpack abstract language, such as grammatical metaphors, but rarely repack in incongruent forms (Macnaught et al., 2013; Martin, 2013; Walldén, 2019a). This can be seen as limiting the students' possibilities to achieve a greater degree of *discursive mobility*; that is, the ability to move between and within everyday and disciplinary ways of using language (see Nygård Larsson, 2011, 2018). From a multilingual perspective, studies have also shown that if teachers encourage students' use of both first and second languages in classroom interaction, it increases the students' ability to move between everyday and academic discourse (Karlsson et al., 2020). In addition, a study of second-language teaching by Walldén and Nygård Larsson (2021) has shown that discursive shifts occurred when the oral interaction was based closely on challenging text material.

In the language of history, students will also encounter words that must be understood in semantic relation to other words. For example, to understand what an *archbishop* is, it is necessary to know how the concept relates hierarchically to, for example, *bishop*. Such semantic relationships can be seen as an element of technicality (see Lemke, 1990; Martin, 1990/1993, 2013).

2.2. Social-semiotic analysis of images

Influential elaborations on SFL theory by O'Toole (1994/2011) and Kress and Van Leeuwen (1996/2006) have shown how images, as well as texts, draw on ideational, interpersonal, and textual meaning. While it is contestable to analyze images in terms of

Table 1
Social-semiotic constructs for analyzing images.

Construct	Theories drawn on
Focus on activity or entity Degree of abstraction: <i>iconic</i> , <i>indexical</i> , or <i>symbolic</i> Degree of contextualization and stylization Meeting the observer's gaze	Representational meaning (Martin & Rose, 2008; see also O'Toole, 1994/2011) Modality (Kress & Van Leeuwen, 1996/2006), modal meaning (O'Toole, 1994/2011) Interaction (Kress & Van Leeuwen, 1996/2006)

constructs developed in SFG (Systemic-Functional Grammar) theory (e.g., Ledin & Machin, 2018), we believe the frameworks provide valuable tools for probing the use of images in content instruction. Therefore, in analyzing the images used by the teacher, we will draw selectively on these theories, with additional inspiration from how they are operationalized in relation to teaching material by Martin and Rose (2008). Relevant analytical concepts are outlined in Table 1 along with their theoretical connections, and are further elaborated on below.¹

The (phenomenon) focus (Martin & Rose, 2008, pp. 168–169) denotes whether the image depicts an *entity* or an *activity*, while the degree of *abstraction* concerns whether the image represents something realistically (*iconic*), more abstractedly focusing on relevant features (*indexical*) or entirely abstract, such as a diagram (*symbolic*). The degree of abstraction relates closely to the degree of *contextualization*, which according to Kress and Van Leeuwen (1996/2006, p. 161) runs on a scale for a fully realized, detailed background to the absence of background. Kress and Van Leeuwen (1996/2006) discuss both contextualization and the level of detail in the image (cf. degree of abstraction) in terms of modality. Another closely related parameter is the degree of *stylization*, which according to O'Toole (1994/2011, p. 217) regards whether something is represented naturalistically or is imbued with “a life of its own”. Finally, the *gaze* denotes how the viewer is addressed, or not addressed, by the image: participants looking at the viewer establish (imaginary) contact (Kress & Van Leeuwen, 1996/2006; O'Toole, 1994/2011). On the other hand, when participants do not meet the viewers' eyes, this construes a distant relationship. In other words, this regards how the image interacts with the viewer.

Images in textbook material have often been analyzed according to a scientific coding orientation (see Kress & Van Leeuwen 1996/2006, p. 165; Martin & Rose, 2008), which is not fully applicable to history. While the effectiveness of a technical image is based on the specific scientific information it provides, images depicting historical figures and events must reasonably convey a sense of the historical period portrayed in order to be believable; this could be achieved by employing a style or contextualization that invokes the relevant era. Both naturalistic representations and very abstract ones could be less believable, construing a low modality (see Kress & Van Leeuwen, 1996/2006). These questions of representational and modal meanings are relevant for the study, since we are concerned with how the use of images is aligned with content learning goals.

3. Method and material

The material was collected during an ethnographic study of history teaching in Grade 6 (students aged 12–13). The first author followed one teacher and her two groups of students (40 in total) for 10 weeks. The focus of the instruction was on the Vasa era (Vasatiden) in Swedish history (1521–1611), during which Gustav I of Sweden, popularly known as Gustav Vasa, led Sweden's se-

cession from the Kalmar Union, broke with the Papacy, and, more generally, laid the foundation for the modern Swedish state.

The analysis is mainly based on transcripts of audio recordings of classroom interaction (148 pages) and photos of images used in the instruction. The analyzed excerpts are mainly taken from when the teacher introduced subject-related words from the text material given to the students. This activity, which occurred on a weekly basis, preceded the students' independent reading of the texts. One of the extracts is taken from a peer group talk, in which one of the subject-related words were focused on for the first time.

The participant teacher has a degree for teaching Swedish and social studies and had worked at the school for seven years. She described her experience in teaching history as limited. The school was chosen for this study partly because it profiles itself as working in structured ways with texts and text talks across the curriculum. The participant teacher, as well as other teachers in the school, emphasized the school's location in a socially disadvantaged area and the need to support the students' functional use of language in different contexts. According to the teacher, approximately 40 percent of the students were classified as L2 learners. For ethical reasons, no information about individual students' linguistic backgrounds was collected. In the interaction analyzed in this article, both L1 and L2 students participate, reflecting the linguistically diverse classrooms commonly found in the country.

3.1. Analysis

The transcripts were read through multiple times by both researchers, considering our aim to contribute knowledge about the negotiation of knowledge in the teaching of history. We found that a large part of the whole-class interaction concerned subject-related words singled out from the text material and represented by images. Therefore, it became relevant to explore how these images figured as mediating resources and as a basis for oral exchanges. In the analysis, we focused on how the terms were introduced and how the interaction based on the terms and images unfolded. In choosing relevant excerpts for closer analysis, we were interested in (1) how images were employed in teacher and student interaction, (2) exchanges in which discursive movements between everyday and more abstract wordings were evident, and (3) exchanges in which there seemed to be tensions between everyday and disciplinary perspectives. Previous studies based on the same material have instead highlighted interaction based on the text material given to the students (Walldén, 2020a) and different stances promoted by the teacher to the content taught (Walldén, 2020c). The interaction based on subject-related words formed a distinct activity focused on in the present study.

The analyzed exchanges are based on the subject-related words displayed in Table 2.² The table shows the English translations of these words and non-technical descriptions of the images (see also Fig. 2 for illustration of the images). The descriptive words “undetailed” and “detailed” refers to Kress and Van Leeuwen's (1996/2006, p. 161) artwork modality scale “from maximum to minimum detail”.

¹ It should be noted that O'Toole (1994/2011), influencing Martin and Rose (2008), relates the level of naturalistic detail to the representational (ideational) metafunction, while Kress and Van Leeuwen (1996/2011), using the term modality, view it in light of the modal (interpersonal) metafunction.

² As made evident by Fig. 2, images representing additional subject-related words than those in Table 2 were shown to the students. However, several of these were not used in the interactional exchanges.

Table 2
Subject-related words focused on in the analyzed interaction.

Term (in Swedish)	English translation	Description of portraying image
<i>kyrkklocka</i>	church bell	An undetailed illustration of a bell depicted on a white background
<i>ärkebiskop</i>	archbishop	An undetailed illustration of a figure on a white background with a featureless, (white) skin-colored face wearing a red vestment with a white collar, a curved staff and a white cap with a cross
<i>påve</i>	pope	An undetailed illustration of a figure on a white background with a featureless, (white) skin-colored face wearing a red vestment with a white collar, a curved staff and a cream-colored cap with a vertical line + an undetailed illustration of a dome in the top right corner
<i>arvrike</i>	hereditary monarchy	A montage of two illustrations on a white background: a dark green blotch framed by a black line with an undetailed illustration of a royal crown on top
<i>invadera</i>	invade	An undetailed illustration, appearing framed on the laminated card, of helmet-clad stick figures disembarking from gray ships on a shore, carrying rifles; black lines create boundaries between differently colored but otherwise featureless parts of the background: blue (sea), orange (sand), and a light-blue (sky).
<i>uppror</i>	revolt	An undetailed illustration with two stick figures on a white background carrying long, thin objects and facing a third, helmet-clad figure holding up an oval, blue object
<i>självständig</i>	independent	An undetailed illustration with three stick figures on a white background: one to the left with elbows pointing out and two on the right side, standing in a neutral pose and crossed by a red, diagonal line
<i>kätter</i>	heresy	A detailed illustration of a man in priest garments brandishing a staff while being tugged by a demonic figure in front of an altar

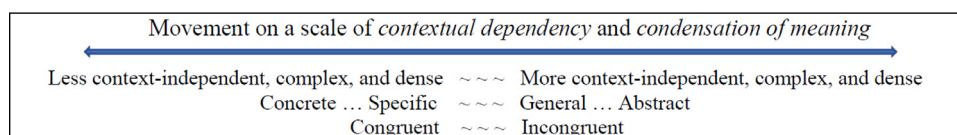


Fig. 1. The model from Nygård Larsson (2018), used for analyses of classroom interaction in this study.

The terms were written underneath the images used by the teacher. As Table 2 indicates, our understanding of what constitute subject-related words is broad, on a continuum from subject-specific concepts (*hereditary monarchy*) to more everyday concrete words relating to the knowledge field (such as *church bell*). In the findings section, features of the subject-related words and images will be analyzed through the theoretical lenses previously discussed. In the presentation of the findings (Section 4.1), we will relate the characteristics of the images described above to how the image function in the oral exchanges.

3.1.1. Discursive mobility and semantic waves

We will mainly devote the analysis to oral exchanges between the teacher and the students that occurred when the subject-related words were introduced. To analyze how resources of everyday and subject-related language were used in the exchanges, we have turned to the concepts of *discursive mobility* (Nygård Larsson, 2011, 2018) and *semantic waves* (e.g., Maton, 2013). This means that we consider movements between everyday and more abstract, subject-related meaning as conducive to bridging everyday and disciplinary knowledge domains (Macken-Horarik, 1996) and developing disciplinary literacies (see Shanahan & Shanahan, 2008). These discursive movements will be described through our use of SFL and LCT-based concepts (see previous section). Our particular focus will be on how the subject-related words were unpacked and, potentially, repacked in the discourse (see Macnaught et al., 2013; Maton, 2013) in ways that seemed to contribute to or undermine students' communicating the desired understanding. In Excerpt 8 and 12, the interaction will be analyzed as recurrent movements, or waves, on a scale of *contextual dependency* and *condensation of meaning*, by using an analytical model (Fig. 1, see Nygård Larsson, 2018), in which the classroom interaction is visualized horizontally on a continuous scale with no exact limits

(instead of vertically, see Maton, 2013).³ The aspects that are primarily in focus are the semantic and discursive shifts among concrete, specific, general, and abstract meanings (see also Walldén & Nygård Larsson, 2021). This includes the shifts between congruent ways of expressing meaning (such as verbs) and the incongruent use resulting in grammatical metaphors (such as nominalization) (see Section 2.1).

Since many of the students participating in the study received instruction in their second language, it is relevant to consider how *interim learner language* can function in the negotiation of disciplinary discourse. When using L2 for content learning purposes, it is reasonable to expect that learners need to use various communicative strategies to participate (see Selinker, 1972). One such strategy is linguistic innovations, such as new compounds. An example in the material for the present study is *king priest* (compounded in Swedish as *kungpräst*) as an innovative paraphrase of *archbishop*. In addition, the continual process of learning to use subject-related words within disciplinary literacy practices can be seen as a kind of interlanguage for all students, serving as a meaning-making bridge between everyday and disciplinary discourses (Olander, 2010). This broadened perspective is important to the study, since we focus both on L1 and L2 students' opportunities to engage with subject-related discourse, and as such it closely aligns with students' development of discursive mobility (see Nygård Larsson & Jakobsson, 2017).

The transcribed interaction has been translated from Swedish to English in ways that preserve crucial aspects of the linguistics

³ *Contextual dependency* and *condensation of meaning* correspond to the LCT concepts *semantic gravity* and *semantic density* (see Maton, 2013). In the visualization of semantic waves and discursive mobility, these two dimensions are condensed into one (Maton, 2013; Nygård Larsson, 2018).

tic analysis, such as the occurrences of grammatical metaphors, which are reformulated in different ways in the interaction. Since compounding is more prevalent in Swedish than in English, some subject-related compounds have been given a literal rather than idiomatic translation in the transcripts. One example is the compound *arvrike*, meaning *hereditary monarchy*, which is translated as *inheritance kingdom* (*arv + rike*).

4. Findings

In the first main section (4.1), we focus on how the images can be understood from a social semiotic perspective and how they are employed in the classroom interaction in relation to the subject-related words they portray. In the second main section (4.2), we highlight how resources of everyday and subject-related language are used in this interaction. In both of these sections, the subject-related words presented in Table 2 are the point of departure of the discourse.

4.1. The use of images: a resource or an obstruction?

This section focuses on the images in word explanations about the Vasa era. The majority of the pictures were taken from the online resource Widgit Online. The teacher either projected the images on the whiteboard (via a word processed document) or attached laminated cards to a whiteboard. As the teaching progressed, new images were added, while older ones were transferred to the back of the classroom (Fig. 2).

The images share the characteristics of undetailed illustrations of what is represented. A suitable parallel would be clip-art. Lacking details other than rudimentary defining features, the degree of abstraction is relatively high. Also, since the entities or activities are presented on a white background, the images have a low degree of contextualization, which indicates low naturalistic modality (Kress & Van Leeuwen, 1996/2006) or an indexical rather than naturalistic representation (Martin & Rose, 2008). From an interpersonal perspective, lacking stylization and gaze, they are not intended to engage the recipient. The words that were meant to be represented by the pictures were written below the images, so the verbal text and the images mutually identified each other (see Unsworth & Cléirigh, 2014). The images, including those representing activities (such as *invade*) rather than entities (Martin & Rose, 2008), served to define the words chosen by the teacher rather than to contribute information in their own right. As indicated by the level of abstraction and lack of contextualization, the images convey general word meaning rather than ones connected to a specific content area.

The next two sections describe the images further and show how they were employed in explanations of the depicted words. Thus, the interaction will primarily be understood in relation to these images. In subsequent sections (4.2), qualities in the interaction in relation to promoting an understanding of the subject-related words and the content area will be explored in greater detail.

4.1.1. Representing objects and social roles

Some of the depicted words related to objects or social roles referred to in the studied texts. In other words, they represented something relatively specific that could be portrayed by contextualized and concrete entity-focused images. These subject-related words were *church bell* (*kyrkklocka*), *archbishop* (*ärkebiskop*), and *pope* (*påve*) (see Fig. 2 and Table 2). However, the images retrieved from the online resource were all relatively abstract and decontextualized.

In the image chosen by the teacher, *church bell* is represented by an illustration of a bell depicted on a white background. Due to



Fig. 2. The wall at the back of the classroom.

the lack of contextualization, there is nothing pointing it out as a *church bell*, rather than, for example, a school bell. While church bell is something concrete, *archbishop* and *pope* refer more abstractedly to social roles. The image representing *archbishop* shows a figure with a featureless face wearing a red vestment with a white collar, a curved staff, and a cap with a cross. The lack of facial features denotes a high degree of abstraction. The image representing a *pope* is very similar, except the cap is cream-colored with a vertical line instead of a cross (Fig. 5). Also, there is an illustration of a dome in the background. It seems unlikely that the images of *archbishop* and *pope*, in themselves, convey an understanding of what they represent, since they presume knowledge about what archbishops and popes wear and also the ability to make a connection between the indexically represented features (*miter*, *crozier*, etc.) and what they look like in a more naturalistic modality. Also, to interpret the image of *pope*, the recipient must make a connection between the figure displayed, the illustrated dome in the background, and prior knowledge about St. Peter's Basilica in the Vatican. While the images could point out the meaning of pope and archbishop to students who know about these concepts from previous instruction received in Swedish or other languages, they are not conducive to developing an understanding of the social roles themselves. We now turn to how the words and images were negotiated in classroom interaction when they were presented to the students.

In the first excerpt⁴ (Excerpt 1), the teacher showed the image representing a church bell on a laminated card.

Excerpt 1

T: Now, the final picture. Church bell. Where is the church bell on a church? Vilda?

S: High up in a tower.

T: High up in a tower. Why do you have a tolling church bell on a church?

As *church bell* (in Swedish, the compound *kyrkklocka*) represents something concrete that all the students would likely have had some experience of, the teacher probably did not find it necessary to elaborate on the meaning of the word. However, the interaction highlighted the location and function of the bell. The word occurred in a part of the text material describing a rebellion against Gustav Vasa's appropriation of church bells as a way to fund his war efforts. Therefore, the depicted church bell was also a reminder of an important event during the studied era.

In introducing the more abstract concept *pope*, the teacher made more extensive use of oral language to prepare the students (Excerpt 2). She also commented explicitly on how the concept was represented by the image. In a previous lesson, they had negotiated the meaning of *archbishop*.

Excerpt 2

T: Then we move on to pope. [Shows image on the whiteboard.]

What's a pope? Now, you see this image is the same one as archbishop over there. [Points to the back of the classroom.]

That's a bit dumb. But pope, what's a pope? There are many archbishops, but there is just one pope in the world at a time. Hush. What's a pope, do you think? Ala?

S: I don't know.

In contrast to the exchange about church bell, the teacher explicitly, and in repeated wordings, asked about the meaning of *pope*. With good cause, she was not presuming this to be known or evident. The teacher also made a negative appreciation of the chosen picture ("same one as archbishop ... a bit dumb") and instead, although quite implicitly, pointed to the semantic relation between *pope* and *archbishop* ("There are many archbishops, but there is just one pope ..."). However, this cue was not picked up on by the responding student. This interaction will be analyzed in greater detail in the next main section (4.2). The use of a generic, decontextualized image likely made it more difficult for the students to successfully draw on prior knowledge in comparison to, for instance, showing naturalistic images of the present pope, alongside other religious leaders the students might have knowledge of through media, popular culture, or personal experience. In addition, the decontextualized nature of the image reduced its potential to scaffold an understanding of the specific text material studied.

The objects and social roles presented by the images often pointed to key historical figures or events in the text material handed to the students. For example, church bells were central in a famous uprising against Gustav Vasa, and the break with the Papacy was one of the most significant outcomes of Vasa's reign (e.g., Larsson, 2002). As such, and especially considering image cards' placement at the back of the classroom, they could function as a scaffold for the students' remembering and keeping track of important points as the course progressed. In this capacity, the generic nature of the images was not necessarily a limitation.

4.1.2. Representing abstract concepts

Some of the terms represented by pictures and figuring in explanations, before students' reading of texts about the Vasa



Fig. 3. Image card of "revolt" (uppror).

era, were more abstract in nature. Among these, *invade* (*invadera*), *revolt* (*uppror*), and *independent* (*självständig*) are subject-related words that are sometimes also used in everyday contexts (metaphorically in the cases of *invade* and *revolt*). By contrast, *hereditary monarchy* (*arvrike*), which is a compound of *arv* (*inheritance*) and *rike* (*kingdom*), and *heresy* (*kätteri*) are abstract terms that relate more strongly to specific knowledge fields. Some of these can be categorized as grammatical metaphors, representing processes as things or qualities, such as the processes *to revolt* (*göra uppror*),⁵ *to inherit* (*ärva*), and *to (not) depend* (*stå själv*, literally *to stand alone*). The word *heresy* (*kätteri*) cannot as easily be related to a congruent form, but works on a similar level of abstraction while also being clearly subject-specific.

Similar to the images discussed previously, the ones from the online resource are relatively abstract and decontextualized. However, representing processes often requires more complex images, as is the case in the present context. The word *invade* is represented by helmet-clad stick figures who disembark on a shore, carrying rifles (Fig. 4), while *revolt* is represented by similar figures carrying long, thin objects and facing a third, helmet-clad figure holding up an oval, blue object (representing a shield but looking more like a surfboard) (Fig. 3). The image representing *independent* also relies on stick figures, displaying one to the left with elbows pointing out, and two on the right side, standing in a neutral pose crossed by a diagonal red line (Fig. 2). The meanings these images are meant to represent are not evident and they seem inappropriate for conveying what an invasion and a revolt could look like in the Vasa era. In addition, the attempt to concretize the meaning of *independent* as *standing alone* – a visual unpacking of the grammatical metaphor – is unlikely to convey the concept of a kingdom's self-government.

As in the previous section, we now turn to how the meanings were negotiated in classroom interaction. In Excerpt 3, the teacher projects the image representing *revolt* (*uppror*, Fig. 3).

⁵ The word *uppror* (cf. *uprising* and *uproar*) has arrived in the Swedish lexicon through German. When used as a process, the verb *göra* (*do*) must be added (cf. *make revolt*). The word follows the same structure of compounding as similar grammatical metaphors; for example, *upprörd* (*upset*).

⁴ In the transcripts, "T" denotes "teacher" while "S" represents students. Italics mark clear emphasis.

It is important to note that, in isolation, the Swedish word *ror* means row, as in rowing a boat. Swedish wordings are within brackets.

Excerpt 3

T: But this picture. Revolt. What do you think that means? When you *revolt* [gör uppror] against something. What are you doing then?

S1: Row [ror] is when you're like sailing.

T: Yes. [Students laugh] You row [ror], yes, but that hasn't got anything to do with this. If you *revolt*, what are you doing then? The class revolted because the teacher gave them 50 pieces for homework every week. /.../

S2: Protect.

T: No. You might think that when you see this but it's not.

As in the exchange about the pope, the teacher repeatedly asked about the meaning of the word, while also unpacking the grammatical metaphor by using it as a process ("When you revolt ..."). This marked one of many times when the students were engaged in something resembling a guessing game. S1's answer shows that he or she paid attention to the form of the word (*uppror*) rather than the image. Although "[ror] is when you're like sailing" inadequately represents the meaning of *revolt*, it marked a reasonable attempt to unpack the meaning of the unknown word, relying on knowledge of the concrete and everyday meaning of a part of the word. The answer engendered laughter among the students and was dismissed by the teacher, who repeated the question and created a classroom context for the concept: students being given too much homework. Thus, the teacher drew on the everyday, metaphorical use of the word *revolt* by a downward semantic shift to a concrete and specific classroom context. However, instead of picking up on this cue, S2 offered *protect*, likely due to a stick figure holding an object meant to represent a shield. As the exchange progressed, the students made several other attempts to restate the meaning of the word, an additional example being "attempted murder". To conclude, in this case, the image seemed to obstruct the students' making meaning out of *revolt* rather than to support it.

The image representing *independent* (*självständig*) is similarly challenging. However, the students could express an understanding of it right away (Excerpt 4).

Excerpt 4

T: How are you when you are independent?

S1: You take responsibility for yourself.

L: You take responsibility for yourself. Yes, that's right. Vilda?

S2: You can manage by yourself.

S1 and S2 offered two functional unpackings of *independent*, likely being familiar with the word from everyday contexts.

When the teacher asked a question relating to *invade*, most of the students, having discussed the word in text talks during the previous week, raised their hands. As before, the teacher projected the image on the white board (Excerpt 5).

Excerpt 5

T: It looks a bit weird, but here is the word that we talked about last week, *To invade*. And here is a picture of some people invading. Who invaded Sweden?

S1: Me, me!

T: Yes, I see you. Oh, almost everyone raises their hands. Great. Markus?

S2: Christian II.

T: Exactly. He *invaded*. Do you remember how it happened?

The word *invade* was a belated addition to the subject-related key terms. As a result, the jointly read text became the point of



Fig. 4. Image card representing "invade" (invadera).

departure of the talk, rather than the anachronistic image of rifle-carrying soldiers (Fig. 4).

Excerpt 5 indicates how the words and images could figure as a resource to recall key figures and events, such as an invasion and a rebellion, as the teaching progressed. The next section (4.2) explores the peer text talk during which the students first negotiated the meaning of *to invade*.

Two of the images used departed from the others, but in different ways. The image depicting *hereditary monarchy* (*arvrike*) was retrieved from the same online resource, and therefore has the same abstract, decontextualized characteristics, but appears to be a montage of two images: a green blotch meant to represent a geographical area and an illustration of a royal crown (Fig. 2). The connection between this montage and the subject-specific word is unclear: aside from the green blotch inviting different interpretations, *inheritance* (*arv-*) connotes weakly to a royal crown. Before showing this picture, the teacher had led a negotiation of the meaning of *to inherit*, represented by stick figures, a family tree and chromosomes. In the interaction introducing the concept (Excerpt 6), the Swedish compound *arvrike* is translated literally in the transcript: *inheritance kingdom*.

Excerpt 6

T: Now, we see this word again. Inheritance. But now, we have added kingdom. Inheritance kingdom taken together. What could that mean if you take a wild guess?

The teacher did not elaborate on the picture, but instead pointed out the two words forming the compound word *arvrike*. Having previously negotiated the meaning of *inherit* (*ärva*), the teacher switched to the incongruent form *inheritance* (*arv*) and mentioned the addition of *kingdom* (*rike*). As in the exchanges concerned with *church bell* and *independent*, the picture got a peripheral role. We will return to this exchange in the coming section (4.2).

The one word that the teacher could not retrieve from the used online resource was *heresy*. Instead, she used an image found on the internet, originally from an illustration by Martin van Maële from *La Sorcière* by Jules Michelet (Michelet, 1862). Showing a man in priest's garments being tugged by a demonic figure, it is an

activity-focused image that is significantly more detailed, stylized, and complex than the pictures discussed previously.⁶ The image requires a great deal of interpretation, and even a successful identification of the battle of wills and forces would probably not result in the recipient arriving at *heresy* as an intended meaning, rather than, for example, resisting temptation. However, the image does appear when one searches for *kätteri* on Google. In Excerpt 7, the teacher introduces the picture and the word.

Excerpt 7

- T: This is a quite unusual word. *Heresy*. If you look at this picture, you see a priest or a bishop or maybe the archbishop in this case. And who would this be? [Pointing at the demonic figure.]
- S1: Ghost.
- S2: A slenderman.
- T: This person is supposed to be the devil.

In this instance, the teacher asked about the image rather than the meaning of *heresy*. However, as neither the teacher nor the students approached an un-packing of the abstract and complex concept of *heresy*, the picture seemed less effective in scaffolding the students' field knowledge and the understanding of the subject-specific word. It is evident that the student S2 drew upon experience of popular culture ("slenderman") to make sense of the demonic figure who shares visual features with the evil, threatening and slender character from popular media. This reasonable everyday connection made by S2 could have been acknowledged and elaborated on by the teacher and thus the interaction could have functioned as an opportunity for an upward semantic shift building on students' knowledge.

4.2. Expanding field knowledge through interaction

In the previous sections, we showed how the images, selected by the teacher and presented to the students, were less effective in relation to conveying the intended disciplinary knowledge. Instead, this field knowledge was negotiated in oral classroom interaction. This section explores this negotiation in greater detail. Our focus will be on how the interaction can be understood in terms of movements (or lack thereof) between everyday meaning and more abstract meaning relevant to the content studied.

4.2.1. Unpacking and repacking a subject-related term

First, we will turn to the exchange about *hereditary monarchy*. In Excerpt 8, the unpacking and repacking of *hereditary monarchy* (*inheritance kingdom*) is visualized as movements on a scale of contextual dependency and condensation of meaning (Fig. 1), revealing the semantic waves occurring in the interaction (extra-bold type marks analytical findings).

Excerpt 8

Movement on a scale of contextual dependency and condensation of meaning	
Less context-independent, complex, and dense Concrete ... Specific	More context-independent, complex, and dense General ... Abstract
T: Inheritance kingdom taken together.	
What could that mean if you take a wild guess? Loka?	
S1: I think it's kind of if someone's dad is, like, king and then he dies. Then the oldest son becomes king and so on.	
T: Exactly. That's exactly what it means. Do you think we have inheritance kingdom in Sweden?	
S (several): Yes!	
T: We'll see. Yes. We'll read about that. But precisely. Inheritance kingdom means that someone who is king or queen who gets a child, then it will continue to be king or queen when it grows up. Is there any other country which has an inheritance kingdom ? Do you know?	
S2: In Great Britain.	
T: In Great Britain. Yes, exactly. Now, the one who is queen in Great Britain. She is ancient. isn't she?	
I don't know how old she is. She is really old and her	
S3: She is over 90. She is like 600 years old.	
T: 600 years old. [Laughter] She is super old.	
And her son is also getting on a bit, isn't he?	
And his son is already grown up and has a child. But over there, it's an inheritance kingdom.	

Despite the puzzling image, a student (S1) immediately gave a positively evaluated answer. S1 used resources of everyday language to unpack the meaning of *inheritance kingdom*, describing how the position of king is handed down over generations ("if someone's dad is, like, the king"). It is possible that the student had gleaned the meaning from the text material in which the concept is defined. The teacher gave a strong affirmation and asked the students if Sweden has a hereditary monarchy, which several of the students confirmed it did. The follow up – "we'll see /.../ we'll read about that" – is indicative of how these word explanations generally preceded the reading of the text material, and also how the teacher refrained from commenting explicitly on the content before the students read the texts. The teacher then again affirmed the explanation, and while specifying that this person could also be a queen, she asked whether the students knew about any other country with an "inheritance kingdom". A student (S2) offered "Great Britain". The teacher affirmed and, using resources of everyday language, commented on Queen Elizabeth's age. Picking up on her hesitancy regarding the specific age, S3 offered "over 90" and, hyperbolically, "like 600 years old". The teacher laughingly confirmed and, still using resources of everyday language ("super old ... getting on a bit") elaborated on the Queen's son and grandchild. Concluding the exchange, she made a final connection to the abstract term that was the point of departure for the discourse: "But over there, it's an inheritance kingdom".

Importantly, the concluding reference to hereditary monarchy served to condense and recontextualize what had been stated earlier in everyday wordings. As the abstract subject-specific word was used both to set off and conclude the exchange, the interaction followed a "sandwich structure" where the term was unpacked through resources of everyday language, connected to the students' understanding of how the hereditary monarchies in Sweden and Great Britain work, and finally restated and repacked. However, in the excerpt, the teacher repeats *inheritance kingdom* five times in total. Thus, the movements between the abstract wording and the concrete and specific meanings occur at several instances, forming distinct semantic waves between more contextualized mean-

⁶ <https://commons.wikimedia.org/wiki/File:Cullampe03.jpg>

ing and more complex and dense meaning. In other words, this can be described as bridging or moving between everyday and disciplinary discourses through repeated unpacking and repacking of disciplinary meaning in the oral interaction.

4.2.2. Implicit discursive shifts

In some of the other exchanges, these semantic and discursive movements did not occur as easily. We have already shown how some of the images, like the one depicting *pope*, seemed somewhat counterproductive to the discourse. In Excerpt 9, we show the teacher's continued attempts to elicit an answer about the meaning of *pope*.

Excerpt 9

T: Guess. Look at the picture and guess. Does he work in the woods? [Students laugh.] No, but what does he do then you think?

S1: The church.

T: In the church? Okay. Well. Do you think he cleans up the church benches?

S1: No.

T: What do you think he does then? If you just have a guess.

S1: Maybe he. No, I don't know.

T: What do you think Elina?

S2: Em, owns the church?

T: Mm, you might think that he *owns* the church. It's not quite like that but if you imagine. Do you think he is like, highly placed or is he, like, someone who doesn't get to decide anything at all? [Laughter.] Vilda, what do you think?

S3: I think he is the one with the most power.

T: Yes, he is probably the one with the most power. Right. But does he have power over our Swedish Church here in Sweden?

S4: There are hundreds of churches. Which one do you pick?

T: Mm, but we talk about the kind of Church we have here. What do you say, Anders?

S5: In our Church, the pope has almost the full power over all the archbishops, so I guess so.

T: Well, but is he the boss of the Swedish Church?

S6: No, I think he is the boss of the Catholic one.

T: Yes, he is the boss of the Catholic Church. But really, didn't you? You had religion last spring, right?

S7: Yes, we read something about the pope.

S8: Of course, one forgets, Maria.

T: Alright, okay, well. In short, it's like this. Within the religion called Christianity, you can say there are different kinds. There is Protestant Christianity, which we have here in Sweden. There is the Catholic Christianity, which is in, *for example*, Italy, Spain, Brazil and some other places around the world. And then there is the Greek Orthodox eh Christianity which exists in *Russia* and some other countries. And the pope is the boss of the Catholic Church. Okay?

Receiving S1's answer ("the church"), the teacher used different cues to guide the students towards a more explicit answer. This includes joking rhetorical questions ("Do you think he cleans up the church benches?") and leading questions ("Do you think he is, like, highly placed?"). S2's suggestion ("owns the church"), as well as S1's, might be based on less successful interpretations of the illustrated dome in the background of the image shown (Fig. 5). On the teacher's leading questions, S3 more felicitously offered, "I think he has the most power", which was confirmed by the teacher.

It is important to note that earlier in the exchange, *church* was used in a concrete sense by both the teacher and the students: "he owns the church" (S2) and "In the church [...] does he clean the pews?" (T). When the teacher follows up S3's answer ("he has the most power"), by asking if the pope has power over "the



Fig. 5. Image card of "pope".

Swedish Church", this marked a discursive shift to *church* in the abstract sense: the church as an institution. However, S4's comment ("There are hundreds of churches") points to *church* in the concrete sense: *church* as a building. The teacher's follow-up ("the kind of church we have here") did not make the abstract meaning explicit. However, S5 used *church* in the abstract sense ("our Church") but conveyed the wrong idea about the pope having "almost the full power over all the archbishops [in Sweden]". The teacher gave a hedged evaluation ("well ...") and rephrased the question as, "Is he the boss of the Swedish Church?"

So far, this highly interactive exchange appears as a guessing game in which the students were presumed to have knowledge about the papacy and churches in a more abstract sense, which they actually lacked. The teacher relied heavily on resources of everyday language ("clean the church benches", "the boss"), and the discursive shift in using "church" in the abstract sense was not made explicit. S6 finally gave the correct answer, that the pope is "the boss" of the Catholic Church. The teacher asking about their received instruction in religion – receiving a slightly disgruntled reply from S6 – made her unfulfilled expectations of the students' understanding explicit. The teacher resolved the situation by briefly elaborating on the "different kinds" of Christianity. As she mentioned and located different forms of Christianity, there was a marked discursive shift towards abstraction. In the concluding clause, the teacher combined everyday wordings ("the boss") with more abstract ones ("the Catholic Church"), condensing the meaning of *the pope* laboriously unpacked throughout the exchange. It is worth mentioning that the abstract meaning of *church* still had to be inferred by the students, as the teacher instead used the term *Christianity* in the explanation.

To summarize, the above exchange appears less conducive to students' bridging everyday and disciplinary discourses. Aside from the less effective image and the teachers' over-estimation of students' prior knowledge, the exchange seems hampered by the teacher's use of everyday wordings and implicit discursive shifts to more abstract perspectives. Instead of engaging the students in a guessing game, it could have been more beneficial to offer an ex-

planation at an earlier point or discuss the term *pope* in relation to how it is used in the text material.

4.2.3. Using resources of interim learner language

In the exchange about *archbishop*, the students arrived at the intended meaning more easily. In Excerpt 10, the Swedish expressions used by the students are within brackets.

Excerpt 10

T: Look at the *picture* and *guess* what the word could mean. What does Behram think?

S1: Priest.

T: A sort of priest. Alright. Ordinary priest? Loka?

S2: Like a eh king priest [kungpräst].

T: A king priest of some kind. Alright. What does Anders say?

S3: If there is maybe five priesties [prästar] in a city, it's the highest one.

T: Yes, the highest priest. Exactly.

The contribution made by S1 ("priest") was modified by the teacher using a softening classifier, "sort of priest" (see Martin & Rose, 2008), and followed up by a new question: "Ordinary priest?" S2 offered "king priest", which can be understood as a creative use of interim learner language, an innovative compound: *kungpräst*. Thus, the softening classifier ("sort of") used by the teacher was recontextualized by a student in a way that showed an understanding of *archbishop*, including how it relates hierarchically to *priest*. The teacher affirmed the answer. S3 offered an example that showed a similar understanding: "If there is maybe five priesties in a city, it's the highest one", using a non-standard plural declination (in Swedish *prästar* instead of *präster*). These unconventional linguistic forms show that the students used available resources to successfully unpack and paraphrase the relevant concept in interim movements towards more abstract, disciplinary discourse. The teachers' affirmative attitude to the students' unconventional use of language, focusing on meaning rather than form, likely facilitated the students' fruitful contributions to the interaction.

Similar use of interim learner language was evident in the negotiation of *revolt* (Excerpt 11).

Excerpt 11

S1: It could be, like, when you go against the king. You gather lots of men and then attack the king because you think it's wrong and [inaudible].

T: Yes, that's correct.

S2: Protest.

T: Yes, *protest*. Good, Behram. Mm.

S3: You democratize [demokraterar].

T: Democratize?

S3: Or whatever it's called.

S4: Strike.

After several unsuccessful attempts to convey an understanding of *revolt*, S1 gave an example that seems to be based on how the word is used in the text material. The word was first unpacked generally by S1 as "when you go against the king" and then exemplified more concretely ("You gather lots of men..."). The teacher affirmed the answer, while S2 offered "protest". Thus, one grammatical metaphor (*revolt*) is reworked as another (*protest*). The teacher emphasized and affirmed this word. S3 then offered "democratize" ("demokraterar"), an innovation probably based on some familiarity with the Swedish words *demonstrerar* (*demonstrate*) and *demokrati* (*democracy*). The teacher seemed puzzled by the word. Drawing on his/her knowledge of English, S4 suggested "strike" (in Swedish: "strejk"), constituting the only instance observed when a language other than Swedish was used as a resource. These two contributions constitute other examples of interim language variants. As in the previous exchange, the students used resources of language available to them in order to restate the abstract word focused on in the interaction.

4.2.4. Connecting terms to disciplinary discourse

As mentioned, these explanations generally preceded the actual reading of the text material. While some of the students, like S1 in the previous exchange, seemed to offer contributions based on how the words were used in the text material – perhaps having read ahead of the teacher's plan – the word explanations did not form an active part of reading the texts. An exception occurred with *invade*, which was introduced during a peer group talk based on the text material. The teacher also participated in the exchange. In Excerpt 12 (similarly to Excerpt 8), the classroom interaction is visualized as movements between contextual dependency and condensation of meaning, revealing the complex semantic waves occurring in the interaction about the word *invade* (extra-bold type marks analytical findings).

Excerpt 12

← Movement on a scale of contextual dependency and condensation of meaning →

Less context-independent, complex, and dense ~ ~ ~ More context-independent, complex, and dense
Concrete ... Specific ~ ~ ~ General ... Abstract

T: Yes, but the word **invade**?
What does it mean?
S1: That he fought and so on against Sweden.
And then, like, Sweden became his again.
T: Yes, but the word **invade**?
What does it mean? /.../
S2: **If there are lots and lots of something.**
Like, eh, loads of ants
come into the classroom.
T: Yes, exactly. Yes, **an invasion**
of ants. And then, in a war. If you, like, imagine a picture of **an invasion in situation of war.**
What would that look like?
S3: **There are loads of soldiers coming.**
T: Yes, who, like, went in. You know, **invade**
is also when you enter somewhere and you are not allowed.
Like, we really don't want
any ants here. [Laughter]
Are you all with me on this? /.../
S4: [Reading aloud] What is meant by Christian II **invading** Sweden?
How did it go? What do you think?
T: Yes, what is meant by that?
S5: That **he brought his troops and attacked Sweden.**
T: Yes, he brought his *troops* and attacked Sweden.
Then, what's a troop, do you think?
What does Fadi say?
S6: **Like team.**
T: Yes! Like team. Good.
Team. **A troop is a kind of team.**
you could say.
A large group of people
you have chosen. So, he attacked Sweden. Invaded Sweden.
Went into Sweden even though
Sweden did not want that. Yes?
S7: Could you say **his war-men [krigsmän]**?
T: Yes, you could. That's also good. **War-men.** You could say, **They invaded.**
Has everyone caught what invade means? Good.

The point of departure for the exchange is the question that S4 read aloud. The teacher started by asking about the meaning of the word *invade*. When S1 started reconstructing the events from the text, the teacher repeated the question. S2 then offered a general definition (“If there are lots and lots of something”) and exemplified by describing loads of ants coming into the classroom. Thus, the student used and construed a context for the everyday use of the word. The teacher affirmed the contribution, offered the grammatical metaphor *invasion* (of ants), and asked the student to envision “an invasion in a situation of war”. As the term was put in relation to the content studied, this also marked a semantic and discursive shift to a more abstract perspective. S3 offered the concrete example “... loads of soldiers coming”, which is confirmed and elaborated on by the teacher, pointing out that *invading* means entering “somewhere and you are not allowed”, making a joking connection to S2’s everyday example with ants. Thus, the discourse moved between concrete everyday and abstract meaning. S4 repeated the question to be answered, about what happened during the invasion. S5 then reformulated a sentence from the text material containing the subject-related word *troop*: “That he brought his troops and attacked Sweden”. When the teacher asked about the meaning of the word, S6 offered “like team”, an everyday wording that was confirmed and elaborated on by the teacher, using a softening classifier: “a kind of team”. She then restated it vaguely, using resources of everyday language: “A group of people you have chosen”. Concluding her elaboration, she reconnected to the text, still using everyday wordings involving a personification of Sweden: “even though Sweden did not want that”. S7 followed up the teacher’s explanation by asking “Could you say war-men [krigsmän]?” Just like *kungräst*, the word *krigsmän* constitutes an innovative learner language compound. In this exchange, it served

to repack the teacher’s common-sense explanation of *troop* more abstractedly.

Like in the exchange about hereditary monarchies, clear discursive shifts, forming distinct semantic waves, can be seen between everyday wordings and more abstract, subject-related wordings. Unlike the previous exchanges, this one built more closely on the text material. While the teacher mostly relied on everyday wordings in her elaboration, she also pointed to how *invade* should be understood in relation to disciplinary discourse, that is, the content and text studied. She also offered the grammatical metaphor *invasion*. It seems clear that the text figured as a valuable resource contributing to these discursive shifts and complex pattern of semantic waves. Also, the exchange figured as a resource for making sense of the text, as wordings are rephrased and recontextualized in different ways. In their contributions, the students used everyday knowledge (invasion of ants) and resources of interim language (*krigsmän*) to make meaning of both subject-related words and the text.

5. Discussion and conclusions

While previous studies have advocated the use of images to support the negotiation of disciplinary knowledge in linguistically diverse classrooms (Hammond & Gibbons, 2005; Nygård Larsson, 2011), there has been little research highlighting the use of images in relation to oral interaction in social studies. The aim of this article has been to contribute knowledge about disciplinary literacy practices in school history, with a particular focus on how key subject-related concepts are visually and orally represented and negotiated in classroom interaction in linguistically diverse classrooms.

The analyses show that the images, retrieved by the teacher from an online resource, share the general characteristics of undetailed illustrations, lack of contextualization and relatively high degree of abstraction or indexical representation (Kress & Van Leeuwen, 1996/2006; Martin & Rose, 2008). Thus, the images convey general meaning rather than one connected to a specific content area. The results from the present study, focusing on the teaching of history, shed light on how these generic images are used in and affect the teacher-student interaction. The results show that the use of generic images which are not contextualized in relation to the content taught can obstruct rather than facilitate the students' appropriation of subject-related discourse. This appears particularly important in relation to abstract concepts, such as *invade*, *revolt* and *heresy*. In several of the exchanges, it becomes evident that the decontextualized, generic images were open to a range of interpretations, which counteracted the understanding of the subject-related terms. The choice of these generic images also reinforced the interaction-driven guessing game identified in the teaching (discussed further below). The final exchange analyzed in this article (Excerpt 12), building closely upon a disciplinary text, indicates that texts, from textbooks and other subject-related sources, can scaffold and contextualize the interaction, forming a basis for semantic and discursive shifts between everyday and disciplinary discourse (see also Walldén & Nygård Larsson, 2021). In the other exchanges, generic images and questions inviting guessing games abstracted the terms from the process of interpreting disciplinary discourse.

Although we have identified several concerns with the use of simplified, generic images in relation to content learning, they seemed to have an indexical function to remind the students of key events and historical figures. However, in order to promote the students' initial engagement with and understanding of the subject-related terms, detailed and contextualized images – representing the actual historical figures and events depicted in the text – would likely have been more functional. In addition, it would have been possible to use images that enabled the students to make connections to prior knowledge and personal experience (see Cummins, 2016; García, 2017). This includes knowledge and experience gained through media and popular culture (Gee, 2011; Kress, 2003; Ståhl et al., 2018). Such images could be the point of departure for discussions based on the students' experiences and potentially make abstract terminology accessible while moving the discourse towards what such a phenomenon would have been like in, for example, the Vasa era.

In relation to previous research into disciplinary classroom discourse, our findings confirm teachers' tendency to unpack but not repack disciplinary discourse (Maton, 2013; Walldén, 2019a). The results also give further evidence of how resources of everyday language can be misleading (Danielsson et al., 2018; Nygård Larsson & Jakobsson, 2017). Knowledge of everyday use of words like *invade* and *church* is unlikely to be a resource for discursive shifts if the subject-related meaning is not reinforced. Several of the exchanges highlighted in this study show limitations of employing interaction-driven, student-active teaching (cf. Dysthe, 1993) in ways that invite the students to guessing games about key disciplinary concepts. In a more successful exchange (Excerpt 8), the subject-specific word *hereditary monarchy* was used in a "sandwich structure" where the term was unpacked through resources of everyday language and students' previous experiences and finally repacked and condensed. This can be seen as a crucial element of a *discursive mobility* (Nygård Larsson, 2018), or as *semantic waves* (Macnaught et al., 2013; Maton, 2013) that move the discourse both downwards and upwards, rather than merely downshifting by unpacking knowledge and language. Such interactional strategies can be used by teacher in planned ways (Nygård Larsson, 2018). To expand further on the meaning of hereditary monar-

chy and introduce an element of technicality to the discourse, it would have been possible to condense the meaning of the word by putting *hereditary monarchy* in relation to, for example, *elective monarchy*.

Although use of languages other than Swedish was not used consciously as an interactional strategy (see Karlsson et al., 2020), the analysis contributes to previous research by highlighting students' creative, interim use of linguistic resources as part of meaning-focused exchanges involving disciplinary discourse. The example of *king priest* shows a dual interim quality: it is an innovative way of using the target language while also constituting an approximation of an abstract, subject-related concept. As previously argued, the continual process of learning to use subject-related words constitutes a kind of interlanguage for both L1 and L2 students, serving as a meaning-making bridge between everyday and disciplinary knowledge and discourse (see Nygård Larsson & Jakobsson, 2017; Olander, 2010). Supporting the development of this interlanguage requires an awareness and careful support of students' interim movements.

Previous research has pointed to the importance of teachers' awareness of the characteristics of subject-related language (Nygård Larsson, 2011, 2018; Walldén, 2020a). An important implication from the present study is that a conscious choice and use of meaning-making resources to a high extent also applies to images in social studies, as well as in other school subjects. Images are not visual aids per se; instead, the choice of images must be carefully planned according to the content studied and with regard to the students' backgrounds. Such a planned approach must also include awareness of instances when it would have been more fruitful to focus on linguistic features of the terms, for example the abstract compound *uppror* (*revolt*, Excerpt 3). A related implication is that classroom interaction has to be equally carefully planned and structured, to avoid guessing games and implicit discursive shifts between concrete and abstract meanings (exemplified with the use of *church* in Excerpt 9). Thus, we hope that the present study can contribute to a more conscious and reflective use of images and oral interaction in linguistically diverse social studies classrooms.

Declaration of competing interest

None.

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