

# *Conference in Education Science for PhD students (CESP)*

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## **Books of Abstracts**

## Table of Contents

<b>Amanda Hoskins</b> .....	<b>3</b>
<b>Birgitta Jansson</b> .....	<b>5</b>
<b>Charlotte Dunne</b> .....	<b>6</b>
<b>Daniel Östberg</b> .....	<b>7</b>
<b>Fanny Mossberg</b> .....	<b>8</b>
<b>Fredrik Ardenlid</b> .....	<b>9</b>
<b>Jennika Mattisson</b> .....	<b>10</b>
<b>Lena_Gleisner_Villasmil</b> .....	<b>11</b>
<b>Magnus Svensson</b> .....	<b>12</b>
<b>Malin Larsson</b> .....	<b>14</b>
<b>Manuel Fernández Santana</b> .....	<b>15</b>
<b>Marwa Amri</b> .....	<b>16</b>
<b>Mina Mani Kashani</b> .....	<b>17</b>
<b>Patrik Samuelsson</b> .....	<b>18</b>
<b>Ricardo Goncalves de Sousa</b> .....	<b>19</b>

# Materials Use in the EFL Classroom: Exploring Materiality and Oral Task Design

Amanda Hoskins

Studying *how* pedagogical materials (e.g. handouts and other teacher-created resources) are used by students in the classroom is central to understanding the actual affordances provided by the materials. However, despite its importance, the role of pedagogical materials in students' learning of an additional language has not received enough attention within SLA research (Guerrettaz & Johnston, 2013; Tarone, 2014). Therefore, this study responds to a call for more research on the relationship between teaching materials and language education by exploring the role of three different types of pedagogical materials in an oral task.

The general framework is the field of task-based language teaching (Long, 2015), where the input (pedagogical materials) given to students is considered an essential feature of task design (Ellis, 2003). Here, the affordances of three different types of input are analysed drawing on multimodal conversation analysis. The data consist of approximately 10 hours of video recordings of dyadic interactions between EFL students at Swedish upper secondary schools. The students engaged in open-ended problem-based tasks designed based on an existing blueprint (Berggren et al., 2023), which had proven to generate tasks allowing students to practice their interactional competence (Pekarek-Doehler, 2018). The input comprised items that were either presented as i) a list of items, ii) cut-out pictures of the items, or iii) actual objects. That is, the task input was manipulated to make comparisons concerning the materiality of the pedagogical materials received by the students. The analysis explores the students' use of the materials to engage in collaborative imagining (Murphy, 2005) and focuses on the students' verbal and embodied orientations to the materials. Based on previous (Kunitz et al., 2022) and ongoing (Hoskins & Kunitz, 2023) research, it is hypothesised that the tangibility of cut-out pictures and actual objects creates different interactional affordances vis-à-vis a list of the same items. Overall, this study highlights the role of pedagogical materials in task-based interactions and contributes to the research on materials use in L2 classrooms.

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# Curricula, values, and young students

Birgitta Jansson

A democratic approach and critical analytical thinking have found support in the core values in Swedish curricula over time. Teaching in all subjects is intended to contribute to students' development as democratic citizens. The topic for this presentation is the second part of my forthcoming thesis. In this part I examine how the view of the student and how support for students critical analytical thinking are highlighted over time in the core values of the Swedish curricula.

The central theoretical concepts used in the forthcoming thesis are "formulation arena," the "transformation arena," and the "realization arena," (Linde, 2020/2021, p. 68). The expressions of democratic values and attitudes in curricula over time, as articulated in the core values, have been analyzed through content analysis. This study includes curricula from Lgr62 to the current LGR22, with a particular focus on the sections pertaining to core values and objectives. In the presentation, I will talk about developments, concept of democracy and textual revisions made in each curriculum with focus on the student. By examining how students have been highlighted in curricula from 1962 to the present from 2022, this study provides insights into how society viewed the child at those specific points in time and what kind of members of society the education process creates. The student is seen in different ways in the curricula. From focus on fostering in 1962, the students were placed in the centre 1969. The view of the student changed further and in the latest curriculum children's rights, which are expressed in the Rights of the Child, are seen as essential part.

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# Application of the ecological model in educational empirical research: A configurative review

Charlotte Dunne

The concept of teacher agency is helpful as an alternative means of understanding how teachers might enact practice and engage with policy. The ecological model of teacher agency can be used to shed light on how the achievement of agency can be seen as the outcome of a complex interplay between different factors (such as individual, social, cultural, material, and structural) related to the iterational dimension, the projective dimension, and the practical-evaluative dimension (see Priestley, Biesta & Robinson, 2015).

The current study aims to give an analytical description on how the ecological model of teacher agency is used within educational research. The research question is: *How is the ecological model of teacher agency used in empirical research?*

To answer the research question, a configurative systematical literature review was used to address the meaning and interpretation of ecological agency (Gough, Oliver & Thomas 2013). 58 articles were analyzed using thematic analysis applying an iterative approach in which the process was improved during the analysis. The analysis revealed five trajectories in how the ecological model has been used in previous research. These trajectories are 1) *Analytical use* 2) *Methodological use* 3) *Conceptual use* 4) *Symbolic use*, and 5) *use in Model Development*.

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# Preparing teachers for leading mathematical discussions: A systematic literature review

Daniel Östberg

Over the past decade, research on pre-service mathematics teacher education has focused on defining and developing core teaching practices to center the preparation of K-12 mathematics teachers around (McDonald et al., 2013). The core teaching practice of leading mathematical discussions has gained significant attention, followed by research on a variety of teacher education pedagogies supporting pre-service teachers' learning in leading mathematical discussions. To advance these initiatives and provide an overview, this study aims to characterize the preparation of pre-service teachers for leading mathematical discussions by exploring relationships between teaching practices and teacher education pedagogies.

The method employed is a systematic literature review, which draws on research literature describing both the intended teaching practice and corresponding pedagogies used to prepare pre-service teachers for that practice. The review adopts a configurative approach (Gough et al., 2017) and a thematic synthesis (Xiao & Watson, 2017), merging studies to create a meta-perspective on teaching practices and teacher education pedagogies.

The purpose of this conference contribution is to present preliminary results derived from the ongoing analysis, scheduled for completion in spring 2024. The potential contribution of this study is knowledge essential for establishing and developing a research-based mathematics pre-service teacher education. The result(s) of this study extend research on core practices and the pedagogies of practice-based teacher education, as well as guide the practice of pre-service mathematics teacher education.

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# **Outstanding Abilities and Inclusive Education: A Scoping Review of Environmental Factors**

Fanny Mossberg

Previous studies have shown difficulties in identifying children with outstanding abilities. Without proper identification, challenges arise in meeting their educational needs and providing opportunities for them to thrive, flourish and develop. Therefore, a scoping review was conducted based on these matters.

The aim of this scoping review was to systematically investigate and synthesise current research regarding environmental factors contributing to (a) early identification of children with outstanding abilities in inclusive education, and (b) well-functioning inclusive education for those children.

The theoretical framework in the review constitutes the Differentiating Model of Giftedness and Talent (DMGT, Gagné, 2021) and the Bioecological Model of human development (Bronfenbrenner & Morris, 2006). The first model links outstanding abilities to both potentials and achievements, in the second model various systems that influence children's development is covered. In this review, these models are considered to complement one another and provide useful and valuable explanations and concepts.

The scoping review followed a methodological framework, two thematic analyses, one for each research question, were conducted on peer-reviewed articles (N=21). The first analysis resulted in seven themes focused on how environmental factors contribute to the early identification of children's outstanding abilities. One example is (preliminary results): Characteristics of outstanding abilities. The second analysis resulted in seven themes focused on how environmental factors contribute to inclusive education for children with outstanding abilities in preschool and school. One example is (preliminary results): Educational provisions.

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# **Students with high abilities in Inclusive Education: A Scoping Review on Teachers' Differentiated Instruction Practices**

Fredrik Ardenlid

The aim of this scoping review is to identify and synthesise empirical research conducted in inclusive compulsory school classrooms that incorporates teachers' implementations of differentiated instruction. It is also to gain an understanding of the characteristics of these instruction practices when involving students with high abilities.

A scoping review of 22 peer-reviewed research articles was conducted. The study followed a literature review outline and also included a thematic analysis in order to identify patterns in the data, in other words, what characterises teachers' differentiated instruction practices.

The review identified 11 themes that reflect the characteristics of differentiated instruction practices in inclusive compulsory school classrooms involving students with high abilities. The following themes emerged from the analysis of the data: (1) A common overall goal with individual goals; (2) An ongoing formative assessment and elements of summative assessment; (3) Provision of appropriate and meaningful tasks for all students; (4) Provision of various learning activities and resources; (5) Using digital technologies; (6) Authentic content and generalisability; (7) Enrichments and adjusted pace; (8) Student autonomy and choices; (9) Different question strategies; (10) A variety of grouping strategies; and (11) Nurturing a positive classroom environment.

The preliminary review result encompasses instances where teachers differentiate instruction to create more inclusive classrooms, demonstrating its feasibility despite the challenges identified in previous research.

# Assessment Literacy in Social Studies

Jennika Mattisson

The current assessment culture's narrow focus on grading places increased demands on teachers' ability to make assessments. Previous research shows that teachers perceive grades as a weak tool for measuring knowledge and learning (Lundahl et al., 2015; Mickwitz, 2021). At the same time, knowledge assessments are perceived as one of the most powerful pedagogical tools in education, and almost one-third of teachers' work is associated with assessment (Lundahl, 2014; Stiggins, 2014). In recent decades, grading has gained a prominent role in schools, which has resulted in teaching and assessment being customized to grading criteria rather than the other way around. The thesis aims to identify teachers' assessment literacy, i.e., their knowledge, practices, and attitudes regarding their assessment practices (Pastores & Andreades, 2019).

The ambition of the thesis is to contribute to a deeper understanding of teachers' assessment practice. The study has been limited to social studies teachers because their teaching should develop students' knowledge and opinions on political issues, which places particular demands on teachers' assessment literacy. The study consists of both focus group interviews with subject teams in social science and classroom observations in secondary and upper secondary schools. The focus group interviews render knowledge about how teachers understand and talk about their assessment practice and literacy. The classroom observations aim to nuance teachers' assessment practice from a praxeological understanding. By combining the two methods, a more multifaceted and complex picture of teachers' assessment literacy can be drawn regarding conceptual, practical, and emotional aspects.

So far, my work with the thesis has consisted of reading previous research and positioning the study in relevant research fields. Furthermore, I have selected and developed methods and theoretical concepts suitable for my study. Finally, I have also submitted an ethics application. The data collection is scheduled to take place in 2024.

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# **Swedish teachers' diverse use of advanced DLR for teaching aims to motivate and prepare students for the future**

Lena\_Gleisner\_Villasmil

In Sweden many teachers have used digital resources for decades in their didactic practice. Recent Swedish research shows that teachers' use of digital learning resources (DLR) has increased during the COVID-19 pandemic and that teachers use DLR with diverse didactic approaches. However, there is an ongoing debate in Sweden about the risks of using digital resources in education. Therefore, there is a need of further research focusing on how teachers use DLR.

Against this background, the purpose of this study is to investigate how teachers describe which DLR they find important for teaching, why they find them important, and how they use them. The sociocultural perspective is used to understand the teachers' use of DLR as mediated resources in their didactic practice. To fulfil this purpose, approximately 300 open-text survey-responses from 243 upper secondary school teachers were analysed using content analysis. The responses are part of a questionnaire distributed to 23 schools in Sweden.

The findings from this study show that teachers use a multitude of DLR, such as digital learning platforms, presentations, social media, interactive learning materials, quizzes, and games, to enhance creative teaching, foster better interaction, and provide rapid feedback to students. Interestingly, many of the teachers mention that they use digital simulation software to motivate and engage students, and to prepare them for the future. This study is relevant as Sweden has high levels of access to digital technology in schools, and there is ongoing exploration within research on teachers' skills and competence with DLR. Further research is recommended on teachers' classroom practices and students' outcomes, particularly focusing on the use of different digital simulation software in teaching.

# Engaging reluctant readers

Magnus Svensson

## Research focus and questions

In Sweden, as in many European countries, reading proficiency is declining amongst children and adolescents. Furthermore, almost 20 percent of young children seems to not like reading at all. There is also a wide gap between schools and students in many countries. Children from less fortunate socioeconomic backgrounds and children with migration background are disadvantaged within the educational system (Mullis et al., 2023; OECD, 2023). Heterogenous classrooms, with great variation in students' levels of reading proficiency and interest in literature, a growing number of students that lack sufficient reading skills and interest, and classrooms where most students lack both the sufficient skills and interest in reading, raises the demand on teachers to make an even greater effort than before to engage all students in school reading. This calls for research into how teachers can teach literature to students that are unexperienced and/or unwilling readers and for some reason reluctant to participate in school reading.

This study is part of a PhD-project with the overarching research question of how engaging literature teaching can be organized. The study at hand focuses on the questions of which kind of didactic strategies or methods teachers use to engage students in school reading as well as the teachers views on and experiences of student engagement in school reading.

## Methodology

L1 teachers at two upper secondary schools in Sweden are interviewed in focus groups of 4 – 6 participants. Focus group interviews have the potential to not only investigate the teachers' personal experiences but also more general aspects of the research question (Rabiee, 2004). The question of engagement is complex as well as situated. The teachers' views on this might include a wide range of thoughts, opinions, attitudes, and feelings, as well as examples from daily classroom practice. Focus group interviews can show both agreement and disagreement in views and experiences amongst the teachers, which allows for background factors to be brought to the fore (Brinkmann & Kvale, 2014; Denscombe, 2017).

## Stage of the research process

I am currently conducting interviews and collecting data. By the time of CESP I should have done transcriptions of the material and be able to share some preliminary results.

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# Second language learner's strategies during the first year of higher education studies

Malin Larsson

This is a presentation of my forthcoming thesis project about participation in Higher Education. What participating in a second language means in higher education, and which strategies second language students use to understand and participate in an academic context, is the main topic for this study. The aim is to use the concept of academic literacies, as formulated by Lea and Street (1998), to see which strategies second language students use to develop their academic literacy practices.

This study will be focused on the students' first year and include students from two PET programs (Pre-school Teacher Programme and Study Programme in Nursing) which have a higher average of students with a foreign background compared to higher education at large (UKÄ, 2023). Since Lea and Street's (1998) model contains parts that both focus the discursive and the practical handling of academic literacy, I will both interview students and analyze texts that the students write during the first year of their studies.

The students' statements and texts will then be analyzed. The analysis is based on the three layers from Lea and Street's model: skills, socialization and discourse. These should not be seen as separable. In this context, the word discourse (academic literacies) should be seen as the layer in which the other two can be seen as immanent.

Hopefully, the results of this study can be useful when designing education for widening participation to meet future needs for social sustainability.

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# Encouraging Behavioural Change towards Sustainability through Affective Engagement

Manuel Fernández Santana

Climate change is the greatest threat to human existence the world has ever experienced, being heavily scrutinised by international institutions, national governments, and world reports. Exploring implications of unsustainable patterns of consumption and climate change on a social, economic, and ecological level is key to ensure human survival and tackle societal issues. In this regard, I am currently commencing my PhD with a research focus on endeavours and actions for sustainability education. Multiple education initiatives have attempted to address these issues through global and national strategies that establish concrete goals and exemplify the interconnectivity and complexity of sustainability-related issues (Ministry of Education and Research, 2019). One approach involves participatory processes that focus on social synergies and interactions, communication and effective problem-solving to learn about sustainability (e.g. Pearce and Ahn, 2010). Nevertheless, possessing knowledge about sustainability topics does not automatically lead to the development of pro-environmental behaviours (e.g., Muenz et al., 2023). Thus, conducting research on affective connections to one's personal setting, society and other individuals and lifeforms, and ultimately to the environment can be a valid way forward. Through such research, reflexive and decision-making processes about sustainability could be identified, and therefore, help foster behavioural change (e.g., Honey-Rosés et al., 2013). The use of visual resources, narratives, and experiential approaches in combination with an affective engagement could provide potential new directions to investigate interventions for behavioural change. Such interventions could take the form of adopting visualization to construct future imaginary scenarios where pupils have opportunities to experience, interact and reflect upon environmental-related topics. It is foreseen that responding to this research aim will involve multiple qualitative methods including observation, visual exploration, interviews, and/or discourse analysis.

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# “Need to Think a Bit”: Creating a ‘thinking’ space in EFL Project Work

Marwa Amri

Innovative pedagogical approaches for teaching and learning aimed at fostering independent thinking and creativity require more than a normative orientation to the task outcome. Instead, teaching within these approaches should go beyond a narrow focus on the product of the task and include practices that encourage students to think independently and creatively throughout the learning process. This conversation analytic study investigates between-desk interactions (see Amri & Sert, 2022) extracted from 20 hours of English as a Foreign Language (EFL) project-based lessons in an upper-secondary school, where the teacher and students engage in discussions about their work in progress. The analysis of 27 sequences highlights the teacher's emphasis on fostering independent thinking through questioning practices specifically aimed at prompting students to reflect more on their work process rather than the result of their work. These questioning practices are in the form of counter-questions (Markee, 2004), knowledge-producing questions (Koole, 2010), and information-seeking questions (Waring, 2019). Additionally, the study reveals that the teacher's questions – specifically, counter questions– instil a degree of uncertainty in the students and show how both the teacher and the students navigate this uncertainty through subtle verbal and embodied work.

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# Design and investigation of adaptive interactive learning environments for developing systems thinking skills

Mina Mani Kashani

Facing environmental challenges like climate change and environmental degradation has increased the importance of acquiring systems thinking skills (Seher Budak & Defne Ceyhan, 2023). Systems thinking can empower students and citizens to understand the interconnectedness of the earth's subsystems and make informed decisions (Assaraf & Orion, 2010). Developing these skills is a challenge that could potentially be scaffolded by well-designed interactive learning environments (Evagorou et al., 2009). Nevertheless, despite research on interactive learning environments in science education (e.g. Linn et al., 2014), there is little reported on the empirical process of designing such environments and integrating them into teaching practice. This thesis fuses science education research with design practice and plans two case studies in formal and informal contexts. The formal learning situation focuses on an adaptive interactive learning environment for developing grade 7-9 pupils' systems thinking skills in the carbon cycle context. It includes three stages. Stage 1 is an explorative iterative design process that integrates multiple perspectives, including theoretical drivers, a design team, science teachers, and pupils. The process resulted in *Tracing Carbon*, an adaptive interactive visual learning environment with multiple learning tasks and quizzes in three modules. Stage 2 is currently investigating the influence of *Tracing Carbon* on the development of pupils' systems thinking skills in classrooms as a pre-/post-test design. Stage 3 aims to integrate the learning environment into classroom science teaching practice by employing a Design-Based Research method. By involving two science teachers from different schools, stage 3 focuses on teacher-researcher co-creation of carbon cycle lesson plans. This stage aims to explore the influence of integrating the *Tracing Carbon* lesson plans on pupils' learning processes and emergent teaching approaches. The first stage of the doctoral study has been completed and stages 2 and 3 are in progress. Future work includes exploring the applicability of findings from formal learning contexts in science centers and other informal learning contexts.

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# Knowledge about Society – a school subject’s continuity and change

Patrik Samuelsson

Social studies (Swedish *samhällskunskap*) are a school subject that occupy a central and yet precarious place within the Swedish educational system. Like most democratic countries, especially with regards to Sweden’s Nordic neighbors (cf. Christensen, 2023; Larsson & Ledman, 2023), there has been a political will both historically and contemporary to transmit and foster democratic virtues and knowledge within a particular school subject. Hence, social studies is at its core an especially politicized school subject, the very essence of content of instruction is in itself a product of partisan political compromises (Englund, 1986). Therefore, the knowledge taught within social studies can be seen as ideologically permeated.

The historicity of social studies entails epistemic, societal and democratic values which affect the construction of knowledge within the school subject. This thesis purpose is to analyze the content of instruction within social studies from a subject didactical perspective, with special emphasis on the political dimension as outlined above, to elucidate what this content *is* and *how* it is constructed by both teachers and scholars. My point of departure is that the content of a school subject, as understood from a didactical standpoint (the so-called “what-question”), is a continuous process of constructing knowledge within a given context. Through this process the knowledge change, some emphasis, conceptions, and values carry over from different context, while others emerge from the context wherein the constructing takes place. Thus, the knowledge that constitute the basis of instruction in social studies can be seen as a distinct from other forms of knowledge, both its political dimensions and the teacher or scholar conceptualizing it contributes to this uniqueness. To investigate this knowledge construction may therefore critically illuminate implicit values within the content and how students view of society and democracy can be influenced in ways that might not be apparent.

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## **Touch as pedagogical action in preschool: the importance of touch in the interplay between male preschool teachers and children**

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This PhD research project aims to gain knowledge about touch as pedagogical action in the interplay between men and children in Early Childhood Education and Care (ECEC). The following questions were addressed: (1) how does touch become a pedagogical action between male preschool teachers and children? (2) Under what conditions does become touch a pedagogical action? This project is in its final stage, with the defence of the thesis planned for Autumn 2024. This study builds upon previous research that has shown that touch between preschool teachers and children has been subject to surveillance due to a societal concern about children's sexual abuse (CSA) and by adoption of policies towards protection of children's body integrity (Pruit, 2015). Men working in ECEC express concern to be suspected of CSA when they are involved in touch situations with children (Brody et al., 2020). The study draws upon Dewey's pragmatism by examining touch as an action in the transaction between preschool teacher, children, and their environment (Dewey, 1949/1991). Fieldwork within a qualitative research paradigm was conducted. Participant observation was carried out with 45 children and 3 male preschool teachers from three Swedish preschools. Fieldnotes and video recordings were used as data that was analyzed through a thematic analysis within an abductive approach (Braun & Clarke, 2016; Conaty, 2021). The study received approval from the Swedish Ethical Review Authority, and ethical principles such as informed consent, confidentiality, and anonymity were adhered to throughout the entire research process. The findings indicate that touch becomes pedagogical in five different pedagogical actions: focus-oriented, guiding, assisting, affective and playful. These findings suggest that touch in form of pedagogical actions create conditions for children's learning and care. Such actions can also contribute to supporting men's professional work when touch situations are understood from a pedagogical perspective in ECEC.