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Are CS Teachers Ready to Adopt Change on their Educational Epistemologies?

Introduction
The Saudi Teaching Competencies Standard (STCS) has, recently, been adopted in the Kingdom of Saudi Arabia (KSA). The standard requires all teachers to develop knowledge, teaching and practice [1,2]. The STCS addresses the needs of a new generation of students who grow up in the digital age. There is a substantial need to develop subject-specific pedagogical ability as one element in professional knowledge category.

Research on personal epistemology (beliefs about knowledge) was carried out by Perry (1970) in Harvard University. Researchers identify four main stages of epistemological development [3]. These are designate as binary, multi, relativist and committed relativist.

Rokeach characterized a belief as any recommendation that starts with the expression "I believe that" [4]. A belief that has numerous connection to different beliefs is thought to be "core". The core belief is the hardest to change, as their associations with different convictions should be addressed.

In the literature reviews, CS teachers adopt changes in teaching practice in different ways, this is an observation of five causes. First of all, personal pedagogical theories [8,9,10] that mixed up between traditional and constructivist. Second, the supporting program in pedagogical in-service career [11,12,13]. Third, curriculum contents workshop, summer program, materials and supervision [8,9]. Forth, the Self-Directed Learning as mentioned in several subjects including CS [14, 15,16]. Finally, teachers’ community – peer learning or collaboration with colleagues that states in many studies as an element to change their educational belief formal or informal way [16, 1, 17]. For example, helping teachers transform new knowledge into practice increases the rate of change [5], using web resources generates a positive trend in teachers’ teaching approaches [13], and transitions from paper-based to hands-on approaches have been successful [8].

In Saudi context, the curriculum is based the Computer Science Teachers Association standard, CSTA. The subject of CS is taught in intermediate and high schools as two hours weekly. How CS teachers change their behaviours based on the STCS is interesting to investigate. The way to deal with changing beliefs expresses that you have to first change normative and evaluation belief – see figure 1. These are what the ministry of education in the KSA adopted. Then, how is the CS teachers’ behaviour composed, in school now, according to this change is the focus of this study.

This paper presents the results of an investigation of CS teachers’ views on educational belief changes in the KSA schools. The paper addresses how and why teachers adopt educational belief in their teaching.

Theoretical framework
The ability to understand the basic causes of teachers' belief change are the Theory of Reasoned Action [5] and the Theory of Planned Behaviour [6]. The Theory of Reasoned Action declares that behaviour component a function of behavioural expectations that are, in turn, a function of belief and subjective standard. The Theory of Planned Behaviour took the element of the Theory of Reasoned Action but added recognized behavioural control as a further factor prognosticate both behavioural intentions and behaviour. In up-to-date, these models have been caver under the Reasoned Action Approach (see Figure 1).
In figure 2, the study design shows how it uses the reasoned action approach to investigate CS teachers in the KSA.

Research Question
The research question is: How can teachers’ educational beliefs and practices on teaching approach be changed towards CS teaching?

Sub-questions
- What educational belief and practices do CS teachers hold about the changes belief in teaching CS?
- What are the sources of changes?

Method
An individual semi-structured interview allows participants to go in depth in views of educational beliefs and provides them with the freedom to express themselves on what they are doing in their practice [20]. In this study, the researcher will adopt semi-structured interview questions. The interview will be twofold, one concerns the extensive demographic data of teachers including years of teaching, gender, educational background, and teaching experience. The other consists of three open-ended questions on what inspire the CS teachers in their thoughts. The three questions are related to teacher development; these describe the most important educational beliefs about teaching CS, the changing of teaching CS from the first year and now, and sources of changes.

Participants
Thirteen CS teachers are involved in this study. The CS teachers are representative of different schools in the KSA. The researcher used the WhatsApp to contact the CS teachers during the regular
working time. This period was chosen in order not to intrude at their private hours. The average period of the interview per participant is two days. In the beginning of the interview the researcher engaged some participants in a chatting mode – text, while some participants recorded their voices. The recorded voices and the text were later transcribed in Arabic first, then, translated in English.

Analysis
A quasi-statistical is one of the different approaches to qualitative analysis that uses word or phrase frequencies and relationship as key for importance concept. The content analysis with deductive category will check whether the categories are at all applicable to definitions, samples and coding [21]. Therefore, the research will adopt a quasi-statistic to analyse the empirical findings. The analysis will be theory-laden through deductive category of frequencies and relationship of empirical findings.

Preliminary Results:
The case study provides valuable results in the context and culture of the KSA. The preliminary results of the study emphasize that the education epistemology of CS teachers in the KSA is being influenced by personal pedagogy, self-directed learning, collaboration with peer, students feedback, in-service program and the curriculum. Indeed, three different categories of teachers were identified in the preliminary case study; some of them refer to religious belief as a guiding principle. Meanwhile, the change belief has no strong correlation with the STCS. The findings show that both the training program and new curriculum inspire them to adopt a new educational belief. Expectedly, the STCS should provide instructive for teachers to keep changing beliefs in teaching, but it has no strong correlation with teachers’ change beliefs. The results of this study contribute to development of a program that foster processes for professional development of CS teachers. The outcomes also help to raise awareness on the challenges of implementing the STCS in the KSA school system.

References


Students’ Encounters during Formalized Cooking Practices in Home- and Consumer Studies

Introduction
Cooking a meal is a complex event that involves coordinating muscle movements and cognitions while at the same time responding to sensorial perceptions and navigating and shaping societal structures (Wolfson et al., 2017). The art of cooking has traditionally been transferred through apprenticeship, involving continuous engagement with the physical and sensory qualities of food (Jaffe & Gertler, 2006). In Sweden, cooking is by tradition a prominent part of the Home- and consumer studies (HCS) education and a common arrangement of a HCS lesson is that students, by following a recipe, prepare a complete meal together and then eat it (Hjälmeskog, 2006; Lindblom, Erixon Arreman, Bohm, & Hörnell, 2016). These formalized cooking practices entail a great potential to enrich students’ food- and cooking-related experiences and meaning making. However, little is documented about situations that occur during formalized cooking practices in HCS, and what consequences for the students’ meaning making these situations bring about. The present study will target this research gap, and the research questions are:

- Which encounters can be seen to disrupt the students’ activity during formalized cooking practices in HCS class?
- How do the students act to proceed with the activity in these situations?
- What consequences can be seen for the students’ meaning making?

As a theoretical point of departure, a pragmatist, transactional understanding of meaning making is held. ‘Meaning making’ is used to describe learning processes that include individual- as well as social and institutional aspects (Rogoff, 1995). This way of making meaning by acting in the world is what Dewey, in his later works, calls transaction (Dewey & Bentley, 1960). To use the words of Wickman (2004), ‘the meaning people make is always imbedded in a practice with its aims and the socially shared meanings needed for participating’ (Wickman, 2004, p. 327). In accordance with John Dewey’s transactional perspective, meaning making is consequently seen as continuous and visible in, and through, students´ actions (Dewey, 1938/1997).

Method
As a part of a more extensive case study where the data collection takes place during the full school year of 2017/2018, the author conducted classroom observations of HCS lessons in one school class at an elementary school in Stockholm, Sweden during fall 2017. Study participants were two HCS-teachers and a total of ten students in Swedish eighth grade (13-14 years of age), some of them being observed at more than one occasion. The material consists of digital video documentation from the observations, where the students cook in pairs. The observed occasions were selected in agreement with the participating teachers and met the criteria of including practical elements of cooking. Videos from fourteen observations recorded during seven different occasions are included, each comprising on average 44 minutes of video recording and resulting in a total of 616 minutes of video data. Ethical guidelines by the Swedish Research Council (2002) are followed throughout the research process and an approval by the Regional Ethical Review Board in Uppsala have been obtained (ref. no. 2017/230).

The teachers’ and students’ actions during the cooking sessions were studied through practical epistemology analysis (PEA) (Wickman & Östman, 2002). The emphasis was on describing what the students encounter, how they act to proceed with the activity, and the relationship in-between. Actions are not only considered in terms of physical movements of the body; the students also act
(and make meaning) through participation in language-games. Thus, rather than considering the students’ talk in a representative, mentalist way as outer statements of an unknown inner mind, focus was on the use of words and utterances in situated action (cf. Wickman, 2006, p. 32). The initial analysis was primarily conducted by the author. However, the preliminary results presented below have been agreed upon in discussion with two associated researchers.

Preliminary results

Preliminary results show that the students struggle when facing cooking steps that require subjective assessments based on sensory experiences, e.g. when they need to look at, or feel, the food to make decisions. The students carry out repetitive actions and/or look for support from their surrounding (e.g. peers, teachers) to be able to move on with the activity in a fruitful way. These strategies can have a negative impact on the sensory qualities of the food, and lead to socially shared meanings that are not in accordance with the teacher’s intentions. Awareness of the students’ meaning making in the classroom practice encourages a discussion about teachers’ roles, choices and potential consequences of these.

References


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1 Language-game is a point used by Wittgenstein (1953) to describe how words acquire meaning through their use in different contexts. Moreover, Wittgenstein made it clear that language use cannot be seen as a direct representation of thinking.
Oscar Björk, Department of Education

All Possible Worlds: Content-Thematic Space through Early School Writing of Narratives

Formal aspects of language and literacy have often been foregrounded in research on early writing. While these aspects have given us valuable insights in how children write (Dyson 1989, Liberg 2012), few studies have focused content aspects in young children’s texts. This study focuses content aspects through a topic analysis as well as a socio semiotic analysis of processes and participants in texts written by children of ages 8 to 9. The overarching purpose of the study has been to highlight how children write narratives during primary school – what linguistic resources are used (Christie 2012) – by deploying linguistic analytic tools inspired by systemic functional linguistics (SFL). Furthermore, the study has a purpose to develop a metalanguage for talking about content aspects of early writing. To meet this purpose following research questions has been formulated:

RQ1: What content is construed in the children’s analyzed narratives;

RQ2: By what linguistic resources is this content construed?

Theoretical frames and method

The theoretical framework of the study is in part an analytic frame, consisting of a socio semiotic understanding of language based on SFL (Halliday 2004), and in part an interpretative one consisting of a didactically based receptionist perspective and a discourse critical perspective. Systemic functional linguistics (SFL) has in recent years become a well-established theory of language in linguistic research and research on L1-education. One of the key elements of SFL is its view on language as potential for meaning, developed by being (socially) functional in relation to different kinds of contexts (Halliday 2004). Since language, in this sense, is considered functional by definition, SFL differentiates three metafunctions of language which are constantly at work in language use, all three bearing three different kinds of meaning. The present study focuses on the ideational meanings, namely “what texts are about”.

The first analytic step in the study was to analyse what topics are construed in the texts, with “topic” referring to semantic kinship of words used in texts. This provides a result in itself – is the text about witches or robots, or love or anger? – but to deepen the understanding of the meanings of these topics, an analysis of transitivity has been employed. This is the analytic tool provided by SFL for analysing ideational meanings in texts which focuses on verb processes in texts and of how different topics are being construed as, so-called, participants in them (Holmberg & Karlsson 2006). The combination of topic analysis and transitivity analysis gives us what I have called content-themes; a result combining the “what” and “how” of the research questions.

The didactically based receptionist perspective on writing is inspired by receptionist theory deriving from literary science (Langer 2005, Rosenblatt 1995), and focuses on the relation between a (writing) task and the written text. This perspective on the data draws attention to how the formulation of writing tasks invites different kinds of writing vis-a-vis what worlds are reconstructed by the texts in

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1 The study uses data from the research project Function, content and form in interaction. Students’ text-making in early school years (led by professor Caroline Liberg of Uppsala University and funded by the Swedish Research Council 2013-2016/18).

2 The analyzed data consists of 38 narratives written in relation to two comparable assignments, asking students to write about “the future” respectively “another world”.

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attempts to solve these tasks. The final ingredient of the interpretative frame is that of how the results are to be understood as discourses. “Discourse” is interpreted with reference to Norman Fairclough (1995) who defines discourse as different perspectives on the world, associated with the relations we have to the world around us, which depends on social status, identity and the social relations we have to one another.

Results and conclusions
The results of the study show that the two assignments generated two very dissimilar groups of texts regarding what content-themes are used; two dissimilar types of content-thematic spaces. The first assignment, on writing about “the future”, resulted in texts in which the children wrote about one primary topic, their own materialistic success, by using mainly relational but also material processes (monothematic monotransitive texts). In contrast, the other assignment, on writing on “another world”, resulted in texts about a number of topics with a bigger variation of process types (polythematic polytransitive texts). The main contribution of the study is that by using this method I show, on the one hand, the variation of worlds created by the students in relation to the task formulations. On the other hand, I suggest how we can talk about content in early school writing, something that can serve as prerequisites for a critical discussion of what writing narratives entail and what discourses are. The results also contribute to our understanding of what disciplinary literacy of L1-education in Sweden is.

References
Josef Ginnerskov Dahlberg, Department of Sociology

Holding onto Fuzzy Knowledge – towards a Theory of Teaching Sociology

Since the turn of the 19th century, sociologists have been trying to figure out what Sociology is (or ought to be), and one crisis has only been followed by another (Frade 2016, p. 863). Even today, prominent sociological journals dedicate entire issues to the contemporary version of the crisis of sociology, e.g. ASA journals in the US (Ballantine et al. 2016) and BSA journals in the UK (Meer et al. 2016). For teaching sociologist, by some of which Sociology is characterised by its internal plurality and lack of an unifying principle (Risman and Tomaskovic-Devey 1998; Sprague 1998), this causes a problem of what content teaching activities should handle. As the wide spectrum of knowledge labelled under the heading Sociology is a contradictory content not easily merged together (i.e. incommensurable), sociologists involved in academic teaching have called for finding a core or some sort common ground for the diverse discipline to stand on (Ballantine et al. 2016; Cole 2001; Holmwood 2010). However, the so-called crisis of Sociology as well as theories developed to solve it (e.g. Boudon 2002; Burawoy 2005, 2016, Sztompka 2004, 2009) do not have a more reliable empirical basis than professional sociologists theorizing around their own everyday experiences. If the case is that Sociology is ungraspable, what is being communicated under its heading?

Traditionally, scholars interested in the question of what sociological knowledge is have tended to treat it as a set of ideas materialised in texts such as books of classical thinkers and in articles in journals labelled as sociological, that are to be transmitted to students (e.g. Keith and Ender 2004; Hoadley 2008; Pelton 2012; Chen and Yan 2016). Some teaching sociologists have instead seen it as a mind-set, a sort of generic quality that students are thought to develop while pursuing studies in Sociology (e.g. Abbas, Ashwin, and McLean 2016; Hironimus-Wendt and Wallace 2009; Hoop 2009). Neither of these two concepts of knowledge and learning are rather sociological in their nature, as either an object or and individual and not the social situation is conceptualized as the fundamental basis of knowledge (Collins 1988). To treat sociological knowledge and teaching sociologically we have to investigate it in the social world where it is embedded (Camic, Gross, and Lamont 2011). The few studies that have been undertaken from this perspective have mainly focused on sociologists producing knowledge and neglected whether the artefact in questions is put into use by someone else than its creator (Heilbron 2011; Guggenheim 2012). Yet, I argue that the significant part of sociological knowledge can be found in routinized everyday communications between individual sociologists and their groups of peers and students, and the meanings the actors attach to these contents (Camic and Gross 2008). In contrast to previous studies, this study targets sociological knowledge as embedded in teaching – and thus the final meaning of a specific content is first given in each local practice (Goffman 1981, p. 170).

The aim of this study is to develop an understanding of the content of some primary types of knowledge that have been communicated in sociology and how they have been transformed over time. This aim is set to be met through studying arenas where sociological knowledge has been communicated, with a primary focus on teaching, and can be divided into three research questions:

- What primary types of sociological knowledge has been communicated at local Sociology departments over time?
- What meanings have sociologists ascribed to the form of sociological knowledge that they have communicated and the context in which it was communicated?
- Is the so-called plurality of sociological knowledge experienced as a problem by the sociologists and if yes – how do they “cope” with this pluralism in their teaching?
Theory
To capture the sociological knowledge I want to develop a subject education research of Sociology by taking inspiration from the new dawn of Sociology of knowledge – referred to as, among other names, ‘The new Sociology of ideas’, ‘Sociology of Philosophy’ and ‘Communicative constructivism’ (Camic and Gross 2008; Camic, Gross, and Lamont 2011; Heidegren and Lundberg 2010; Knoblauch 2013). In this school of thought, the content of a subject must be seen in its contextual and local appearance, and it is an empirical question whether science differ from other forms of knowledge (Camic and Gross 2008). Following Hubert Knoblauch (2013), knowledge is embedded in a culture of communicative forms, and in this sense the content of teaching can never be separated from the form of teaching (e.g. a lecture for 100 students or a workshop with five colleges). Communicative forms range from single sequences (such as answers and questions) to long sequences of communication (such as an academic seminar), where the latter is of particularly interest for our problem. Sequences of communication are not only constituted by language but embedded in a material setting – communication becomes objectified by certain rooms, furniture and gestures performed by human bodies. Communicative forms are both produced by communication and serve as a means to produce a certain order and to orientate action on different scales toward varied goals. According to Knoblauch (2013, p. 306), certain styles, codes or forms of communication “define the way in which “science” differs from, for example, religion (i.e., the “sermon” vs. the lecture)”. Seen in the light of a pragmatic concept of truth, the communicative forms (generated by sociologists performing communicative actions in their everyday lives in the objective culture of sociology) regulate what meanings of sociological knowledge that is considered as true or false.

Method
The methodological aim of the present study is to investigate sociological knowledge that has been articulated at Swedish universities. This is done by targeting the most present communicative forms of teaching that can be seen throughout the history of the two first Sociology departments in Sweden: Uppsala and Lund. On the basis of secondary literature, a few historical sequences will be chosen and compared to each other. The main material for the comparative study will be historical documents of study plans, literature lists, examinations and the teacher’s own research and journals. In finding which teachers to investigate further at a specific time and place, the most recurrent names will be the main principle.

Literature


Pelton, Julie A. 2012. “‘Seeing the Theory Is Believing’ Writing about Film to Reduce Theory Anxiety.” Teaching Sociology, 0092055X12462142.


Appendix

Preliminary results on the question of what forms of communication can be seen in the history of teaching sociology at Swedish universities:

- 1903-1926. Sociology as the view of only one professor of sociology and economy giving small scale seminars at Gothenburg university
- 1930-1947. Sociology emerge as a subfield of practical philosophy driven by “The sociological community” who install seminar series at Lund University and Stockholm University College discussing continental sociologists

- 1947-1967. “The Uppsala School of Sociology” bring about the first real institutionalisation of a neo-positivist sociology (professors at UU 1947, SU 1954, LU 1965) by erasing continental sociologists, importing American textbooks and teaching professor writing methodology textbooks. Lectures and seminars for an increasing amount of students

- 1968-1974. “Massive hall lectures in Sociology”, e.g. from one professor on 200 students (1954) to 3000 students and 60 teachers (1970) at SU. The continental sociologists are brought in and a canon is established to generate a more dynamic sociological knowledge that can tackle historical and qualitative phenomena, e.g. Asplund’s Sociological theories (1967)

- 1974-1987. Decline of students and research, and a new “crises” of sociology as irrelevant. Textbooks are written with a focus on trying to make sociology significant for the public, e.g. Joachim Israel’s book series Sociology (1973) on method, economy, power and language

- 1987-. Reinstalled interest in sociology from students. At the same time both the emergence of an ungraspable and inconsistent pluralism with both a focus on social issues, e.g. Sweden – Everyday Life and Structure (1988), and an expansion of theories, e.g. Bourdieu, Goffman, Habermas, Giddens etc. Internationalisation and demand for a public value of sociological knowledge.
Sebastian Djup, Department of Social and Economic Geography

The Question over Environmental and Geography Content – is it Selective and Neoliberal?

Introduction
Climate change and environmental degradation are causing high levels of CO2 and irreparable damage to eco-systems and (non-) humans globally (Foster, 2002; Anderson, 2012). Education is one tool to address the changes, which also means an understanding of the political dimension of environmental education (Hursch & Henderson, 2011; Hursh et.al, 2015). Geography became reintroduced at upper secondary school in 1994, because of its (perceived) capacity to deal with environmental issues holistically. However, research has partly overlooked the politics of Environmental and Sustainability Education (ESE) in geography. Research has shown a fossilized geography content characterized by strong selective traditions lacking the critical human geography paradigm (Molin, 2006), and thus an acceptance of the current order and treatment of contemporary changes. By theorizing the climate/environmental problematic politically, and through the lens of selective traditions and neoliberalism, this study discusses solutions and paths ahead of the climate/environmental quandary.

The purpose of the study is a historical and contemporary content-analysis of the geography content and ESE at upper secondary school. Preliminary research questions are:

- What content is selectively manifested within the geography content and ESE?
- Is the geography content and ESE influenced by neoliberal doctrine, and if so, in what way?

The two theoretical frameworks comprises: (i) understanding the historic and present (formation and selection of) geography content through the theoretical concept selective traditions (Williams, 1973: 1980; Molin, 2006) and (ii) how economic and political processes of neoliberalism influence education and the content in particular (Hursch, et.al 2015). Selective traditions, focused in this study on ESE of the geography subject rather than the subject more generally (See Molin, 2006), are formed historically and reflect specific perceptions or assumptions regarding content, methodology and purpose; i.e. ideologically sedimented rules governing educational practice (Molin, 2006). Williams (1973; 1980) pointed to how “an effective dominant culture” is transferred by educational institutions, thus passing on “the significant past”. Critiques of neoliberalism reiterates how environmental education in itself is political and redirects attention towards the normalization and internalization of neoliberal logic within practices of social institutions, thus the governance social life. Neoliberalism promulgates individualism, entrepreneurial geo-engineering and market incentives and these technological and marketized solutions are offered as “seemingly apolitical fixes to what are really socio-political constructions” Thereby are the fundamental political and economic rationalities intact, which limits how we conceptualize our relation to the environment as neoliberalism seeks to convert environmental issues to economic possibilities (Hursch et.al, 2015: 306-308). Combined, the frameworks effectively increase our conceptual understanding of the selective and political dimensions embedded in the content.

Methods
For this paper, data consists of classroom observations (during late autumn/winter 2017-18), key policy documents and textbooks for upper secondary school. The focus of ESE within the geography subject covers aspects of climate change, energy, access- and utilization of resources, political ecology, water, social justice and sustainable development. The observations takes place at an upper secondary school in the Stockholm area of two teachers’ classroom practice while data, currently circa 20 h, (25 lessons) is collected through field notes with a pre-structured template, which is
organized around certain themes, e.g. selection of content/neoliberalism and focused on the teachers. The textbooks were randomly sampled to cover the time-period from 1994 to present-day. Data was coded through a grounded theory approach to identify conceptual categories using open coding (Robson & McCartan, 2016). The procedure was done by hand and generated a list of themes, some of which is discussed here.

Preliminary results
Preliminary results show a content, regarding solutions to the climate problematic, on a scale of an individualized responsibilization. This is demonstrated by framing environmental problems as grounded in the individuals’ mundane behavior, how consumers can affect the development and that consumers can choose more environmental-friendly alternatives without affecting our lifestyle to a large extent. The responsibility is hence individualized by positing exhortations and questions, such as “The choice is yours” and “What do you choose?”. Seen in this light, it is a matter of market and entrepreneurial fixes; to consume smarter without interrupting consumption practices. The environmental problems are thus reduced to a matter of consumption behavior or more accurately, “the governance of social life”, not challenging the “socio-political constructions” (Hursh & Henderson, 2011). Consequently, content selectively – or to use Williams’ terminology, passes on the significant past - focuses on consumption and excludes production and collective measures, while further de-politicizing and de-conceptualizing the totality of environmental problems.

Didactically, this has implications for (i) what we teach (ii) socialization into a selective and neoliberal thinking and acting, and (iii) counteracting environmental and- climate change. By positing the issue politically, one can unmask the political/ideological rationalities in the formation of ESE and geography content, and moreover, supposedly discuss alternative solutions.

Literature
Elias Euler, Department of Physics and Astronomy, Physics Education Research Group

Interpersonal Touch as a Meaning-Making Resource in the Teaching and Learning of Physics

Introduction
Mentions of the importance of the body in the process of learning can be traced at least as far back as Dewey’s (1916) writing on his pragmatic theories of personal and physical experiences, and have recently risen in popularity within such academic subfields as embodied cognition (e.g. Amin, Jeppsson, & Haglund, 2015; Wilson, 2002) and multimodal social semiotics (e.g. Bezemer & Kress, 2014; Crescenzi, Jewitt, & Price, 2014; Goodwin, 2002). Still, as compared to the emphasis given to learning which occurs around words, equations and pictorial representations, relatively little attention has been paid to when and how students recruit their bodies as they learn physics. In this study, we explore the topic of embodied physics learning through a close analysis of a case where a pair of students spontaneously engaged in a dance while reasoning about the orbits in a binary star system. We aim to answer the following research questions:

- How might students incorporate their bodies during small-group physics learning activities?
- What function can the body play during these learning activities?

We explore the answers to these questions by first proposing a theoretical interpretation of how learning activities have been reported in the physics education literature as having encouraged the incorporation of the body in learning. Specifically, we elaborate on a distinction made by Scherr et al. (2013) between kinesthetic learning activities (KLAs) and embodied learning activities (ELAs). With a theoretical background in the recent work in embodied cognition and social semiotics, we suggest that both KLAs and ELAs involve related processes of meaning-making between embodied/physical modes and symbolic/conceptual modes. As summarized in Fig. 1, we propose that any given learning activity which can be understood as (1) a physical experience which is interpreted conceptually (Scherr’s KLAs) or (2) as a concept which is embodied in a physical experience (Scherr’s ELAs). The distinction between these two varieties of learning activity is made through an attention to the order in which semiotic resources are utilized by the participants in their process of meaning-making.

Method
As a means of arguing for the efficacy of our proposed interpretation, we present a single case study of two high school physics students as they explored a binary star system while using a PhET simulation on an Interactive Whiteboard (IWB). The data presented in this paper were first collected as part of a master’s project (Rådahl, 2017) which investigated students’ use of two digital environments on an IWB: specifically, the 2D Newtonian physics sandbox software, Algodoo, and the orbital astronomy PhET simulation, My Solar System. We analyse short excerpts of a video from the session where one of the pairs was working with the My Solar System simulation to explore the behaviour of binary stars.

Preliminary Results
In our presented case, the embodied interaction of the students functions as conceptual metaphor (Amin et al., 2015; Lakoff & Johnson, 1980; Niebert, Marsch, & Treagust, 2012) which includes a close mapping of features of the students’ dance (i.e. the students’ arms and their outward pull on one another) to the simulated binary star system on the IWB (i.e. the centrality and reciprocity of the interactions of each star).
Moreover, when analysed according to our proposed interpretation of learning activities, the exchange between the students can be seen as resembling an ELA for one of the students (as he tried to represent his interpretation of binary stars with an embodied metaphor) and as resembling a KLA for the other student (as she tried to interpret the embodied metaphor to better understand the other student’s conceptual reasoning). The presentation of this case not only motivates the potential analytical benefit of a more nuanced attention to physics learning activities which include the use of the body, but also stands as a detailed account of spontaneous embodied reasoning by physics students during a learning activity which has been heretofore undocumented in physics education research.

Figure 1 shows our proposed interpretation of physics learning activities as an extension of Scherr et al.’s (2013) distinction between KLAs and ELAs. These learning activities are both interpreted as (mirrored) meaning-making moves between the symbolic/conceptual modes (i.e. talk, writing, equations, and diagrams) and the experiential/physical modes (i.e. touch, haptics, posture, orientation, gaze). A KLA is a learning activity in which experiential meaning is interpreted symbolically, and an ELA is a learning activity in which symbolic meaning is embodied experientially.

References


Teachers as Role Models: a Phenomenographic Study

The literature in computing education, particularly about efforts for diversity, often mentions presenting students with role models as an effective strategy for sparking the interest in the field among children [1], and for recruitment and retention in different career stages [2, 3, 4, 5]. However, the term role model is used in different ways and loosely defined [6]. Participants in studies have different interpretations of the concept even when given a formal definition [7]. The participants in studies of student’s perceptions of their teachers as role models, as in [7], are always given a “correct” definition of role model. No studies were found where the focus on understanding role modeling is from the teachers’ own perspective. This project was conceived with the goal to address this gap.

Gibson defines role model as “person(s) an individual perceives to be similar to some extent, and because of that similarity, the individual desires to emulate (or specifically avoid) aspects of that person’s attributes or behaviors. Individuals attend to role models as possible exemplars of the professional skills and personal attributes needed to achieve desire”. He then adds how our current career stage influences our search for role models [6]. Lockwood and Kunda add that a person may be inspired by a role model if they not only see the role model as relevant for their goals or needs, but also if the role model’s success seems attainable. [8].

Our project aims to give a voice to teachers by exploring their understanding of role modeling. Our research question is “How do higher education teachers in computing experience being role models for their students?”. Teachers from the Department of Information Technology at Uppsala University agreed to be interviewed for our project. In total 9 were selected based on different criteria (the present presentation analyzes the first 5 only): we considered important that this group represented different levels of teaching experience (in terms of years, geographical location, pedagogical background, and level of studies taught), that their focuses were in different areas in computing, and that their cultural backgrounds was varied (a balance between the locals, from Sweden, and other countries). Their ages range from early thirties to close to retirement age. In terms of gender, we had 4 men and 1 woman. This gender imbalance was addressed in the other 4 interviews not presented here.

As a research approach we have chosen phenomenography, since we are describing these teachers’ experiences of role modelling and their own understanding of the term. Phenomenography looks at how the individuals in the study experience the phenomenon and is especially suitable for studies where prior knowledge is limited [9]. Our empirical work included references to not only the research question above but also to a second question regarding how these teachers include role models other than themselves in their teaching. Results presented here are those relevant for the first question, even if though some points were made when discussing the second.

We express our study object as: being a role model as a teacher can be experienced as the teacher’s embodiment of their own experience of certain traits, skills, or qualities, with the potential result of students attempting to imitate this selected behavior.

A structure of categories was developed from the transcribed interview quotes. A teacher may consider what is being embodied (e.g. personal or professional qualities, positive or negative), how this may be perceived by others (e.g. by students of different groups), and who it may affect (e.g. students or society). These differences in reflection and understanding are expressed as 6 categories, sorted from the least to the most complex level of understanding of the phenomenon.
categories 1 to 6, the focus goes from just the subject domain and what happens in the classroom to involving those in the educational setting and the impact outside of the lecture halls. The teacher also progressively loses control over what is modelled and how this is done.

Future work will focus on complementing and expanding our results: not only adding experiences from other interviews and iterating over our outcome space, but also analyzing related questions. e.g. how do we as teachers use others as role models to complement our own role modelling.

References

One of the most pressing questions in education today concerns the role of digital technology. Digital technology and the Internet saturates every aspect of society, not least literary education with its interest in reading. Students are believed to read less of traditional literary forms, as different media outlets compete for their attention and offer exciting experiences. Many writers respond by bringing the digital to print fiction. Novels such as ttyl (2005) by Lauren Myracle and Tweet Heart (2010) by Elizabeth Rudnick are examples of young adult fiction that incorporate the Internet thematically as well as visually by restructuring the codex (the printed book) to resemble blog post, emails, or chatrooms. Some novels respond to the omnipresence of digital technology in a more experimental and powerful way, by making some parts of the narrative available on platforms other than the book.

This paper will focus on a particularly interesting young adult novel, Skeleton Creek (2009) by Patrick Carman (the first book in a series of five). The novel tells the tale of Ryan and Sarah’s friendship as they try to solve the mystery of a haunted house. Compositionally, the codex mimics a diary and combines it with Internet-based videos and emails. The novel has been received as an example of fiction with the potential to bring reluctant readers to print fiction (Groenke et al. 2011, Martens 2014, Lamb & Johnson 2010, Paganelli 2016). Some studies have taken a more hesitant stance, arguing for the complexity of such texts (Mcdonald & Parker 2013). I argue that to assess the educational potential of Skeleton Creek we need to understand its elaborate composition and approach the novel as an aesthetic object. The questions I am to answer are:

- How is Skeleton Creek composed and what reading experience does it set up?
- What educational implications does the composition have?

Theoretical frameworks and methods
As tends to be the case with YA literary scholarship, Skeleton Creek has predominantly attracted the attention of researchers in library and educational sciences (Caroline Hunt 1996). The primary arguments is that it has educational relevance since it can be used to encourage young people to read. This is also expressed by the author in the marketing of the book (Andersen). According to Groenke et al. (2011), Skeleton Creek can “transform the reading experience” of students through its combination of printed text and videos. Marianne Martens describes how the novel, that she calls a “gamified transmedia text,” can motivate more people to read (2014). This paper too is interest in the reading experience constructed by the text.

In order to come to terms with the reading experience Skeleton Creek sets up I argue that it is necessary to focus on the novel as an experimental, aesthetic work. Of particular significance are the instances where the novel “ejects” the reader from the codex and sends him or her to the Internet. I ground my analysis in James Phelan’s rhetorical narratology that emphasizes the reader’s experience of the text as it is composed by the author. Central to rhetorical narratology is the perception of narrative as an act, where someone tells a story to someone with a purpose (Phelan 2017). To understand the reader’s experience of a text one has to go back to the text and explore what resources are used by the author and for what purpose. In addition to rhetorical narratology, I will use elements from film studies in order to analyze the video segments of the novel. I will here pay attention to audio and visual elements, camera technique, and the narrative function of the videos.
Preliminary results
Preliminary results show that Skeleton Creek’s composition is more complex than what previous scholarship has acknowledged. The combination of print and Internet elements on the level of composition, and as a subject matter within the diegetic world, create disruptions and tensions. I argue that this needs to be taken into consideration when using the texts in an educational setting.

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Law at secondary level increased its space in the latest Swedish curriculum, Gy11 and formal requirements of the concerned subject teachers have been added. This study consists of a pragmatic discourse analysis of research, in order to investigate how the school subject law at secondary level is constructed. Purpose of my presentation is to disseminate discourses in scientific literature from the year 1976 to 2016. Drawing on subject educational theory, three research questions are posed to the literature:

(1) What is the educational purpose?
(2) What is the educational content?
(3) What educational method is used?

In an educational context, Almqvist et al. (2008) place moral as a part of the meaning making process. They define moral as socialization and personality development; where socialization is about our worldview, while personality development is about how we are supposed to behave and be. Learning the subject, socialization and personality development are not separated processes, they occur simultaneously. Different outcomes of the school subject law at secondary level are identified in the research articles. According to Addington (2016), there is a lack of civic knowledge and participation among adolescents in the United States, especially among the poor, immigrants, ethnic minorities and habitants in disadvantaged areas. A study shows that if students learn constitutional law, with focus on their rights and ways to empower themselves, civic engagement is improved and contributes to social inclusion. Pietrovito (1976) is in favor of socialization in legal norms as a means to encourage students’ ability to identify their values, interests and sources of power. Some researchers discuss law at secondary level as a means to prevent juvenile delinquency (Le Brun, 1990; Kamvuonias, 1994; VanderStaay, 2007). Based on the findings in this study, I argue for the need of further research on the school subject law at secondary level.

Method

The analyzed research literature is selected by search in scientific databases, for example HeinOnline and ERIC, with keywords like law, legal, education, secondary, high school and content. In order to be included, the source must meet three criteria:

(1) Only sources regarding the school subject law at secondary level is chosen, elementary and post-secondary levels are excluded.

(2) The source must deal with at least one of the research questions.

(3) Scientific quality is guaranteed by exclusion of all sources that are not peer-reviewed.

Relevant titles are examined in detail, first by reading the summary and secondly by reading the entire paper and if criteria are met, the source gets incorporated into the review. Säfström & Östman (1999) argue that from a pragmatic position, the proper analytic method can be chosen based upon a studies purpose and research questions. In this study, discourses constituting the school subject law are to be identified. I draw on pragmatic methodology, when using Quennerstedt’s (2006) operationalization of pragmatic discourse analysis. All chosen articles have been systematically read and are coded in accordance with the three research questions regarding the educational purpose,
content and method. A pattern must occur regularly, over time as well as from different sources, to be recognized as a discourse.

Results
Using purpose of the school subject law as starting point, three discourses have been identified as a result of the analysis:

(1) Teaching as a means to strengthen students' role as conscious citizens in a democratic society; the citizen discourse
(2) Teaching for life; the private utility discourse
(3) Teaching as preparation for academic studies; the academic discourse

The citizen discourse dominates ten of the 21 research articles, covering the whole period of time from the year 1976 to 2016. Common content is knowledge of the legal system's role and function in society. A number of different legal areas are actualized; criminal law being the most common before the turn of the millennium, the period after is dominated by constitutional law. A variety of teaching methods are used, the most common is role play and another frequent phenomenon is cooperation between secondary and post-secondary levels. Some suggested teaching methods, within the moral dimension, are studies of women's rights over time or to confront students with problems where law and morality are in conflict.

The private utility discourse appears in five articles before the turn of the millennium. Even though the number of articles is limited, this category still shows diversity regarding content and teaching methods. A wide range of legal areas are represented, although family law takes a prominent position. Commonly mentioned teaching methods are discussions in the classroom and role play. No particular moral dimensions appear in this discourse.

The academic discourse dominates two articles after the turn of the millennium; diversity can nevertheless be noted, with constitutional law and role playing as reoccurring themes. An example of moral content within this discourse is discrimination and a teaching method is the highlighting of colored lawyers and heroes.

References
Pietrovito, Patrick J. (1976). Socialization in legal norms as part of a high school curriculum. The social studies, 67(2), s 73-75.
Introduction
Today history teachers in Sweden are supposed to implement digital tools and materials in education (Regeringskansliet, 2017; Skolverket, 2011). The main purpose of my study is to discover what happens when upper secondary students work with source fragments, with the motivation to develop teaching of historical empathy and historical thinking.

One way of doing this may be to use a historical digital database. But using a digital database designed for research in teaching may be a great challenge (Nygren & Vikström, 2013). To better understand the potentials and pitfalls of implementing digital tools in history teaching I study how a database designed for historical research can be implemented in the upper secondary school history classroom and what happens when the database is used. Research questions are:

- How do students express historical thinking and historical empathy?
- How can teaching and learning activities be designed?

Database with court records
The database used in this study was developed within the project Gender and Work (GaW) and it is designed to help researchers explore how men and women made a living from 1550 to 1800. The sources in the database are mainly court records, enabling different social themes reflecting gender power structures (GaW, Ågren, 2017, Jacobsson et al 2011).

Mixed method
With mixed-method as the methodological basis, stimulated recall will be a suitable method for data collection. Stimulated recall provides the opportunity to conduct research in real life classroom situations. Using this method, pairs of students working with the database sources may be video recorded. The next step would be interviews, where the students can comment the recordings. These recordings are expected to stimulate the students’ contribution to the research. They will be reminded about their experiences from the previous history lesson and given the opportunity to reflect upon their own learning process (Haglund, 2003). Even so observations during the lessons together with, interviews with the teacher should be made to get information about the learning process and the process of developing a teaching material based on the database, along with thoughts on how the teaching has worked.

Findings
Preliminary findings from a first pilot highlights that most of the participants read the court cases they were assigned, even though they expressed that there were difficult words within them. The students collaborated in such a way that they read aloud and discussed the content in the sources and how they could be interpreted. The majority of the students demonstrated historical empathy as judging.

In order to reach the overarching aim theories concerning historical thinking will be used. In terms of results, previous research indicates that when practicing reading primary sources, conditions like historical empathy and critical review, are created for the development of historical literacy and thus also a historical thinking [U7] (Lévesque (2011). There are already some results from research on
gender oriented teaching with primary sources. Students understood that gender including identities should be seen as narratives, created in specific contexts and changing over time. The students also got tools for discussing gender-related issues in general (Levstik, Linda S. et al (2002). Research has also shown that students become active learners and create meaning when using digitized sources (Lévesque, S. 2007). Moreover, there is an educational gain in using court records, since they increase the understanding of gender structures. Even so, it is an eye opener in the sense of gaining insight into the fact that social norms are rooted in history (Strange, 2010). To my knowledge so far, this study will take me to mainly unknown territory, since the use of the database GaW never has been used in research in history within subject education.

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Nygren, Thomas and Vikström, Lotta (2013), Digitala primärkällor i historieundervisningen: en utmaning för elevers historiska tänkande och historiska empati
Regeringskansliet (2017) , “Stärkt digital kompetens i skolans styrdokument”
Introduction and background

Learners’ communicative ability is a well-known goal in foreign language education, both in classroom practices and in evaluation of language proficiency. However, it is not always clear what language proficiency consists of; the term may be used differently from rater to rater. The purpose of this study is to explore possible differences in the scoring process when evaluating written performances according to two different systems and to what extent there is a relation between the outcome of different frameworks for assessment.

To provide a common basis for the development of language syllabuses, curriculum guidelines, examinations and textbooks across Europe the document Common European Framework for Languages, CEFR (Council of Europe, 2001) was developed. The CEFR has had a large impact on language education in Europe and more recently worldwide. The concepts of the CEFR have also influenced the language policies in Sweden. The Swedish National Agency for Education (Skolverket) states that the seven so called ‘stages’ (steg) in the Swedish national school curricula for foreign languages can be compared to the six levels (A1 – C2) of the CEFR (Skolverket/The National Agency for Education, 2011, p 5). Although claims about a relationship between the CEFR and textbooks, national performance standards and language examinations are often made across Europe, there are few empirical studies to support these claims (Alderson, 2007). The lack of empirical evidence especially concerning the Swedish curricula is expressed in a report from the European Union, which states that “there are some concerns about the implementation of the CEFR in Sweden: The relation between the legal document of education and the CEFR is not empirically substantiated by any research study” (European Union, 2013, Section 4.5).

The current study addresses this research gap by examining how the evaluating framework may influence the scoring process and in what way the levels of the CEFR correspond to the stages of the Swedish school system in the upper secondary school years when two groups of raters evaluate students’ written proficiency in L2 German. The result will therefore not only have importance for the understanding of how different evaluating systems may have an impact on the assessment of students’ written proficiency, but also for the understanding of what levels the Swedish students at different stages in the Swedish school system produce L2 German. A mixed methods research approach will be used to address the following research questions:

- How does students’ written proficiency of German as a foreign language, rated according to the Swedish national syllabus, relate to an acquired level in the CEFR?
- In what way do raters notice different or same aspects when evaluating students’ written proficiency according to i) the Swedish national syllabus, and ii) the criteria based on the CEFR?

Method

Mixed methods research allows the collection of both quantitative and qualitative data and is identified as the third research paradigm in educational research (Johnson & Onwuegbuzie, 2004). By using quantitative and qualitative data collection and analysis within the same study, the strengths of both methodologies can provide a deeper and richer understanding of the studied phenomenon compared with one research methodology. The present study is based on a convergent parallel design, which is the most frequently used design in mixed methods language assessment studies (Jang et al., 2014, see Ziegler & Kang, 2016, for an overview of mixed methods designs). The aim of a
A convergent parallel design study is to compare and contrast the results of two datasets, one quantitative and one qualitative, which in the present study means that not only the scores (the product) is under investigation, but also how the raters evaluated the students’ written performances (the process). This design was chosen in order to hopefully give a broader understanding of the rating processes behind the judgements and insights into in what way two different rating policies may affect the ratings.

A test developed to assess learners’ written performances on a certain level in the CEFR was chosen and administered to students at different Swedish upper secondary schools. The data in the study consists of 60 essays written by learners of German as a foreign language at three different stages of the Swedish educational system (stages 3, 4 and 5, hence roughly comparable to CEFR levels A2.2, B1.1 and B1.2). The essays were scored by (1) their L2 German teachers practising at different upper secondary schools in Sweden \( n = 19 \) and by two external experienced teacher of L2 German using Swedish national performance standards and by (2) two trained raters using criteria referring to the CEFR. Additionally, all raters gave written comments regarding aspects of the performances that motivated their evaluation. The quantitative data (i.e. the scores of the essays) were analysed statistically and the qualitative data (i.e. the written comments of the raters) were analysed in a coding procedure based on the assessment criteria followed by a statistical analysis.

Results and conclusion

Preliminary results of the research study show that there is a relationship between an acquired level in the CEFR and the original scores from the practising teachers. The findings showed both consistency and variability among raters when it comes to the scores and the written comments. Interestingly, statistical analyses also revealed that the raters using the criteria of the CEFR were more consistent in terms of inter-rater consistency than the teachers using the Swedish national performance standards were. Further, the external raters wrote far more comments than the practising teachers, then including more of the rating criteria. The degree of variability among the teachers is sometimes notable, and an important implication drawn from the study is the need for a common view among practising teachers on how to evaluate students’ written performances.

References


Looking for Solutions

Introduction
In this study, I explore the usefulness of IR cameras, in terms of their semiotic resources, in an authentic working environment. IR cameras have been shown to be a powerful tool by making invisible thermal phenomena visible for learners. Three aspects are highlighted in relation to the learners: the instruction, the conceptual content and the talk made during practice.

The instruction
The dispute about whether learners are to learn through constructivist inquiry or direct instruction has been going on for a long time (Kirschner, Sweller, & Clark, 2006). In science education, the former method is implemented through change in laboratory instruction structure. This was the case in the lab that this study was carried out in: a university introductory chemistry lab in calorimetry (the study of heat transfer) was revised to be more inquiry based (Ho, Elmgren, & Karlsson, 2015). The instructions for that lab still contain an aim and a purpose as defined by Hart et al. (2000). They explain that the purpose is the actual pedagogical intentions that the teacher had when choosing to use the lab. The purpose usually fits in with a more long-term goal of the course or the unit as a whole. The aim on the other hand, is the outcome of the activity itself, the product of the lab.

In regards to the tool used in this study, it has been shown that secondary students use IR cameras as a measuring device (Haglund, Jeppsson, Hedberg, & Schönborn, 2015). Another study (Melander, Haglund, Weiszflog, & Andersson, 2016) on the educational use of IR cameras has suggested that university students use IR cameras to explore thermal properties thus focusing the use of the tool on the conceptual knowledge possibly gained from activity rather than collecting data for producing a result. This could be interpreted as the secondary students using the IR cameras for the aim and the university students for the purpose. The suggestion of the university students’ use will be tested in this study.

The conceptual content
In the unit we are carrying out the study in, many of the involved constructs can only be observed through other means than by the naked eye. These constructs may be appresented, non-perceived but experienced (Linder, 2013), by a person with a lot of experience in the unit but are unavailable for a beginner. We want to learn if the IR camera can make the thermal aspects perceivable and how it then would affect the development of a disciplinary discernment (Eriksson, Linder, Airey, & Redfors, 2014).

The talk
In addition to this, the type of talk, as described by Mercer (1995), may be used as an indication on the cognitive engagement in the task. In an earlier, yet unpublished study (Samuelsson, Elmgren & Haglund, 2018), we saw that cumulative talk is used by students when following instructions and gathering data and a shift is made to exploratory talk when noticing something out of instruction. Another study (Andersson & Enghag, 2017) on physics laboratory work showed that cumulative talk is used when on track with the instruction and knowing how to progress throughout the lab. Challenges and confusion though often trigger exploratory talk which may deepen the understanding of the involved conceptual knowledge. The talk can thus be used as basis for analyzing whether the learners into the ongoing lab practice integrate an intervention or if they have hard time relating the intervention to the current learning process.

In the light of this, the following research questions have been formulated:
RQ1: In what way do students in an introductory chemistry course make meaning with the semiotic resources of IR cameras if available to them as part of the laboratory session?

RQ2: How do IR cameras afford development of disciplinary discernment of thermal phenomena?

RQ3: What kind of discussion, in terms of the overall purpose of the lab, is promoted by access to dynamic IR images of the phenomena?

Method and context
The study was carried out in a chemistry introductory course during their unit on thermodynamics. I informed students in two different lab classes about a general purpose of the study and handed out a consent form that they were to sign if interested in participating in the study and agreeing on the terms. Four pairs of students participated, two pairs per lab class (class A and class B). Class A was schedule to have the lab first and were so chosen for the use of IR cameras during their laboratory work. Class B was not given any IR cameras.

Data was collected through video recording. Participants in class A were encouraged to tell me when they were going to use the IR cameras and the participants in class B were recorded during the same occasions as class A.

After the lab work, all of the students were given IR cameras and got to predict, observe and explain a thermal phenomenon similar to the ones they had worked with during the lab. They were then interviewed.

All video data is to be transcribed and a multimodal conversation analysis is to be carried out on the processed data.

Preliminary results and conclusion
Preliminary results show that the students in class A manage to integrate the IR cameras into their instruction by planning for the use of the tool. They discussed the potential of using them as a measuring device but ended up using them for conceptual exploration. Although, they in the interview maintained that the purpose of the lab was to calculate a value, the use of IR cameras engage them in exploring the conceptual elements of the lab. When they explained their findings to me, they tended to focus on transfer of heat and insulation properties of the material involved in the lab task. When compared to class B, class A does not seem to have developed a long-term disciplinary discernment by using the IR cameras.

The preliminary results seem to be in line with the earlier mentioned suggestion of Melander et al. (2016). Further analysis of the talk is needed to state more conclusions.

References


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Speech among Bilingual Students with Background in Multilingual Urban Settings – Didactical Benefits of Teachers’ Familiarity with Suburban Swedish

Background

Suburban slang and suburban Swedish – somewhat simplified, a set of language practices associated with youths in multilingual urban settings – are in focus in this part-study which will be included in a forthcoming dissertation. The participants are a class of upper secondary school students – all of them bi- or multilingual, with suburban Swedish as one of their linguistic resources. The majority of them are Swedish born, and some early migrated. In my presentation, I will argue for the didactical benefits of teachers’ familiarity with suburban Swedish.

The grammatical construct non-inversion is being examined. The inversion rule in the Swedish language states that the finite verb should be in second place in an utterance. Non-inversion is a common construct in L2-Swedish, but this kind of syntactic variation can also be found in speech among Swedish-born, or early migrated, youths from multilingual urban settings (Ganuza 2008). The risks of teachers interpreting the use of this kind of syntactic variation in the latter group – a group characterized of collective experiences, but also by great diversity – as a foreign, learner accent, will be discussed here.

Aims and research questions

The study aims, as mentioned above, to examine the frequency of non-inversion in speech of upper secondary school students with background in multilingual urban settings. Furthermore, the significance of teachers’ – particularly teachers of Swedish as a second language – familiarity with suburban Swedish is discussed.

Research questions:

- To what extent, and in which school contexts, do the students use non-inversion?
- What didactical benefits can arise from teachers’ familiarity with suburban Swedish, in regards to teaching and assessment in the school subject ‘Swedish as a second language’?

Theoretical framework

The participating students are all bi- or multilingual, but it is nevertheless not possible to categorise them according to the binary first- or second-language speaker (c.f. Boyd & Fraurud 2010:687). Their linguistic competences and resources are highly elusive and dynamic, and include variation on both inter- and intra-lingual level.

The study is conducted from an ethnographical micro-perspective (c.f. Bucholtz 2002:538; Quist 2012). The sociocultural perspective functions as a general theoretical viewpoint. Learning and interaction are further viewed as situated (Säljö 2000:151; Hymes 1972; Vygotskij 1978), and the participating students form a community of practice (Wenger 2006). The study is also grounded in interactive sociolinguistics (Hymes 1972). There are similarities, but also differences, between the

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4 It should be added that also monolingual first-language speakers sometimes depart from the inversion rule, for example after the sentence adverbial kanske (maybe) and conclusive så (so) (Ganuza 2008).
theoretical perspectives. Here, the over-arching perspective is the sociocultural. The other perspectives help concretise the theoretical framework and are compatible with the ethnographic micro-perspective.

The types of colloquial speech associated with multilingual urban settings are here called suburban slang and suburban Swedish. The theoretical distinction is used to clarify that even when the students are not speaking characteristic slang, it can sometimes be possible to hear that they have a multilingual urban background. (Bijvoet & Fraurud 2016:21.) Pronunciation, prosody and grammatical variation can contribute to a style of speech associated with urban settings (Bijvoet & Fraurud 2013:380), and in this study the latter aspect is highlighted.

Method
The method is mixed, as the method for data collection is qualitative, while the analysis is quantitative. Collection of data has, as previously addressed, been collected ethnographically through participating observations. Seventeen students are included in the dissertation project, but not all of them are represented in this part-study. Instead eleven students are included, and two of them are participating in two different settings.

Excerpts from three different types of situations will be analysed quantitatively in order to instantiate different communicative situations in form of: 1) an everyday lunch conversation, 2) a semi-structured focus group conversation, and 3) an oral examination in the course Swedish as a second language, on the theme “language and power”. The number and the proportion of non-inversion in declarative clauses will be presented, and the result of the analysis of the different excerpts will be compared. Comparisons with earlier research conducted by Ganuza (2008), regarding variation in Swedish word order among adolescents with multilingual urban background, will also be made.

Results and conclusion
The students show an overall high syntactic variation that deviates from standardised word order. For example, in the most colloquial setting – the lunch conversation – the percentage of non-inversion is as high as 100%. The result differs considerably from Ganuzas’ earlier results (2008), where the percentage of non-inversion never exceeded 10.2%.

The general conclusion of this part-study is that non-inversion is a central language feature of the participants’ linguistic resources, and the construction is realised both in more and less formal settings. However, due to the longevity of the participants’ stay in Sweden, the occurrence of non-inversion cannot be interpreted as part of a foreign accent. Thus, syntactic variation is, in the context of this study, better understood as a feature of suburban Swedish. The students do not benefit from being positioned as L2-learners – in a more traditional sense – in either teaching or assessment. Teachers’ familiarity with suburban Swedish is therefore important.

References


Anna Wrammert, Department of Theology

Upper Secondary Students’ Encounters with Religious and Existential Issues in Public and Private Spheres

Introduction

In highly secularized, and at the same time very pluralistic and religiously diverse, Sweden, media and school are the two arenas where young people mainly get in contact with religious ideas and values (Lövheim & Bromander 2012). This implies both challenges and opportunities for the school subject religious education (RE) since the ability to develop respect for different ways of thinking and living in a pluralistic society is one of the subjects’ central aims (Swedish national agency for education 2011). Previous research concern how Swedish students talk about religion and their own life views and how the notion of religion is articulated in and outside the classroom (von Brömssen 2003; Kittelmann Flensner 2015; Risenfors 2016; Sjöborg 2013). However, few studies have explored the relation between religion, media and religious education.

The purpose of this study is to explore how students from various backgrounds experience encounters with religious and existential issues in different public and private spheres and what didactical challenges and opportunities this relation implies for RE. The research questions are:

- How do upper secondary students talk about their experiences of encounters with religion in private and public spheres?
- What didactical challenges and opportunities may the student’s experiences present to the school subject of RE?

Theoretical perspectives

This study is interdisciplinary and positions itself in both sociology of religion and subject education research. The abductive qualitative approach indicate that data is prior to fixed theories. However, theoretical perspectives such as religious mediatization and religious literacy are used as analytical tools when interpreting the results (von Brömssen 2013; Giddens 2014; Hoover 2010; Lövheim 2012). The ontological position and overarching theoretical framework is based on social constructionism, which in this study view religion, and knowledge, as contextualised and under constant reconstruction and change (Beckford 2013; Hjelm 2014). Building on Anthony Giddens’ work, the interplay between the individual actor and the surrounding context is an important epistemological aspect. Religious mediatization theory view media as a resource for meaning making processes, but also as a powerful institution that regulates and influences information about religion in society (Hjarvard, Hoover 2010). Researchers in didactics of RE and sociology of religion argue that to gain skills in religious literacy, it is necessary for students to learn “from” religion through cultural and critical analysis and reflections (Hella & Wright 2009; Moore 2008), as well as focusing on the students and their own experiences, contexts and realities (Frank 2015; Moore 2008; von Brömssen 2012). Influenced by the components of religious literacy and media literacy, religious media literacy can be understood as “having knowledge about the process through which religion is communicated through various media forms in contemporary society” (Lövheim 2012:164). The concept is a useful tool in empirical studies of how people in different contexts use and interpret media messages in their encounters with religion. Further, religious mediatization and religious media literacy are important theoretical perspectives in relation to aims of RE such as intercultural understanding and source criticism (National Board of Swedish education 2011; Nord & Zipernovszky 2017).
Research design and method
Text writing, focus groups and individual interviews with students are the methods used for data collection. The methodology of the study should therefore be seen as a set of methods or as what is usually referred to as a data-triangulation (see Figure 1).

To achieve variation, three different upper secondary schools have been chosen for this study. The schools have heterogenic student groups where different religious background, gender and programs are represented. Students from both vocational and preparatory programs are included. 87 written student texts, seven focus group interviews and 15 individual interviews have been conducted during 2017 and 2018.

The purpose of the initial individual student texts was to get a first insight into the students’ constructions of religion in relation to their media use. Data from the student texts proved to be valuable for conducting thematic interview guides for the focus groups. Similarly, the data obtained during the focus group interviews suggested questions and themes for the individual interviews. The purpose of using focus groups in this study was to take advantage of the dynamic of the group discussions that emerged when the students discussed themes related to the overarching research questions. During the focus group interviews, vignettes, in the form of media images, were used as a research tool. Individual interviews was chosen to gain a deeper insight into the students’ encounters with religion, but also to enable the participants to talk in a situation without the peer pressure from fellow classmates. All interviews were audio-recorded and transcribed. For data analysis, constructionist thematic coding analysis (Brown & Clarke 2006) have been conducted, using NVivo software.

Preliminary results
Preliminary results show that students avoid discussions about religion in anonymous, public spheres such as chat forums online since it is often associated with conflict. Talk about religious and existential issues together with family, friends and classmates yet seem to be both common and appreciated. Furthermore, the result indicate a strong awareness and critique towards stereotypical media images of Islam, but also of Christianity in both films and news media. Simultaneously, many students identify different media as carriers of positive depictions of religion, such as certain TV-series and films. The results support future discussions about didactic choices - such as the use of dialogue and media material in in the classroom.

References


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