BOOK OF ABSTRACTS

Conference on ISCAR Nordic-Baltic Region

UNIVERSITY WEST

Nordic-Baltic ISCAR 2025

June 17-19

Trollhättan Sweden

ISBN Electronic: 978-91-89969-28-5 ISCAR

ISBN Electronic: 978-91-89969-28-5

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Foreword

Welcome to the Nordic Baltic ISCAR Conference 2025

"Working and learning with CHAT-driven research"

The ISCAR Nordic Baltic Conference is the main event of the Nordic Baltic Region of the International Society for Cultural-historical Activity Research (ISCAR). The conference held at University West, Trollhättan, Sweden, 17-19 June 2025, is the 10th in a Nordic Baltic Conference series. The first two in this series predate the birth of ISCAR. These were held in 1997 at the University of Helsinki, Finland and in 2001 at the Blekinge Institute of Technology in Ronneby, Sweden. The conference in Helsinki was arranged as a preparatory step toward the ISCRAT World Congress in Aarhus, Denmark, the following year. In this first conference in Helsinki, the organizers expressed their hope that these Nordic-Baltic events would continue at regular intervals. The third conference was held at the University of Copenhagen under the name of Nordic ISCAR.

The conferences then continued as in the following: at the University of Southeast Norway, in Hønefoss, Forewordat Kristianstad University College, Sweden, 2013 (6th Conference); at the University of Copenhagen, Helsingør, Denmark, 2016 (7th Conference); at the Norwegian University of Science and Technology in Trondheim, 2019 (8th Conference) and at the University of Helsinki, Finland, 2022 (9th Conference).

As we were finalizing the preparations of the conference, the renowned social and environmental activist Greta Thunberg was aboard the Freedom Flotilla Madleen heading to Gaza with 11 other young pacifists and activists with much needed food for civilians who are being starved and subjected to atrocious violence.

Many times in history young people have been disillusioned with systems of injustice and oppression, felt that they had to take risks and many lost their lives in fight for justice. These young people should instead have been allowed to flourish in supportive civil societies. What is different in the case of the 12 Freedom Flotilla activists this time in history is that it has become blatant that business as usual reflects systemic dysfunctions that threaten the very existence of life on our planet, along with the rule of international law and the protection of basic human rights.

At this time in history humanity has the technology, knowledge and resources to ensure the flourishing of each human being and living being on our planet, yet this is still an era in which priorities are given to waging wars and extraction activities with a destructive impact on the environment. In this context globally, cultural-historical activity research, work-integrated learning and all other research domains linked with cultural-historical activity theory have a key role to play to advance scientific undertakings that can have tangible impact in transforming education and work for ensuring the attainment of equity and sustainability.

This event aims at interrogating and re-envisioning the shared roots of working and learning, to make them relevant in the face of current global challenges for transforming human activities to sustain lives and the planet. Work is here understood in a broad sense, including the work of learners, teachers, patients and caregivers as well as unpaid and voluntary forms of work.

University West is a perfect academic setting to hold this conference for several reasons. First, this is a university committed to "Creating Change Together" (https://www.hv.se/en/). This commitment strongly echoes the ISCAR commitment to engaged transdisciplinary research for co-analysis and co-design of human activities and sustainable use of technologies with stakeholders outside the university. Second, socio-cultural research and cultural-historical activity theory have often been applied in studies of Work-Integrated Learning (WIL), a research domain that reflects the overall profile as well as the area of strength and practical engagement of University West. Third, this university is the home of the Center for Activity Theory at University West, inaugurated in 2021 as a platform for researchers,

students and teachers to stay up to date and be part of the developments of cultural-historical activity theory worldwide.

The 10th Nordic Baltic conference brings together researchers, students, practitioners and working life and industrial partners from different continents. By gathering to present results of their work, attending workshops, exchanging know-how, as well as building new relationships and strengthening existing networks, the participants show what engaged scholarship can look like: joyful, yet focused and determined building of communities of solidarity across disciplinary, geographical and cultural borders, aimed at demonstrating how alternatives to destructive capitalist and imperialist orientations can be realized and nourished for the flourishing of humanity and the environment.

This conference is dedicated to the memory of *Lars Svensson,* Professor in Informatics and former Vice-Chancellor of Research and Research Education at University West.

The Conference Chairs and the Organizing Committee

June 9, 2025

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Keynote abstracts

The future of hybrid work and collaboration – what is new and what is not?

Keynote 1: Professor Susanne Bødker

Based on the Rework project and previous research on hybrid, remote and collocated work, this talk will draw lines to the past and discuss the post-covid setting where work is happening in many hybrid settings, either because people work more frequently from home, because employers want to save space, or because people work remotely over distance. Many technologies support these forms of hybrid activity, yet the technologies also introduce fundamental asymmetries between participants. The talk will discuss these asymmetries and how technology can possibly help mend them.

Bio
Susanne Bødker is a professor of Human-Computer Interaction at the Department of Computer Science, Aarhus University. She is known for her theoretical and empirical work on second-wave Human-Computer Interaction, computer mediated activity, and participatory design. She was co-PI of Aarhus University's interdisciplinary center for Participatory IT research, and PI for CIO, which was supported by ERC.

Innovations for Sustainable Expansive Learning: Lessons from Formative Interventions in Work Settings in Brazil

Keynote 2: Associate Professor Marco Antonio Pereira Querol

Formative interventions are increasingly important given the urgent need to address socio-environmental challenges. Drawing on experiences of such interventions in Brazil, based on Cultural-Historical Activity Theory (CHAT), co-created innovations are presented along with lessons on how their impact and sustainability can be enhanced. The innovations include the development of a new software, designed to enhance the visualization of occurrences of workplace accidents and to facilitate rapid, synchronized action. Another innovation was the expansion of the community of actors, including companies, to actively participate in developments aimed at improving workplace safety and security. Five lessons have been learned from these studies. First, training intervention teams and participants in key CHAT concepts can strengthen the use of the intervention tools and promote continuity of learning. Second, the inclusion of activity-specific concepts and models can complement CHAT concepts and enrich interventions. Third, the involvement of key stakeholders in planning can better align interventions with existing development initiatives. Fourth, along with temporary learning spaces, more permanent learning platforms may promote continuity and the building of coalitions for change. Finally, communication approaches such as traditional mass communication, social media, theatre and the arts can help to support expansive learning beyond local settings.

Bio
Marco Antonio Pereira Querol is an Associate Professor in the Department of Agronomic Engineering at the Federal University of Sergipe (UFS), teaching Rural Sociology, Rural Extension, and Social Movements. His research focuses on Innovation, Sustainability, Organizational Learning, Cultural-Historical Activity Theory, and Interventionist Methodologies, particularly the Change Laboratory.

Poster abstracts

Health Education

Posters on Health

Preventing homeless women's acute hospitalisation – barriers and possibilities for practice development

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Keywords: Homeless women; Acute hospitalisation; Prevention; Stakeholder engagement; Integrated welfare

Abstract

The purpose of this project is to investigate how cooperation between health, social and low-threshold services is practiced and can be further developed to prevent acute somatic hospitalisation of homeless women. Despite targeted interventions from health, social and low-threshold services to prevent the deterioration of homeless women's somatic health condition, these women have a 50 % higher risk of admissions to acute care settings compared to the background population. Little is known about how professional services cooperate to prevent hospitalization and how homeless women can be supported to seek help at an earlier stage.

This project is conducted in a large municipality in Denmark and includes voices of women who have experience with homelessness and active involvement of professionals in the development of practice. We employ a transformative research design using the change laboratory method. First, we will explore homeless women's perspectives on health, prevention and preventive services through interviews and field observations. Second, this knowledge will inform a series of change lab sessions with professionals from health, social and low-threshold services aiming to identify systemic contradictions and potential for practice development.

Adaptive training for sustainable healthcare: A CHAT-based study on the train-the-trainer model

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Keywords: Train-the-Trainer (TtT); Capacity-Building; Expansive Learning; Healthcare Education

Abstract

This study explores the implementation of the Train-the-Trainer (TtT) model within an international healthcare partnership between a High-Income Country and a Low-Middle Income Country, focusing on knowledge dissemination and sustainable capacity-building. Using fourth-generation Cultural-Historical Activity Theory (CHAT), we analyze systemic contradictions in the training process and examine how transformative agency enables sustainable improvements.

The TtT model trains local instructors to educate healthcare workers, but project data reveal key tensions: resistance to structured pedagogy, technological barriers, unclear role definitions, and difficulties in applying training to clinical practice. These contradictions act as triggers for expansive learning, leading participants to collaboratively develop adaptive training approaches.

To address these challenges, a hybrid training model was introduced, combining structured pedagogy with mentorship-based learning and cross-border instructor networks. Through iterative adaptations and collaborative feedback loops, participants exercised transformative agency, reshaping training practices and ensuring long-term sustainability.

Findings suggest that CHAT-based formative interventions strengthen healthcare education by fostering institutional support, digital integration, and context-sensitive learning strategies. This research contributes to scalable, cross-cultural capacity-building programs, demonstrating how transformative agency can drive sustainable improvements in infection control practices.

A CHAT analysis of interplay between actors in nursing students' municipal clinical practice

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Keywords: Workplace-based learning; Health professions education; Nursing education; Activity theory

Abstract

Clinical practice is vital in health professions education, relying on both academic and healthcare organizations with distinct yet interdependent goals. Collaboration can create tensions, as each actor may prioritize its own perspective, potentially hindering student learning. Nursing students often experience academia and the workplace as separate worlds despite being part of the same education. Using activity theory, this study explores stakeholder interplay to enhance understanding of their perspectives and support student learning.

A qualitative, interactive study was designed using key CHAT theoretical components (subject, object, rules, tools, division of labour and community) to analyse interviews and group discussions with stakeholders in last-year nursing students' municipal clinical practice. Eight workshops were conducted during 2 years with educators, clinicians, students and managers, in all 33 persons.

Results: preliminary results will be presented in a figure summarizing components in relation to stakeholders.

A multi-voicedness of actors underscored the dynamics within clinical placements. Engeström's activity theory provides a useful lens for understanding dynamics of interplay and each actors' perspectives, which may support the collective goal of educating future healthcare professionals.

The sense of a patient: An ethnographic exploration of manikins' influence on nursing students learning through the lens of CHAT

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Keywords: Nursing education; Nursing students; Simulation-based learning; Ethnography; Qualitative study; Cultural-historical activity theory

Abstract

Background: Simulation-based activities with human-like manikins are invaluable in nursing education, fostering essential competencies. However, understanding of manikins' contribution to learning remains limited.

Objective: To gain insight into manikins' influence on nursing students' learning.

Method: An ethnographic study involving 204 first-year nursing students and 18 educators across four campuses. Data collection through observations and interviews during 15 sessions featuring various manikins. Thematic analysis using CHAT as framework.

Results: Five identified categories: (1) Manikin as an object for learning technical skills; (2) Manikin as a subject, for integrating care into skills; (3) The interplay between technical and caring approaches; (4) Individual learning space providing a feeling of working with a patient; (5) Collective learning space offering collaborative and reflective opportunities. The dynamic between these categories introduced students to the balance between technical and interpersonal skills.

Conclusion: Manikins serve as mediators, bridging technical proficiency and relational care. Tensions in manikins' dual nature can drive change. Focusing on patients' well-being as the primary objective of activity, can promote expansive learning, infusing learning with deeper meaning and connect the educational and clinical system.

Implications: Raising awareness among educators about targeted manikin usage can enhance educational practices. This study invites exploration on how tools mediate learning.

Contradictions in crisis preparedness: A CHAT analysis of horizon scanning in risk and vulnerability analysis

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Keywords: Risk and Vulnerability Analysis (RVA); Horizon Scanning; Crisis Preparedness

Abstract

Risk and Vulnerability Analysis (RVA) is central to crisis preparedness, guiding decisions on threats, vulnerabilities, and resilience in critical societal functions. However, integrating horizon scanning - continuous monitoring of external trends - remains underexplored.

This study examines how horizon scanning is structured in regional RVA processes, using Cultural-Historical Activity Theory (CHAT) to analyze organizational structures, tools, and practices. Based on interviews with Swedish regional emergency preparedness units, findings reveal that division of labor and community structures shape horizon scanning. While seen as essential for proactive risk management, it faces challenges such as fragmented workflows, lack of standardized methods, and short-term compliance overriding long-term strategy.

The study identifies contradictions in integrating horizon scanning into regional RVA. A compliance-driven focus limits proactive risk identification, while frontline analysts' insights often fail to influence centralized decision-making. Additionally, standardized risk frameworks clash with adaptive local practices, forcing practitioners to develop informal strategies. Applying CHAT, these contradictions highlight the need for expansive learning and work-integrated interventions to enhance crisis preparedness and improve horizon scanning in emergency response. The study contributes to discussions on work-integrated learning and transformative agency in crisis management, offering insights for improving risk governance and resilience in critical infrastructure.

Posters on Education

CHATting up agency: Leveraging a chatbot to boost French grammar learning

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Keywords: Formative Intervention; French Language Learning; Gen AI; Transformative Agency

Abstract

Nordic ISCAR 2025 – Abstract for Poster Presentation Title: CHATting Up Agency: Leveraging a Chatbot to Boost French Grammar Learning The integration of Generative AI (GenAI) in education raises concerns about learners' agency potentially being compromised by artificial intelligence. Contrary to these apprehensions, this work-in-progress research proposes that GenAI can actually empower learners by enhancing their transformative agency. This study focuses on how students develop their transformative agency by using "Grammami," a GenAI chatbot designed to assist French language learners in improving their grammar skills. Grounded in Cultural-Historical Activity Theory (CHAT), the research employs a formative intervention design using the double stimulation method with Grammami's feedback as second stimulus. The study aims to explore how the chatbot's feedback triggers agentic actions in learners and seeks to identify and categorize different types of expressions of transformative agency during learner-chatbot interactions. From a practical standpoint, this research addresses a significant gap in existing literature by developing guidelines for crafting pedagogical interventions that enhance language learner agency through GenAI. It also proposes a framework for analyzing agency mechanisms in Gen-AI mediated learning environments. Theoretically, it will lead to a more nuanced understanding of mediated agency that accounts for the unique characteristics and capabilities of AI-driven educational technology and will enrich CHAT's capacity to evolve and adapt to new technological and educational paradigms.

Future-making among shy students: Imagination as a mediating tool in the transition to high school

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Keywords: Shy students; Future-making; Transitions; Imagination; Agency; Inclusive education

Abstract

This study investigates future-making among shy middle school students and how their narratives of future selves mediate their transition to high school. Shyness poses unique challenges during this transition, characterized by the fear of novelty and hesitation in unfamiliar social situations. Adopting a cultural-historical framework, we explore how agency unfolds in students' future-making processes, conceptualizing it as an emergent and relational phenomenon mediated by imagination. Critically, access to cultural tools and resources is pivotal in shaping agency, requiring both societal provision and active engagement by individuals. Through interviews with students, parents, and teachers, this study examines how adolescents construct narratives of their futures and how these narratives actively inform their choices and actions. Preliminary findings indicate that shy students display courage and ambition in pursuing personal interests beyond their immediate social comfort. Parents play a crucial role in fostering agency by supporting aspirations and helping students navigate social and structural constraints. By unpacking how narratives influence decision-making, this research contributes to cultural-historical perspectives on future-making and underscores the importance of inclusive educational approaches that recognize and support diverse expressions of agency.

SLEAC: Cultures of sleep and learning in early childhood

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Keywords: Early childhood; Sleep; Cultural historical activity theory

Abstract

Children's sleep is a widely studied topic. Yet, despite sleep's centrality for children's learning, development and their everyday life, there is dearth of knowledge on children's sleep from cultural-historical or broader educational sciences perspective. In effect, questions regarding the cultural practices and pedagogics of sleep - how sleeping is done, taught and learned - in today's childhoods are not addressed. Furthermore, given the entanglement of children's sleep in the rhythms of societal institutions and ways of life, answering such questions requires understanding also how communities and institutions around children can learn and change for better sleep. In this poster, I will outline a research program, The Cultures of Sleep in Early Childhood (SLEAC), which explores these questions from a cultural-historical activity theory perspective. In short, SLEAC serves as an umbrella project for multiple smaller research endeavours focusing on the various aspects of early childhood sleeping cultures. What brings these endeavours together is their shared conceptualization of sleep not just as a biological but also as a culturally mediated process that children and adults learn and learn to change. Similarly, sleep is seen as a shared engagement which emerges through our everyday interactions, enmeshed as part of ECEC settings, family life and their activities. What follows is that learning to sleep, and the possibilities for this learning, are explored from individual, relational and organizational perspectives across the SLEAC projects. My poster will showcase how the SLEAC project brings these different lines of inquiry together.

Extended abstract

The Cultures of Sleep in Early Childhood (SLEAC) research project aims to understand children's everyday sleep practices and learning from a cultural-historical activity theory perspective (Engeström 1987/2015, Dafermos 2018, Levant 2018). While sleep and rest are central for children's learning, development and wellbeing, children's sleep or rest practices in early childhood have been seldom studied in cultural historical research, or the educational sciences more broadly (cf. Morelli et al. 1992). In effect, discussions concerning children's sleep, rest and related societal problems and their possible solutions rely much on research done within sleep science, sociology or anthropology (Walker 2017, Wolf-Meyer 2012, Glaskin & Chenhall, 2013). The way in which children learn to rest and sleep, how they are taught and educated to do so and how the cultural practices around sleep change and can be transformed for better sleep, remain largely unexplored. By answering these questions, the SLEAC project aims to enrich and enliven scientific, educational and societal discussions about sleep and our sleep practices as well to offer new insight and discoveries to foster them.

From a cultural-historical perspective, sleep-time in ECEC can be conceptualised as a practice or an activity setting embedded in the activity system of ECEC (Engeström 2022, Hedegaard 2012). As such, sleep-time consists of assemblages of concerted actions by the teachers, staff and children which aim at resting and relaxing as well as creating possibilities for this in ECEC. These actions are mediated by various sociomaterial artefacts/tools (beds, blankets, sleep toys, music, ways of soothing etc.), the division of labour between the adults and the children as well as the rules of the group and follow a shared routine or a stable script of how sleep-time proceeds. Sleep-time and how it is enacted aspires towards the object of ECEC, supporting and guiding the learning, development and wellbeing of the attending children. Moreover, sleep-time practices are part and parcel of the activity system of the ECEC group and as such integrally extend and relate to other activity systems (Engeström & Sannino 2021). That is, sleep-time in ECEC is part of a broader network of proximally or distally connected activities, their objects and activity systems (like other groups and activities in the kindergarten, children's home's, etc.) nested in their particular societal and historical conditions.

In terms of methods, SLEAC will employ a multimethod research design with individual projects

based on a broad range of ethnographic and participatory methods (Hammersley & Atkinson, 2019; Hilppö & Stevens, 2020) as well as formative intervention methods (e.g., change laboratories Virkkunen & Newnham 2013). In addition, SLEC will also engage in theoretical and speculative explorations (Michael 2016) of children's sleep and rest as well as the possibilities offered by various artistic ways of working with non-representational methods (e.g. documentaries) to foster both new knowledge about and change in current sleep and rest practices.

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Biodiversity conservation education research: Combining European didactics and cultural historical activity theory to enquire about teachers' professional development

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Keywords: Biodiversity Conservation Education; Teachers' professional development; European didactics; Cultural Historical Activity Theory; Transformative Agency; Change Lab

Abstract

This presentation highlights the use of European Didactics and Cultural Historical Activity Theory (CHAT) for researching teachers' professional development in Biodiversity Conservation Education (BCE). The research is currently in its early stages and includes four studies, which will be integrated into a doctoral thesis. The first study, a systematic literature review (already completed), uses the didactical system as an analytical lens. It reveals the main characteristics of BCE and a lack of knowledge concerning teachers. Future stages will focus on teachers practicing BCE through the "Vilda Grannar" project in Sweden. A mixed-method study will explore teachers' perspectives and how they integrate conservation initiatives into their teaching. The concept of transformative agency and the metaphor of warping will be used in this study, by considering teachers' conservation initiatives as anchoring forward movements (Sannino, 2022). The final studies will problematize teachers' professional development through formative interventions for teachers and BCE stakeholders, using the CHAT-driven methodology of Change Labs. Both theories can be complementary, as European didactics can serve to describe and understand teaching practices within the specific context of formal school education, while CHAT addresses the expansion of teaching practices beyond traditional school boundaries.

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A Change Laboratory approach supporting student agency and action orientation in a traditional school setting

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Keywords: Change laboratory; School Teachers; Action-oriented learning; Agency; Technology-enabled learning

Abstract

This study investigates the implementation of transdisciplinary pedagogical approaches within conventional educational contexts, emphasising transdisciplinarity as a capability that enables students to navigate complex, real-world challenges. Central to this work is the use of technologies to capture student thinking and real-time learning data, supporting both formative assessment and the development of students' ability to integrate knowledge across domains. Building upon preliminary findings from our pilot research, which utilised activity theory as a theoretical framework, we now propose employing the Change Laboratory methodology to collaborate with educators in embedding transdisciplinary practices within their instructional design. This interventionist research approach aims to enhance students' critical voice, agency and action-orientation while exploring how digital tools and mobile data collection can provide insights into their cognitive processes. Our poster presentation will expand on this subsequent phase of research, analysing how structured collaborative Change Laboratory intervention with teaching professionals can foster learning environments that empower students to engage meaningfully with multifaceted societal issues through intra-disciplinary depth, transdisciplinary inquiry, and technology-enhanced reflective learning practices

Paper abstracts

Foundational issues and challenges in cultural-historical theory

Knowledge creation between higher education and working life in health and social care through the lens of cultural-historical activity theory

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Keywords: Cultural-historical activity theory; Health and social care sector; Knowledge creation; Workshops

Abstract

This paper presents the results of a study that explored knowledge creation (KC) at the intersection of higher education and working life in the field of health and social care. The theoretical framework combines the concepts of the knowledge creation approach with the methodology of the cultural-historical activity theory. Using a series of workshops as the empirical method, the research involved teachers, students, and experts from the field in interactive small group activities. The aim of the workshops was to gather multi-professional experts' perspectives on specific topics: future services and the impact of continuous learning programmes.

The study comprises two sub-studies on multi-professional KC: the first examines the nature of KC in workshops, identifying innovative and contradictory elements of future visions of the services, and the second analyzes the expansive potential of conceptualizing the impact of continuous learning programmes. The cultural-historical activity theory and the theory of expansive learning enhanced understanding of the development targets and the broader implications of KC practices.

Extended abstract

The Finnish health and social care sector has faced fundamental changes, particularly with digitalization and multi-professional collaboration, which requires new knowledge. This has challenged education and competence development. Knowledge creation (KC) offers an approach to involve experts in expanding the understanding of the field and its future needs. KC can be materialized in workshops, which provide a new conceptual framework to broaden understanding and object expansions. This paper presents expansive object development between education and work and highlights how activity theory can be combined with KC exercises to view object expansion and its wide connections in addition to the conceptual development process.

Two case studies highlight participants' discussions and how they expanded the object of activity. These discussions were the starting point in the development projects by the Finnish university of applied sciences, where KC workshops gathered teachers, students, and experts to discuss the future of integrated health and social services (Juvonen et al., 2022) and the impact of continuous learning programmes (Juvonen et al., 2024). Empirical data was collected from the interactive small group work during the workshops.

The KC metaphor of learning (Paavola & Hakkarainen, 2005) increased the understanding of development targets, where knowledge from different fields was needed to solve challenges. The metaphor considers that the creation of new knowledge requires collaborative activity. This occurs during the creation of shared knowledge objects, which learners collaboratively utilize. Activity theory (Engeström, 2015) offered the socio-cultural context of the knowledge objects with the help of developmental contradictions and expansive transformations within and between the elements of activity. Moreover, activity theory enabled the expansion of dimensions in conceptual tools, which were developed to increase the understanding of how and why the practices of KC took place. Additionally, the theory enabled the understanding of the dialogue of different perspectives, as well as networks of interacting activity systems.

The first sub-study examined what the kind of KC is taking place in the workshops. The study analyzed emerging connections between elements of activity, in addition to expansive and contradictory aspects

in multi-professional discussions. The data consisted of both expansive and contradictory connections between the elements of services in the activity system. The activity theoretical framework supported exploring developmental contradictions and expansive transformations (Engeström, 2015).

The second sub-study examined the impact of continuous learning programmes by analyzing multi-professional KC in online workshops. Multiple dimensions of expansion (Engeström, 2016; Toiviainen et al., 2022) provided a theoretical framework and helped to identify the learning potential in small group work. Participants' discursive actions in small groups manifested expansive conceptualization on multiple dimensions but also revealed dilemmatic impact-related questions of continuous learning programmes.

In understanding what kind of KC is taking place in the workshops, the cultural-historical context enabled an analysis of the knowledge objects. (Engeström, 2015). The future potential of KC exercises benefits from activity theory when the object is culturally-historically multi-layered, consisting of contradictions and resolutions that require the creation of new knowledge, where people share ideas about imagined epistemic objects. In this study, the contradictions are seen as existing challenges that play different roles for health and social care professionals depending on their overall situation. The study recommends implementing KC exercises to view challenging topics and analyze the data with activity theory.

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Sensuous practical activity as thought-form: Dialectical perspective

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Keywords: Activity Theory; Cognition; Dialectics

Abstract

Activity Theory challenges the division between theory and practice. The relation between Subject and Object is central to a theory of cognition, which, in this case, is the same as a theory of science. Subject refers to the cognizing agent, and Object refers to the aspect of reality the agent is cognizing. In empiricism (sometimes referred to as contemplative materialism), this relation is mainly understood as sensuous perception. From a skeptical empiricist perspective, Hume argued that the knowledge of the Object is nothing but a pattern of sense perceptions: relations between things or events—such as cause and effect—cannot be observed, and thus the idea of relations (or any scientific laws) is generated by imagination. Hegel's insight was that categories or thought forms extend to the world (Il′enkov, 1977). This insight became the foundation for Activity Theory, which conceptualizes mediating activity as an objective thought-form. The category of activity is defined as "a process of intertraffic between opposite poles, subject and object." (Leontyev, 2009, p. 3). Activity Theory challenges the division between theory and practice by emphasizing the processes of mediation and determination as central to cognitive activity, expressed in things as well as in language.

Extended abstract

Activity Theory challenges the division between theory and practice. From a dialectical perspective, practical activity is inherently cognitive activity. The relation between Subject and Object is central to a theory of cognition, which, in this case, is the same as a theory of science. Subject refers to the cognizing agent, and Object refers to the aspect of reality the agent is cognizing. In empiricism (sometimes referred to as contemplative materialism), this relation is mainly understood as sensuous perception. From a naive empiricist perspective, the knowledge of reality is its complete mental representation (a copy similar to a mirror reflection) in the consciousness of the Subject created through sensuous perception. From a skeptical empiricist perspective, Hume argued that the knowledge of the Object is nothing but a pattern of sense perceptions: relations between things or events—such as cause and effect—cannot be observed, and thus the idea of relations (or any scientific laws) is generated by imagination. In Critique of Pure Reason, Kant rejected this skeptical view of science and cognition. He argued that the Subject shapes knowledge of the Object through cognitive structuring, with the mind organizing sensory data according to the mind's inherent categories (thought-forms). Kant was the first to see the logical forms of thinking in categories (Il′enkov, 1977). Hegel's insight was that categories or thought forms extend to the world (Il′enkov, 1977). This insight became the foundation for Activity Theory, which conceptualizes mediating activity as an objective thought-form. The category of activity is defined as "a process of intertraffic between opposite poles, subject and object." (Leontyev, 2009, p. 3). Activity Theory challenges the division between theory and practice by emphasizing the processes of mediation and determination as central to cognitive activity, expressed in things as well as in language

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The use of the cultural-historical theory in research on education of students with intellectual disabilities: A systematic literature review

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Keywords: Intellectual disabilities; Special education; Vygotsky; Cultural historical activity theory

Abstract

There is a need to understand how the Cultural-Historical theory has been used to advance the field of special educational research and practice to meet the needs of students with intellectual disabilities in Sweden and internationally. The aim of the present systematic review was to identify and synthesize available peer-reviewed, cultural-historical research studies conducted with children and youth (aged 0-20) with intellectual disabilities in educational settings. Four electronic databases of Education Resources Information Center (ERIC), PsycINFO, PubMed, and Scopus were used for systematic search of literature. In addition, we hand-searched several academic journals. Our preliminary results demonstrate that the main topics were inclusion and participation, scaffolding and mediating tools, and compensatory aspects of education. The majority of the included studies employed qualitative research design using case study methodology, interviews, participant observations of classrooms, and formative interventions. Most case studies were conducted with a few students and their teachers and special teachers. Some studies also included parents. The trajectory of the published research over time revealed that during the period between the 1990s and 2024. Geographically, the identified research articles represented only a few countries.

Extended abstract

Background

Vygotsky's groundbreaking research in the field of defectology (called special education and special psychology in today's Russia) conducted 100 years ago is of high relevance for contemporary special educational research and practice. Vygotsky argued that children who experienced difficulties due to disability develop differently compared to their typically developing peers, and, therefore, he questioned the use of reduced curricula and slower learning pace implemented in special schools for these learners at that time (Vygotsky, 1929). However, Vygotsky's cultural-historical theory and his work in defectology have not attracted as much interest among researchers in the field of special education in Western countries as it has in other countries (Stetsenko & Selau, 2018). Yet, recent research indicates that Vygotsky's ideas have proven to be a useful framework to understand what educational practices can be created to promote deaf students' optimal academic achievement and well-being (Willicheva & Hall, 2023). Less is known about how the cultural-historical theory has been used in research and educational practice for students with intellectual disabilities (ID). Therefore, there is a need to understand whether and how the cultural-historical theory has been used to advance the field of special educational research and educational practice to meet the needs of students with ID nationally and internationally.

Research Questions

1. What type of research problems did researchers study using the cultural-historical theory regarding special education and students with ID?

2. What methodological approaches did researchers use in special and inclusive educational research regarding students with ID based on the cultural-historical theory?

3. What is the trajectory and geographic representation of the identified research?

4. What publication outlets did the researchers publish their study results?

Method

We conducted a systematic literature review aimed at identifying and synthesizing available peerreviewed, cultural-historical research studies conducted with children and youth (aged 0-20) with intellectual disabilities in educational settings. Studies published either in English, Russian or Swedish were included. Four electronic databases of Education Resources Information Center (ERIC), PsycINFO, PubMed, and Scopus were used for systematic search of literature. In addition, we handsearched several academic journals, for example, Cultural-Historical Psychology, Journal of Applied Research in Intellectual Disabilities, Life Span & Disability, Mind, Culture, and Activity, and Learning, Culture and Social Interaction. The search for peer-reviewed literature was conducted between June 2024 and January 2025. The initial search in the databases resulted in 1307 records; the hand-search in academic journals resulted in few records. Using the inclusion criteria, the full-text of 39 studies were jointly assessed for eligibility. Of these 39 articles, 37 were in English and two in Russian.

Results

Our preliminary results demonstrate that the main topics were inclusion and participation, scaffolding and mediating tools, and compensatory aspects of education. The majority of the included studies employed qualitative research design using case study methodology, interviews, participant observations of classrooms, and formative interventions. Most case studies were conducted with few students and their teachers and special teachers. Some studies also included parents. The trajectory of the published research over time revealed that during the period between 1990s and 2024. Geographically, the identified research articles represented only a few countries.

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Paper abstracts

Learning and working in educational settings

Learning versus working: Are these contradictory activities for business internship students?

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Keywords: Work-integrated learning; Business education; Cultural-historical activity theory

Abstract

When university business students undertake an internship as part of their workintegrated learning in their degree, an overarching teaching motive is to render the student ready to enter the world of work. Nevertheless, this period of shifting between the role of student and the role of employee can oscillate and can cause a tertiary contradiction between the current dominant version of their activity under focus, that of being a student, and that of a more culturally advanced version, that of being an employee. This contradiction, already identified in medical education, is an area not yet explicitly examined in business education. This paper reports on a rapid review of the literature, to gauge indicators on whether this phenomenon might exist in undergraduate business education. While learning-focussed and employee-focussed activities were identified, tertiary contradictions experienced by business interns in relation to student-employee roles was not explicitly reported. This initial exploratory study is being used to inform a wider scoping review, then an empirical study involving business internship students, to analyse with principles and models of culturalhistorical activity theory. Ultimately, this work is intended to inform future support mechanisms to help business interns move purposefully through the activity of student to employee.

Extended abstract

Undergraduate students enrolled in a business degree in higher education are frequently offered internship opportunities or have internship requirements mandated in their work-integrated learning program structure. This study makes an initial exploration into whether business interns experience tertiary level contradictions, as one of four levels of contradictions in cultural-historical activity theory (Engeström, 1987/2015). Tertiary contradictions occur between a currently dominant version of an activity and that of a more culturally advanced version, between their respective objects. For example, when business students are on university-supported work placements through internships, they may experience a contradiction between their object of learning as a university student and their object of performing as an employee. This phenomenon was recently identified in postgraduate medical education, where, using principles of activity theory, Kwong et al. (2025) discuss inherent challenges when students balance competing educational and clinical objects.

A rapid literature review was conducted to scope the literature, to begin to explore roles experienced by undergraduate business students during internships and related motives. Based on a scoping review, the rapid review aimed to identify characteristics related to the phenomenon in the literature, albeit a shortened review to be achievable in a timely manner (Munn et al., 2018). The study limited the range of literature sources by targeting only one journal for this initial scoping exercise, namely the journal Academy of Management Learning & Education, using a tight keyword search to limit the catch to the targeted characteristics. A tightly structured process resulted in six papers to review: Beenen (2014), Brower (2011), Caza and Brower (2015), Chen et al. (2018), Liu et al. (2014), and Narayanan et al. (2010).

While none of the six papers explicitly identify a tertiary contradiction between business student learning and employee activities, all six papers provide detail on an intern's role as a learner and an employee. Liu et al (2014) and Caza and Brower (2015) focus on learning additional skills pre-internship to enable students to focus more on their employee role once on work placement. Other papers relate internships and servicelearning styled projects, e.g. Chen et al (2018) highlight service learning as emphasising the employee role compared to Brower (2011) illustrating through the voice of interns that the learning activity is emphasised. Finally, some papers indicate the reciprocal or oscillating relationships between

the roles of learner and employee during business internships, with Narayanan et al (2010) and Beenen (2014) highlighting a range of potential motives.

This initial exploratory study informs the next steps. First, a wider scoping review, to aim to capture more substantively the voice of business interns. Second, gathering empirical data from business internship students, to analyse using the principles and models of cultural-historical activity theory to better understand the existence of tertiary contradictions between learner- and employee-focussed activities.

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Analysis and reflection of classroom lessons: Collaboration between teachers, leaders and researchers

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Keywords: Joint analysis; Learning reflection; Collaboration

Abstract

The overarching theoretical foundation of the project is CHAT (Cultural-Historical Activity Theory) (Engeström (2001). CHAT was developed by Leontiev (1978, 1981), based on Vygotsky's thoughts and ideas (Wertsch, 1991). CHAT and sociocultural theory (Vygotsky, 1978) are both social constructivist theories (Prawat, 1996). Social constructivist theories emphasize the social environment as the basis for development and learning. As mentioned, Leontiev further developed Vygotsky's sociocultural theory, while the activity system has been developed based on CHAT (Engeström, 1987, 1999, 2001; Engeström & Miettinen, 1999). Engeström's (2001) expansion of Vygotsky's (1978) original triangle, consisting of mediating artifacts, subject, and object, to also include rules/norms, community, and division of labor, demonstrates how the collective dimension of human activity is structured and visualized through multiple triadic relationships. CHAT has its roots in the theory and research of the cultural-historical school in Russia around the 1920s and 1930s. The most significant theorists belonging to this school were Vygotsky, Leontiev, and Luria (Engeström & Miettinen, 1999).

In addition to developing teachers' professional digital competence, it is also a aim of the project to improve teaching practices through systematic observation, analysis, and reflection. By combining teachers' practical experiences with researchers' theoretical insights and outside perspective, we seek to develop a deeper understanding of teaching processes and student learning. In this study, the aim has been to intervene in teachers' professional development related to digital competence, while simultaneously researching the formative intervention that were initiated and the ongoing processes that take place in it.

This presentation primarily addresses the processes, meanings and tentativ results from the analysis / reflection dialogues. The methodological approach is a formative intervention divided into three levels. These are the planning of the lesson, the execution and observation of the lesson, and a structured analysis/reflection conversation after the lesson. All three stages of the chosen approach are based on teacher collaboration and collective processes. The approach for the formative intervention can be categorized under action learning/action research and is closely related to Lesson Study. We chose not to follow a Lesson Study process strictly, but the chosen approach has many similarities. Based on previous experiences, we have seen that analysis and reflection conversations can be demanding and challenging for teachers. Therefore, a method was developed to make a good and meaningful structure for how these conversations should be conducted.

The participants in the reflection conversation consist of all those who participated as observers in the teaching. The approach to the reflection conversation is as follows:

1) The conversation is led by the school leader.
2) The conversation begins with the teacher who taught the lesson starting with their own reflection on the lesson. This includes their thoughts on the lesson, what worked well, what could have been done differently, etc.
3) The observers can provide two positive observations about the teaching. All observers should have the opportunity to speak, and during this round, the teacher who did not teach has the opportunity to comment continuously.
4) The teacher can respond to the feedback.
5) The observers should comment on something they are curious about or wonder about from the lesson. This can include critical feedback for which they seek an explanation or justification.
6) Once all observers have shared their questions or curiosities, the teacher can respond.

7) Two of the observers are assigned the task of having a meta-perspective on the reflection conversation that has taken place, observing and analyzing the conversation itself. This task has largely been assigned to two of the researchers who participated in the observation.

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Substitute objects and culturally-historically shaped contradictions in local education administrations' systematic quality work

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Keywords: Object; Substitute object; Procedural display; Contradictions; Systematic Quality Work; Educational Administration

Abstract

This paper examines the enactment of systematic quality work (SFS 2010:800) in educational administrations. The aim of this study is to contribute with knowledge about how the actions of professionals and managers of a local education administration align with the object of activity and thus also to identify possible contradictions in and between activity systems. The analysis is directed towards understanding and explaining the enactment of systematic quality work at the intersection between the unit and authoritative levels through a third-generation activity theoretical lens. Primary data has been municipal documents and interviews (n=63). The results of the study make visible that the actions taking place might not entirely be addressing the shared object of activity. Instead, professionals' and managers' actions are directed towards substitute objects. Participants display to each other sets of interactional and content-related procedures that could count as procedural display. The findings also show that several culturally and historically shaped systemic contradictions in and between activity systems influence the development and function of the routines and procedures. The results furthermore make visible that the actions of the professionals and managers function as controlling mechanisms rather than as innovative support for the achievement of improved educational quality.

Extended abstract

This paper examines the enactment of systematic quality work in educational administrations. Systematic quality work is legally mandated in the Swedish Education Act since 2010, according to which it should be enacted at and between both the authoritative level of local education administrations and at the level of preschool units and school units. Research on systematic quality work has identified its roots in research on evaluation practices and school improvement and the work entails actions, routines and procedures in the form of for example analysis of statistics, classroom visits, and narratives in quality reports and quality dialogue meetings. A recently published study (Karlsson, 2024) shows how local routines and procedures have developed locally over time and under the influence of culturally-historically shaped contradictions caused by national and local policy, municipal reorganisation, and societal needs.

The aim of this study is to contribute with knowledge about how the actions of professionals and managers of a local education administration align with the object of activity and thus also to identify possible manifestations of contradictions in and between activity systems. The analysis is directed towards understanding and explaining the enactment of systematic quality work at the intersection between the unit and authoritative levels through a third-generation activity theoretical lens.

Primary data has been municipal documents describing systematic quality work and interviews (n=63) with professionals and managers at all levels of a local administration who have both shared and separate responsibilities for educational quality. Interviews were elicited with examples from observed dialogues and participants' written reflections.

The results of the study make visible that the actions taking place when systematic quality work is enacted at the intersection between the unit level and the authoritative level might not entirely be addressing the intended and shared object of activity which concerns the improvement of educational quality. Instead, professionals' and managers' actions are directed towards substitute objects (Engeström & Escalante, 1996) such as controlling mechanisms, displayment of achievements, correction of writing skills, and building relationships. Participants display to each other sets of interactional and content-related procedures that could count as procedural display (Bloome, et al, 1989). The findings also show

that several culturally and historically shaped systemic contradictions in and between activity systems influence the development and function of the routines and procedures. The activity-theoretical analysis shows that tools such as agreed upon questions, quality reports, and statistics are used in such ways that they instead can be characterised as rules. Even though new artefacts are introduced, old modes of action are upheld which constrains the achievement of the intended object of activity. The results furthermore make visible that the actions of the professionals and managers when working with routines and procedures in systematic quality work, function as controlling mechanisms rather than as innovative support for the achievement of improved educational quality. Based on the key findings, the importance of common preparations when designing quality dialogues and careful follow-up is emphasised.

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Collective peer teaching as a germ cell in teacher education

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Keywords: Teacher education; Collective peer teaching; Germ cell; Self-study; Contradictions

Abstract

Norwegian teacher education is in a state of crisis, marked by student dissatisfaction and declining enrollment. The political motive behind a 2017 national reform was to enhance both the academic quality of teaching subjects and the practical training components. However, a contradiction persists between these reform ideals and the ongoing dissatisfaction among teacher students. Our working hypothesis is that the contradiction is partly triggered by a conflict of motives: prioritizing the development of research skills for mastering the master thesis may come at the expense of fostering pragmatic professional competencies needed to address occupational challenges. To address this issue, we launched an activity-theoretical self-study project at Oslo Metropolitan University in spring 2022. The project aims to model innovative pedagogical practices centered on a germ cell of collective peer teaching. The core idea is to empower teacher students by involving them in leadership roles within campus-based teaching activities. This approach seeks to reconcile the dual demands of research-oriented and practice-oriented training, offering a potential pathway to resolve the current contradictions in Norwegian teacher education. Our results diverge in several directions, and we actively use these as mirror data to improve practice.

Extended abstract

Background and Research aim

This paper highlights collective peer teaching in teacher education as a unique instructional design that involves all students in being teachers for each other. The aim is to describe how collective peer teaching is a germ cell which contains possible seeds to bridge the gap between theory and practice in teacher education.

One dilemma in teacher education is how to integrate theoretically based knowledge that has traditionally been taught on campus with the experience-based knowledge that students acquire in their placement periods in schools (Baltzersen, 2023, Darling-Hammond, 2006).

Collective peer teaching addresses this dilemma by transforming campus into a teaching practice that allows for active training of teaching skills (Darling-Hammond, 2006). Today, peer teaching is receiving increased attention as studies identify associated positive learning results across educational areas (Duran, 2017; Duran & Topping, 2017; Kobayashi, 2019). However, what role collective peer teaching can play in teacher education needs to be explored through formative interventions.

Methods

The paper presents empirical research conducted with pre-service teachers who are assigned to be teachers for each other in a collective peer teaching design. Building on Vygotsky's (1987) sociocultural theory of human learning and perspectives on collective peer teaching (Baltzersen, 2023), collective peer teaching is introduced as a germ cell (Engeström, 2024) with significant expansive potential (Engeström & Sannino, 2010) that has not yet been fully examined or realized as a concept and model for teacher training at campus. Potential future consolidation of collective peer teaching in teacher education requires moving beyond dominant political discourses of the status que (Stetsenko, 2016).

Our interventionist design is inspired by the theoretical and methodological framework of cultural-historical activity theory (Engeström, 1987/2015; Engeström & Sannino, 2022), change laboratory (Virkkunen & Newnham, 2013) and self-study in teacher education (Cochran-Smith, 2005). In the fall semester 2022, we introduced a first model of collective peer-teaching in the pedagogy subject in the

fifth year of the master's program for primary school teacher students at Oslo Metropolitan University. We have collected mirror data each semester from qualitative and quantitative student evaluations of collective peer teaching and observations of peer-teaching lessons, and we are in an ongoing process of using the data to revise the structure and content of the model

Results

Our pre-liminary results from three cycles of developmental work during three student semesters, show that collective peer teaching stimulates professional learning and student engagement from within three learning positions (Baltzersen, 2023): 1) Learning by teaching your peers, 2) Learning by being taught by peers, and 3) Learning in a collective of peers.

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Navigating contradictions: Integrating 21st-century skills in initial teacher education through activity theory

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Keywords: 21-st Century Skills; 21-st Century Skills Integration; Initial Teacher Education; Student Teacher; Contradiction; Activity Theory

Abstract

Preparing future educators in initial teacher education necessitates incorporating essential 21st-century skills such as critical thinking, collaboration, and problem-solving. Consequently, teacher education programs face the challenge of integrating these essential skills into their curricula, teaching methods, and overall approach. This integration ensures that student teachers develop 21st-century competencies alongside traditional pedagogical knowledge. This study examines the contradictions within the integration process by analysing student teachers' practices in Initial Teacher Education in Indonesia.

The study employed a qualitative method grounded in Activity Theory as its analytical framework, collecting data through in-depth interviews to gather insights from 15 participants. These participants included student teachers, teacher educators, and teacher mentors, all involved in a teaching practice program within the English Education Study Program. It focuses on secondary contradictions between different elements of the activity system to gain insights into the practical challenges and opportunities for improvement within the system, making the findings more actionable and relevant to real-world applications

Research results on secondary contradictions reveal significant misalignments between various elements of the teaching practice system. These include conflicts between tools and rules, subjects and community, division of labour, and the desired outcomes. These contradictions highlight the practical challenges in integrating 21st-century skills into teacher education programs. Student teachers face multiple obstacles because they encounter unclear instructional guidelines, minimal community support, and deficient assessment systems.

The research underscores several areas for improvement in teacher education programs. There is a need to align tools, regulations, and teaching methods with the goals of integrating 21st-century skills, which could involve updating curricula to include clear guidelines and practical resources for skill development.

The Brazilian public service entrance examination for teachers: A historical perspective on activity

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Keywords: Brazil; Public Service Entrance Examination; English teacher; Cultural-Historical Activity Theory

Abstract

Public Service Entrance Examinations for Teachers (PSEET) play a crucial role in national educational development programmes (Romero & Romero, 2016). Although Brazilian literature has examined the historical foundations of English teaching within the official system (Cardoso, 2014; E. Santos, 2021), few studies have focused on the historical and cultural factors influencing the learning activities of candidates and teachers in public recruitment. This paper presents a concrete historical example (Santos, 2021) from the nineteenth century, analysed through the Cultural-Historical Activity Theory. The preliminary findings of this ongoing doctoral research indicate that engaging in PSEET activities has a long history extending back two centuries.

Extended abstract

The preliminary findings of this ongoing doctoral research highlight the crucial role of Public Service Entrance Examinations for Teachers (PSEETs) in preparing English teachers. Bibliographic research aimed to identify past cycles of this activity by analysing historical records. This paper provides a brief overview of the historical evolution of PSEETs, focusing on a particular case from the eighteenth century.

In 1759, the Portuguese crown took control of educational administration, dismantling the Jesuit administrative framework. The first PSEET occurred on 20 March 1760 in the municipality of Recife; however, no teacher was appointed in the country until 1765 (Cardoso, 2014). In the eighteenth century, examinations required a test in Portuguese grammar and an assessment in mathematics to qualify for teaching in a town or village. Upon passing, the teacher would receive a document authorising them to instruct. Following the competition, the position would be for life unless the teacher chose to relocate, in which case they would forfeit their right to teach. However, it was first necessary to be appointed to the position to be granted life tenure. Authorisations rarely materialised due to inefficiencies in colonial administration (Romero & Romero, 2016).

Following Brazil's independence in 1822, Law 15 (October 1827) established public schools in major towns and introduced regulations for teacher recruitment. At that time, only Brazilian candidates without any record of misconduct could be publicly evaluated and appointed. Numerous teachers have worked to establish pathways that ensure the relevance of teaching English (Santos, 2021).

The case of the North American Harben Lafayette Jasper, an experienced teacher whose students consistently excelled in English examinations, draws attention. However, he was excluded from a PSEET for Colégio Pedro II1 in 1883. In response, he published a lengthy letter of complaint in the Diário do Brasil newspaper claiming malpractices and injustice in public recruitment (Santos, 2021). This activity combines goal-oriented actions to serve a collective object.

Jasper's history illustrates an activity that includes a subject (Jasper) pursuing an object (PSEET for Colégio Pedro II), mediated by public tests (tools) and failure (outcome). The rules (legal documents) organise the actions of the community (Colégio Pedro II and candidates) and the division of labour. Failing the test may represent either an inability of the subject to take the tests or the examining board's misconduct, which suggests a secondary contradiction (Engeström, 2015). When Jasper published the compliance letter, he aimed to change his outcome. This goal-oriented action towards the object indicates his agency, evident in the expansive movement from an individual to a collective subject (Engeström & Sannino, 2021). Indeed, if this letter prompted a revocation, he would transform the activity into a positive outcome.

This activity has historically developed clearer PSEETs, allowing candidates to access rules quickly on the internet to certify their rights. Currently, the exams assess a broader range of content (both general and specific), writing skills, and qualifications. Furthermore, legal security guarantees the appointment of successful candidates. Instead of publishing an appeal in a newspaper, candidates can simply complete the appropriate form.

Examining the cultural and historical development of engaging in PSEET activity as the focus of both candidates' and teachers' efforts is crucial for understanding contemporary practices. Despite the advantages provided by the internet and legal protections, the overall process of preparing PSEETs has become longer and more competitive, yet not easier.

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Middle leaders in the light of principal turnover: A sustainable leadership for school improvement?

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Keywords: Principal turnover; Middle leader; School improvement; Expansive learning; Distributed leadership

Abstract

Research shows that high principal turnover contributes to declining students' results, increased teachers' mobility and interrupted improvement work. This study examines how principal turnover affects school improvement efforts and, in turn, the role and ability of middle leaders to carry out school improvement work. Empirical data is obtained from semi-structured interviews with middle leaders and principals at two Swedish schools with high and low principal turnover. The framework of expansive learning is used as an analytic tool to understand naturally occurring learning processes over time. Identifying systemic contradictions from a historical perspective is central. The study shows that principal continuity enables coherent school improvement work and a developed middle leader role, while principal discontinuity provides repeatedly restarted school improvement work which hinders the development of the middle leader role. Expansive learning cycles are either completed or interrupted. Thus, the importance of stability for expansive learning to dissolve systemic contradictions and find a new thirdness is highlighted. The study also shows the importance of school providers, principals, middle leaders, and policy levels in addressing questions about principal turnover.

Extended abstract

This study addresses the challenge of ensuring sustainable leadership for school improvement in Swedish schools where the principal turnover, from an international perspective, is relatively high (OECD, 2019). Previous research has shown that principal turnover contributes to declining student results, increased teacher mobility and limited opportunities for successful school improvement work (Bartanen, Grissom, & Rogers, 2019; DeMatthews, Knight, & Shin, 2022; Mascall & Leithwood, 2010). However, distributed leadership may mitigate some of these effects (Mascall & Leithwood, 2010).

The study focuses on two schools under the same school provider, which differ in principal turnover. At School Spruce, principal turnover is low, while at School Birch it is high. The focus is directed towards distributed leadership in the schools, particularly the role of middle leaders, i.e. teachers who both teach and have a special responsibility for school improvement work. The study examines how continuity and discontinuity of principal leadership impact middle leaders and their school improvement work based on the following questions:

- How does middle leaders' local school improvement work develop in light of continuity and discontinuity in principal leadership?
- • How does this, in turn, impact the middle leader role?

Interviews serve as empirical data and expansive learning is used as analytical lens to understand naturally occurring learning processes (Engeström & Sannino, 2010). Of particular interest are contradictions from a historical perspective, as these can indicate changes in school improvement work and the middle leader role.

The analysis shows a systemic contradiction between the subject and the division of labour, as the tasks of the middle leaders are indefinite. In School Spruce, the contradiction dissolves gradually. A team of middle leaders is established, defining their role within the school organisation. Principal continuity enables coherent school improvement work and a developed middle leader role. In School Birch, the contradiction remains. Principal discontinuity provides repeatedly restarted school improvement work which hinders the development of the middle leader role. The school improvement work is interrupted and renegotiated with every new principal. During these circumstances, middle leaders are not able to mitigate principal turnover, and the leadership for school improvement work is not sustainable. Thus,

disruptions in school improvement work may be one factor in understanding the link between principal turnover and declining student results.

The study also highlights the importance of stability for expansive learning to dissolve systemic contradictions and find a new thirdness (Engeström & Sannino, 2011). In School Spruce, a new organisational way forward is found. The middle leaders develop collective agency, taking responsibility for the entire school's improvement. In School Birch, new processes lead to superficial problem-solving and constant renegotiation, which does not foster collective agency (following Virkkunen & Newnham, 2013). For practice, the study highlights the importance of robust support structures for principals to stay in their assignments long enough to build continuous school improvement work. The study highlights also the significance of principals taking responsibility for the school's internal organisation in sustainable distributed leadership models and the value of middle leaders acquiring readiness to maintain school improvement work despite principal turnover. The policy level needs to work towards safeguarding continuity and reducing principal turnover.

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Agency, learning and reflection in the work of a young teacher

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Keywords: Agency; Conduct of everyday life; Learning; Reflection; Well-being at work

Abstract

The presentation focuses on the agency of newly graduated early childhood education teachers, their experience of control and learning at work. The importance of early childhood education is increasingly recognized. A lot of attention and resources have been devoted to training qualified teachers. At the same time, the well-being of early childhood education teachers and the attraction and retention power of field work are a concern for both researchers and educators, as well as professionals working and even children's parents.

The first results of the research highlight the challenge and contradiction of learning, reflection and experience of control at work. The newly graduated teacher is challenged by the contradiction between learning and work management: In a new workplace, one must learn quickly, adopt the current ways of working and become part of the community. At the same time, one's own professional skills should be utilized precisely to renew and develop practices for the benefit of the child and the family. Although the focus of the research material is on teachers, the results and theoretical basis of the agency and control, learning and the challenge of reflection apply broadly to work life in different fields. The research is based theoretically and methodologically on cultural-historical and subject-scientific approach.

Extended abstract

The presentation focuses on the agency of newly graduated early childhood education teachers, their experience of control and learning at work. This is a part of a research project concerning teachers' everyday life and well-being at work. The research is theoretically and methodologically based on cultural-historical and subject-scientific approach (Dreier, 1999; Holzkamp, 2013; Schraube & Højholt, 2016) and a previously completed doctoral dissertation (Peltola, 2022). Theoretical framework contains the following concepts and starting points: agency as maintaining and changing life conditions, conduct of everyday life, participation and grounds for action, and development in human environment - relations.

The importance of early childhood education and the early years in general, is increasingly recognized (Ranta ym., 2023). In recent years in Finland, a lot of attention and resources have been devoted to training qualified teachers. At the same time, the well-being of early childhood education teachers and the attraction and retention power of the field work are a concern for both researchers and educators, as well as professionals working and even children's parents (e.g. Kangas et al., 2022).

In this ongoing research project, I followed newly graduated teachers' first year at work in early childhood education. We had peer group meetings, where they had a chance to share their thoughts and ask questions from each other. In organizing peer groups, I applied the principles of mentoring and consultative methods. The theme of each meeting was planned based on participants' shared discussions and needs. The aim was to focus on concrete situations in their everyday life at work.

The first results of the research project highlight the challenge and contradiction of learning, reflection and experience of control at work. The newly graduated teacher is challenged by the contradiction between learning and control. In a new workplace, one must learn quickly, adopt the current ways of working and become part of the community. At the same time, teachers' professional skills should be utilized precisely to renew and develop practices for the benefit of the child and the family. For example, when the teacher faces a contradiction, an ethical challenge or a problematic habit, it is difficult to bring it up in a new workplace when one must at the same time become a part of the work community. The closest colleagues, the team, had a major role in supporting the learning process of a new teacher.

Although the focus of the research material is on teachers, the results and theoretical basis of the agency and control, learning and the challenge of reflection apply broadly to work life in different fields (Mälkki, 2011; Peltola 2022).

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Sentence completion method in studying teachers' subjective reasons for providing guidance

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Keywords: Conduct of everyday life; Fabric of grounds; Sentence completion method; Subjective reasons for action

Abstract

Since 2003, the whole school approach to guidance has been implemented in Finnish General Upper Secondary Schools. Still, many teachers find guidance duties to exclude and cause overload in their work. In my post-doctoral research, I focus on teachers' possibilities for implementing guidance as a part of their work and aim to find ways to understand guidance related to teachers' well-being. Following the principles of subject-scientific practice research, I have strived for teachers' subjective reasons by a sentence completion method. My presentation focuses on my methodological experiences concerning subjective reasons for action. At first, I will present a way of producing research material with a fairly large number (42) of participants while still maintaining the idea of subjective reasons. By the sentence-completion method, participants came to write reasons for their actions, thoughts and feelings concerning guidance work. Further, I will introduce a way of examining the subjective reasons with co-participants in a way that produces possibilities, not only to raise the prevailing conflicts in acting but also to discuss the conditions essential to participants of the researched activity. In addition to methodological remarks, the study supports participants' continuous learning and contributes to school development.

Extended abstract

Many practice research projects focusing on personal reasons have been case studies with few participants aiming to dig deep into the relationship between the acting person and the conditions of the activity (see Schraube & Højholt, 2016). That is powerful in pointing out societal and structural inconveniencies and injustices in a limited context. However, there is also a possibility to gain an understanding of how structures are experienced as conditions by a wider number of actors in a specific larger context.

Even if the whole school approach to guidance (e.g. Lam & Hui, 2010) has been implemented in Finnish General Upper Secondary Schools (GUSS) for over twenty years, it still seems vague as a duty for subject teachers. Nevertheless, it has not been researched at all in Finland. While teachers' workloads have increased and more and more teachers are considering leaving their jobs, a need for some interventions has emerged.

During my post-doctoral research project, funded by the Finnish Work Environment Fund, I am grasping this by focusing on teachers' experiences of guidance as a duty. Based on Klaus Holzkamp's (2013) work on subject-scientific psychology (a.k.a. critical psychology), my basic concepts lie in everyday living, such as 'conduct of everyday life', 'personal reasons for action' and 'conditions', seen from the acting subjects' perspective. The main question is: What possibilities do the teachers see (or do not see) in implementing guidance?

To reach teachers' personal reasons, I have utilised the idea of fabric of grounds (FOGs, e.g. Eichinger, 2019; Suorsa, 2019), with which it is possible to shed light on both the personal reasons of acting and the possibilities which acting persons see in the conditions of activity. Along with Vygotsky's thinking, these possibilities are found as a mediating process between an individual and societal.

This practice research (e.g. Nissen, 2000) is implemented in the context of a large Finnish city with nine different GUSSs. At first, 42 teachers answered a questionnaire about their activities, thoughts, and feelings concerning guidance-related duties in their work. In my presentation, I will discuss my methodological experiences of the questionnaire based on the idea to have respondents write their FOGs by completing sentences, without a researcher's effort in creating them. The sentences were given in the

form of a FOG: “In the situation X, I usually think, feel or act Y, because of Z” (Suorsa et al., 2013). The reason part (because of Z) was left open.

The sentence completion method showed as a way of gaining lots of answers just ready for analysis, but, naturally, has some limitations which will be discussed in my presentation, too. The first analysis outlined a dimension between two ideal-type reason patterns concerning reasons for participating or not-participating in guidance work. It also produced a model of essential guidance-related conditions from participants’ perspectives. The results need to be, and were, further discussed with some of the participants to justify and broaden the understanding of them.

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Paper abstracts

Technological mediation and change in organizational and educational settings

"To know everything about some thing": Design and technology in Vygotsky's theory and in contemporary practice

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Keywords: Technology Education; Work integrated Learning; Teacher professional learning; Interdisciplinarity; Design and Technologies; Trade Education

Abstract

Vygotsky, following Marx, dreamed of a polytechnical education organized for producers, one in which producers could learn all the skills involved in a single production rather than one skill involved in a range of lucrative activities. But, as Maidansky points out, Vygotsky's vision was both more realistic and more radical than Marx's version. On the one hand, Vygotsky eschewed the elements of polytechnical education that Marx had taken over wholesale from utopian socialism: education would have to include the humanities and social sciences, practical work would strictly follow educational outcomes, and actual labor would never be used to support education. On the other hand, Vygotsky criticized "complexive" education organized around tools and demanded a curriculum that used signs to mediate conceptual thinking. In this presentation, we consider how teachers first move themselves from a purely disciplinary position to an interdisciplinary position preoccupied with complexes and then to a point of view we will call "transdisciplinary"—one in which the conceptual problem space is as important as the practical solution. We trace this transition through the language that teachers use in interviews, describing their journey from teachers who know everything about some one thing to teachers who know something about everything.

Extended abstract

Introduction

David Graeber and David Wengrow have argued (2021) that human social groups, in various places and at various times, have turned their backs on the division of labor, alienation from production, and concomitant forms of social inequality and instead sought ways of life where manual and mental work are well integrated, where people are entitled to the full value of what they produce, and where, almost as a natural result, humans tend towards social equality, at least with their immediate neighbours. This entails, as Vygotsky notes in the longest and most complete work he finished during his lifetime (*Pedology of the Adolescent*, recently translated into English), "reorganizing production around the producer rather than around the product". Because Wengrow is an archaeologist, we tend to assume that they are speaking of remote times and places and that evidence for these decisions is thin on the ground and must be sought well beneath it.

Not so. Our own time has produced at least three admittedly rather messy examples where this reorganization of production around the direct interests of producers has actually been attempted, and one of the examples we'll explore in the theoretical background section of this paper is hidden in plain sight, in the school curriculum we call "Design and Technology". The problem for the empirical study which follows is that unlike the first two examples (the early Soviet Union and present-day China) "Design and Technology" is unfolding in a climate where economic, social, and even climactic conditions for integrating mental and manual work, for reuniting the producer with the product, and for what the Chinese refer to as "Shared Flourishing" are contracting rather than expanding. Paradoxically, this means that the more we produce, the less our education emphasizes polytechnical rather than simply technical goals.

This straitening of economic, social, and environmental conditions is reflected within the discourse of "Design and Technology" by a decided tension between an orientation we shall call "polytechnical", foregrounding mental processes like "think" and "plan" and a contrary orientation we shall call "trade

school", foregrounding material processes like "make", and "do". In conclusion, we shall make, or rather re-make, Vygotsky's case for a polytechnical orientation in which the emphasis is not so much on tools but on signs, not so much on skills but on concepts: to let the cat out of the bag, we propose a "Design and Technology" organized by design and not disorganized into technologies.

Theoretical Background: Three workshop utopias

In one of Vygotsky's many odd jobs (mostly unpaid or paid a largely nominal fee), he was employed by the Narkompros (that is, the People's Commissariat for Enlightenment, as the department of education was known in those halcyon days) whose head was Nadezhda Krupskaya. Krupskaya was a seasoned revolutionist, companion and wife of Lenin, and an important educational theorist in the early USSR, and she had this to say about the object of interest in this paper:

A polytechnical school can be distinguished from a trade school by the fact that it focuses on the interpretation of work processes, on the development of the ability to unify theory and practice and in the ability to understand the interdependence of certain phenomena, whereas the centre of gravity in a trade school is directed toward providing the pupils with labour skills.

Unfortunately, van der Veer and Valsiner are unable to establish the source of this quotation. It seems probable (at least to us) that the original source was at least affiliated to a set of theses on polytechnical education which Krupskaya had planned to deliver sometime in 1920, in the thick of the civil war. Allegedly, she was prevented from doing so by illness. But another reason why the theses were not presented was that her notoriously exacting husband was rather scathing about them, and in particular about their pessimism: in the heady first days of the revolution, Lenin insisted on the Marxist ideal of polytechnic education, "to know something about everything and everything about something": that is, to teach all of the processes involved in a single act of production rather than a single process that could be applied in various kinds of production as the market dictated. This polytechnical ideal, according to Lenin, could under no conditions—not even those of the famine and the civil war—be sacrificed to the desperate need for immediately useful skilled labor to be satisfied by the drudgery of trade school training.

The effects of using digital tools on the performance of cognitive tasks among studying youth: Results from an experimental study

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Keywords: Digital tools; Cognitive off-loading; Cognitive styles; Studying youth; Metacognition

Abstract

The paper will present the findings of an experimental study conducted with the aim of investigating how young people use digital tools available on the internet when performing cognitive tasks, and the results they achieve. In the study, a total of 202 young people participated, including 98 university students and 104 secondary school students (aged 16-25). The participants were given two tasks related to practical intelligence and one task to write a short essay. One of the main goals was to understand to what extent they would resort to cognitive off-loading – that is, how much the students would use digital tools, such as internet searches for information or AI, and how this would affect the quality of their task performance. The results of the students' work were analyzed along several dimensions, including the fulfillment of the task's purpose, the originality of proposed solutions, the structure of the composition, and their empirical or theoretical orientation. A scale for gauging cognitive off-loading was developed for data analysis. The experimental study was carried out from December 2024 to February 2025 in Latvia within the framework of the project "The impact of internet usage patterns on the development of youth's cognitive styles" (lzp-2021/1-0357).

Extended abstract

The paper will present the findings of an experimental study conducted among students in Latvia within a research project on the effects of internet use on the formation of youth's cognitive styles. The purpose of the experimental study was to investigate how young people use digital tools of the internet when performing cognitive tasks, and with what results. In the study, a total of 202 young people participated, including 98 university students and 104 secondary school students (aged 16-25). The participants were given two tasks related to practical intelligence and one task to write a short essay. The first task was to provide advice to a friend who wanted to change their eating habits to healthier ones. The second task was to plan a route for introducing a visiting student to Riga and to outline a story to be told to the student. The third task was to write a short essay (up to 400 words) on the positive and negative aspects of social networking sites for youth. The students were instructed to perform the tasks as if they were their home assignments and were free to use digital tools as they preferred. One of the main objectives was to determine the extent to which they would engage in cognitive off-loading (Risko & Gilbert, 2016) – that is, how much the students would use digital tools, such as internet searches or AI, and how that would affect the quality of task performance. The results of the students' work were analyzed along several dimensions, including the fulfilment of the task's purpose, web navigation styles, originality of proposed solutions, structure of the composition, and the empirical or theoretical orientation of their work. A scale for gauging cognitive off-loading during online tasks was developed for data analysis. The data on the students' use of digital tools was obtained by recording the participants' actions on the screens of the computers on which they performed the tasks.

The participants of the experiment completed a questionnaire that included demographic questions, scales for measuring their daily online activities (with 18 items) and the time they spend on specific categories of online activities, and questions to investigate the role of metacognition (Sadler-Smith, 2012; Perikova, Lovyagina, & Byzova, 2020). These questions had been used in a national representative survey targeting secondary school and higher education students aged 16–25, conducted in Latvia in 2023 (n=2169) as part of the research project. Factor analysis of this survey data identified patterns of internet usage among youth based on the time spent on particular types of activities. The data analysis also revealed correlations between types of internet use and metacognitive orientations toward its use for learning. In the analysis of experimental data, we will conduct similar factor analyses and

relate the identified factors to the results of task performance among the participants in the experiment. The analysis of the experimental data is currently in the initial phase and will be completed by the time of the presentation at the NISCAR conference.

Based on preliminary analysis of the data, we can draw the following conclusions: the majority of students used digital tools to complete the tasks and engaged in cognitive off-loading to varying degrees; those who used digital tools completed the tasks faster than those who chose to complete the tasks independently. However, the quality of task performance for those who used AI and web searches for cognitive off-loading decreased on the creativity and originality scale. The experimental study was conducted from December 2024 to February 2025 in the cities of Riga and Liepaja, within the framework of the project "The impact of internet usage patterns on the development of youth's cognitive styles" (lzp-2021/1-0357).

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The foundations of predicting digitalization through activity theory: Soviet heritage and its implications

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Keywords: Activity Theory; Predictions; Unanticipated use

Abstract

Often Information Systems research have justified their existence by trying to accumulate knowledge that prevents failures in IT development through identifying and eliminating the causes of failures. These causes have been shown to be hard to capture, possibly because the very concept of causes is not properly understood. Some research schools have a more elaborated notion of the concept of causes than most reported research, Activity Theory being one of them. When Activity Theory-inspired researchers put forward their results, the premises for their predictions and coherence with their alleged activity theoretical position are often implicit, however. In this paper, I make a critical review of classical works commonly drawn upon in Information Systems Activity Theory, in order to systematize their view of predictions. I describe some very general principles related to prediction, namely the principle of determination, the laws of dialectics, the tension between free will and prediction, and the stance towards statistical regularity. From that, the range of possible classes of and some alternatives to predictions are discussed. The last part of the paper reviews how contemporary high quality work in activity theoretical IT research relates to predictions.

Extended abstract

Often Information Systems research have justified their existence by trying to accumulate knowledge that prevents failures in IT development through identifying and eliminating the causes of failures. These causes have been shown to be hard to capture, possibly because the very concept of causes is not properly understood. Some research schools have a more elaborated notion of the concept of causes than most reported research, Activity Theory being one of them. Activity Theory (AT), rooted is Soviet psychological, pedagogical and organizational research, has become an increasingly common research tool within the information systems field. When Activity Theory-inspired researchers put forward their results, the premises for their predictions and coherence with their alleged activity theoretical position are often implicit, however, not least because of publication channels, that put tight article length restriction on each research contribution.

In this paper, I make a critical review of classical works commonly drawn upon in Activity Theory, in order to systematize their view of predictions. In particular, I concentrate on formulating a view of predictions that can be utilized in design-oriented business process remodelling, and strategic re-design. The method is conceptual, providing interpretations of existing work, and in the end closer examination of contemporary works that do offer prediction.

Assuming that they in turn have made attempts to position themselves in relation to Marxist and often Marxist-Leninist theory of science texts, I also analyze some texts from that body of literature, that are of particular relevance to prediction. I describe some very general principles related to prediction, namely the principle of determination, the laws of dialectics, the tension between free will and prediction, and the stance towards statistical regularity. From that, the range of possible classes of predictions is derived, some types of untenable predictions are listed, and some alternatives to predictions are discussed.

In the later sections, I explain types of prediction that are possible to make and use, and show under which circumstances they are useful. It is commonly stated that AT is a framework, rather than a predictive theory. This is not a somewhat crude statement, and I argue the exceptions to that. Less known (in the West) work of activity theorists in the Soviet Union has developed AT with predictions and methods for making predictions. There is a space for making predictions that allow for what can be described as holism. However, there are different position within holism, and that is qualified in the

paper in order to define the space of predictions that are congruent with the Soviet principles, i.e. its possible implications.

The next realm of research where predictions are in play, is design research. Design research is understood in a broad sense, encompassing organizational redesign as well as, but not limited to, the shaping of form and individual user interface development. The main argument, elaborated in the paper, is that if the decisions that designers do does not have a single idea about how their envisioned future world will function, how can he argue for that such a world should be strived for?

The last part of the paper reviews how contemporary high-quality work in activity theoretical IT research relates to predictions. The articles are purposedly chosen in order to represent high quality research, at least in my point of view, even though it is concluded that some of their conclusions are incongruent with the Soviet legacy within Activity Theory. They are all written after AT made its breakthrough outside the Soviet Union, and are already, or will be likely to stand model for the next generation of AT, since they are published in influential publications.

The outcome of this analysis reveals that predictions are abound. Furthermore, in many aspects these studies do comply with the general underpinnings of Activity Theory. The conclusion in that analysis is that AT is better interpreted as holistic in the sense that the parts get their meaning from the whole, but some non-meaning aspects of activity can be explained as parts, and applied in design. Both weak and strong holism create incoherence in AT.

Paper abstracts

School development and educational change

Reconceptualising STEM in early childhood: Transforming teacher practices through playworld pedagogy

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Keywords: Play pedagogy; STEM learning; Teacher professional Development; Early childhood education; Cultural-historical theory

Abstract

Despite the high expectations placed on early childhood educators to integrate play-based pedagogy into their teaching, the implementation of play for learning, particularly in STEM education, remains contentious. The dichotomy between play and structured learning persists in early childhood education worldwide, including Indonesia. Extensive research highlights teachers' lack of disciplinary knowledge in STEM, which undermines their confidence and competence in teaching these subjects, leading to a concerning absence of STEM exposure in early childhood settings. This study challenges the dominant discourse that attributes the problem solely to teachers' content knowledge deficits, proposing instead a reconceptualisation of teachers' STEM pedagogical practices through a cultural-historical lens. Employing a qualitative approach, the study documents an eight-week professional development program involving two teachers and 16 children (aged 4–5 years) through video observations, interviews, and focus group discussions. Findings reveal that the program generated a new social situation that enabled teachers' professional development, particularly through collaborative teaching and overcoming pedagogical "dramatic moments". Utilizing the Playworld pedagogy, teachers engaged in collective reflection, which transformed their play pedagogy and established new conditions for STEM integration. The study argues that pedagogical mediation, rather than content knowledge, is key to fostering meaningful STEM learning in early childhood education.

Extended abstract

Early childhood education (ECE) is a crucial period for foundational learning, yet the integration of STEM (Science, Technology, Engineering, and Mathematics) into play-based pedagogy remains a challenge. Despite policies advocating play as a central pedagogical approach, many educators struggle to incorporate STEM effectively (Gerde et al., 2018). A persistent dichotomy between play and structured learning leads to missed opportunities in fostering children's curiosity and problem-solving skills (Brenneman et al., 2019). This issue is particularly pronounced in Indonesia, where traditional rote learning dominates (Utami et al., 2020).

Research suggests that early childhood educators often lack the disciplinary knowledge needed to confidently teach STEM (Sarikaya & Bekiroglu, 2020). However, this study challenges the notion that content knowledge alone is the main barrier. Instead, it argues for a cultural-historical approach that emphasizes pedagogical mediation as key to enhancing STEM education (Fleer, 2021).

Existing professional development (PD) programs often prioritize content over pedagogy, leading to fragmented STEM instruction (McClure et al., 2017). To address this, an eight-week professional development program based on Playworld pedagogy was implemented, engaging two teachers and sixteen children (aged 4–5 years). Data collection through digital video observations, interviews, and focus groups examined teachers' play-based STEM pedagogy.

Findings reveal that Playworld pedagogy creates a "new social situation of development" (Vygotsky, 1978), enabling teachers to explore innovative STEM integration. Through shared play and collaborative reflection, teachers redefined their roles from instructors to co-players and co-constructors of knowledge (Hakkarainen et al., 2013). Moments of pedagogical "crises" served as catalysts for professional growth, encouraging adaptive teaching strategies (Fleer, 2020).

A crucial component of Playworld pedagogy was collaborative reflection, where teachers analyzed their interactions, identified challenges, and developed strategies for embedding STEM in play. This process helped them recognize STEM's presence in everyday activities, such as building structures and experimenting with materials (Tu, 2006). The study highlights that professional development should

focus on pedagogical mediation rather than content knowledge acquisition. When teachers perceive themselves as facilitators of STEM learning within play, they are more likely to scaffold children's learning effectively (Clements & Sarama, 2016).

The findings have significant implications for early childhood education policies and teacher training. Professional development should move beyond traditional workshop models and adopt immersive, play-based approaches (Brenneman & Louro, 2008). Additionally, teacher education programs should integrate play-based STEM pedagogy into their curriculum, providing prospective teachers with guided play experiences and reflective practice opportunities.

This study challenges the dominant view that teachers' struggles with STEM stem solely from content knowledge deficits, emphasizing the role of pedagogical mediation. By transforming play-based teaching practices through Playworld pedagogy, it demonstrates that play and STEM education can be deeply interconnected. Moving forward, professional development initiatives should prioritize collaborative reflection and immersive play-based experiences to empower educators in integrating STEM meaningfully.

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Transforming physical education: Bridging self-study and activity theory for innovative teaching and learning practices.

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Keywords: Self-study; Third generation activity theory; Criticality; Transformations; Teaching and learning practices.

Abstract

This paper explores the role of a physical education teacher within the context of two theoretical frameworks: self-study and the third generation of activity theory. The study aims to move beyond the limitations of routine teaching practices by fostering a more comprehensive approach that aligns the teacher's ideals with the needs of students. The researcher examines various activity systems that emerged while implementing mediated artefacts in a dance activity, focusing on contradictions identified in the process. While self-study is typically seen as an individual endeavour, activity theory offers a unique perspective by extending the focus to collective activity, highlighting the interactions within the community. Through this lens, the subject of the study develops her transformative practice, enhancing her agency and benefiting her students in the process. The findings suggest that education should be viewed as an iterative dialogue, where the community collaborates to enhance learning continuously.

Extended abstract

This paper investigates the evolving role of a physical education (PE) teacher through two interconnected theoretical frameworks: self-studies and the third generation of activity theory (Engeström, 2014). The primary aim of this study is to explore how a PE teacher can transcend conventional teaching methods and promote a more innovative, dynamic, and student-centered pedagogical approach. The researcher reflects on her personal educational philosophy and ideals, considering her pupils' diverse needs and learning processes to foster a reflective, adaptable teaching practice.

The research methodology is rooted in self-study (Berry, 2015; Ovens & Fletcher, 2014), where teachers become researchers in assessing their methodologies, decision-making, and professional growth. Self-study can be seen as an individualised process that employs reflexivity (Schön, 1983). Still, in the research, self-study becomes a tool with which the subject is experiencing 'deconstructed moments' (Lather, 1978). 'Contractions are a source of change and development' (Engeström, 2001, p.137); they can help gain insights and enhance professional development. Through her reflective practice, the teacher reshaped her approach based on the feedback from students, thereby adjusting her teaching to meet their learning needs better.

However, this paper argues that self-study can be enriched by integrating the activity theory framework, particularly its third-generation variant. Engeström (2014) and Lektorsky (2009) emphasised the importance of belonging to a community of practice, where individuals engage in shared, goal-oriented activities. This approach allows a deeper understanding of how individual practices intertwine with collective, contextual, cultural, and societal dynamics. The third-generation activity theory provides a structured lens for analysing contradictions that arise in practice, helping to highlight areas of tension within teaching and learning practices.

The study highlights how contradictions between teachers' pedagogical practice and pupils' expectations can drive innovation. For example, during a dance activity, the teacher's use of animal masks to address a primary contradiction with Grade 6 pupils was rejected, as students found it childish. Similarly, when the teacher used jigsaw pieces to help students collaborate on choreography, the pupils misunderstood the approach, perceiving it as an unnecessary complication. These contradictions forced the teacher to adapt her strategies, create new materials, restructure activities, and reflect on her practice. The study demonstrates how the teacher's ability to innovate and adjust pedagogical props can foster a more engaging and inclusive classroom environment, which Quennersted called 'the art of teaching' (2019).

This paper also underscores the importance of teachers' agency (Batra, 2022), which is defined as teachers' dynamic engagement in their professional environment. Through the use of mediating artefacts, recognising contradictions, and implementing meaningful changes, teachers exercise agency in their practice. This transformative process benefits the teacher and the students, leading to more responsive, student-centered pedagogies. The teacher's awareness of her role within the activity system and her understanding of the interdependence between her actions and pupils' experiences contribute to more effective and inclusive teaching practices.

Furthermore, the study challenges traditional views of education as a unidirectional knowledge transfer. Instead, it advocates for an iterative, dialogic process in which teachers and students co-create the learning experience. In this model, the community of practice—comprising teachers, students, and other stakeholders—plays a crucial role in enhancing learning through shared reflection, feedback, and collaboration. Education, therefore, is seen not as a linear transmission of knowledge but as a dynamic, co-constructed process of engagement and continuous improvement.

In conclusion, this paper advocates for a more holistic and inclusive approach to physical education, where the interdependence between individual and collective practices is acknowledged. By integrating self-study and activity theory, the PE teacher can better navigate the complexities of the classroom and make informed, adaptive pedagogical decisions. Professional development should foster adaptability and flexibility, enabling teachers to modulate their teaching practices and ultimately enhance pupils' learning. The paper raises the question: Are teachers prepared to break free from their 'Groundhog day' (Casey & Håkkan, 2018) to embrace and move to more dynamic, reflective approaches to teaching?

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Transitioning to open classrooms: Documenting critical conflicts through mirror interviews prior to a Change Laboratory school transformation

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Keywords: Change Laboratory; Critical Conflicts; Cultural-Historical Activity Theory (CHAT); Open Classrooms; Expansive Learning

Abstract

This paper examines preliminary interviews conducted as preparatory work for a Change Laboratory (CL) intervention in a central Italian preschool undergoing transition from closed to open classrooms. The study analyzes 17 interviews with educators (teachers, special educators, collaborators) to identify systemic contradictions and critical conflicts arising from the school's post-renovation spatial and pedagogical challenges. Drawing on Cultural-Historical Activity Theory (CHAT), the analysis reveals three key findings: (1) spatial underutilization and daily routine bottlenecks, particularly in post-lunch transitions; (2) divergent conceptions of the child as educational object, ranging from passive recipient to autonomous learner; and (3) critical conflicts among teachers, including tensions between legal responsibility and collaborative trust, and mismatches between institutional expectations and individual pedagogical visions. These conflicts, framed as critical conflicts in CHAT, emerge as manifestations of systemic contradictions requiring collective resolution. The interviews serve as mirror material for the CL, providing a foundation to address these contradictions through expansive learning cycles. The study demonstrates how preparatory interviews can surface latent contradictions, enabling targeted interventions to align educators' practices with the school's aspirations for child-centered, open-classroom learning.

Extended abstract

This paper describes preliminary work for a Change Laboratory intervention in a central Italian preschool following its complete renovation in September 2024. The school leadership aims to transition from a traditional closed classroom model to an open environment where children freely choose activities and spaces. Despite having new facilities, the staff (comprising 8 curricular teachers, 6 special education teachers, 3 school assistants, and 1 school lunch staff) struggle to effectively utilize these renovated spaces. This organizational challenge presents an opportunity to implement the Change Laboratory methodology to facilitate transformative learning among practitioners. The transition requires not merely spatial reorganization but a fundamental reconceptualization of how educators view the child as the object of their activity. This study documents the preliminary interview phase that will inform the subsequent Change Laboratory sessions.

Literature Review

The Change Laboratory methodology, developed within Cultural-Historical Activity Theory (CHAT), implements cycles of expansive learning where practitioners analyse disturbances in their activity systems and develop new models of practice. This formative intervention approach facilitates both transformative change and continuous improvement by engaging practitioners in examining contradictions within their work. Recent developments in CHAT emphasize transformative agency by double stimulation, whereby practitioners break away from conflicting motives through the creation of auxiliary stimuli. This concept is particularly relevant for educational settings undergoing significant transitions, where professionals must reconcile contradictory demands. The transition from closed to open classrooms represents a substantial shift in activity systems, requiring teachers to overcome what Engeström and Sannino identify as "critical conflicts" – situations where actors face inner doubts that paralyse them when confronting contradictory motives. These conflicts cannot be resolved individually but require collective transformative agency and expansive learning6.

Methodology

This study reports on the preliminary phase of participant observant before a Change Laboratory intervention, focusing on in-depth interviews with all 17 staff members. These interviews served dual purposes: identifying current criticalities in space management and daily routines and collecting mirror material for subsequent Change Laboratory sessions. The interviews explored staff perspectives on the existing model's limitations, their conceptions of the child as the object of their activity, and their visions for the future model. The methodology follows Engeström's approach to Change Laboratory preparation, where mirror materials reflecting current practices and contradictions are collected to stimulate analysis and transformation. These interviews were analysed to identify discursive manifestations of contradictions, with particular attention to critical conflicts that may serve as springboards for transformative action.

Results

Analysis of the interviews revealed three main categories of findings. First, criticisms of the existing model highlighted significant spatial design deficiencies, particularly the lack of characterization in learning environments that fail to communicate their pedagogical purpose. Another issue come from the post-lunch routine, where children are confined to a small corner area while school assistants clean the classrooms—creating a daily bottleneck that frustrates both children and educators.

Second, the interviews illuminated divergent conceptions of the child as the object of educational activity. While a minority of teachers expressed satisfaction with the traditional teacher-led instructional model, the majority articulated profound dissatisfaction with this approach. These educators advocated for a fundamental transformation of their professional identity—from directors of learning to companions and observers who facilitate children's autonomous exploration.

Third, data analysis unexpectedly revealed profound critical conflicts among teachers that manifest as internal dilemmas with significant emotional dimensions. These conflicts operate on multiple levels: between their capabilities in the current model and their professional experiences in other institutions; between their legal responsibility for children's safety and the necessary trust required for colleagues; and between their individual pedagogical approaches and perceived expectations from colleagues.

Conclusions

These preliminary findings provide crucial groundwork for the upcoming Change Laboratory sessions by identifying contradictions that must be addressed to facilitate expansive learning. The critical conflicts revealed represent potential springboards for transformative agency, as they create situations where participants must develop a new model for their work practice to overcome contradictions.

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Forming a research team to perform development work in school

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Keywords: CHAT; Developing a research team; Leading a research team; Teachers' professional digital competence; School development

Abstract

The study investigates residents' efforts to influence in their neighbourhood development and collaboration efforts taken by residents and civil servants in a real-life context in multiactor neighbourhood development. It shows a systemic change process, the development of learning during the developmental interventions of promoting the improvements in the neighbourhood by means of cultural-historical activity theory (CHAT). The method of community workshops expands learning and agency in informal learning contexts with heterogeneous actors and activities. Workshops are led by researchers, who elicit and maintain a collective learning process that consists of well-planned stimulating assignments, learning tasks, instructions, organization of the working groups and data-collection. The community workshop method enabled the existing conflicts between the needs of the people and practitioners to be addressed and turned into learning opportunities. The results indicate communities as settings of learning where community workshops can promote the emergence of the new object of activity and change the activities in multiactor networks in neighbourhood development process. This research contributes to the fourth-generation activity theory (4GAT) studies of learning in the context of urban development.

Extended abstract

Introduction The work in a research group that I lead is guided by cultural historical theory (CHAT) (Engeström & Engeström, 1986; Engeström & Sannino, 2010). In addition to collaborating with six schools supporting teachers in developing their professional digital competence, we conducted research on the development activities and emphasized the importance of the research team evolving together. Thus, the aim of the group was threefold: to support development in school, to research these processes, and to develop joint knowledge and competence in the research team. This article examines the processes within the research team and how the diverse perspectives that members bring into the group influence its formation, and how the processes are framed and led by the group leader. The following research question is addressed:

How can different perspectives in a complementary research team influence group formation and the members' collaboration?

This research work thus focuses on the activities and development within the complementary research team. The purpose of this article is to provide insights into how the work within such a research team can develop, drawing on related research, mainly conducted with health research teams, and lessons learned from my own experience leading research teams since 2006.

Methodology and methods

This study focuses on the meetings within the research group and has a duration of one and a half year. I use CHAT and the activity system (Engeström, 2014; Leont'ev, 1981) to analyze and understand my own role and the processes in the research team.

Data collection

I collect data by recording all the meetings in the research team and conduct continuous readings and analyses of the transcripts of these recordings. In the meetings, I introduce mirror data (Cole & Engeström, 2007), representing utterances made by the members, to direct provocations at the members, aiming to solve tensions and contradictions that I detect during the continuous analyses to enhance development in the group.

Data analyses

In the analyses I find tensions and contradictions in the material represented by the members' different perspective. The categories developed are: "To focus on digital tool use, or not", "Subject content or processes to develop a learning culture", "Who is in charge of knowledge, the researchers or the teachers?" "Trust and collaboration in the research team", "The research team' s object".

Findings and conclusion The preliminary findings show that there are tensions between the members in the research group. To exemplify: one of the members utters in a meeting: "Because it's clear that there will be tensions in that school. I am experiencing tensions here and now". One of them wonders if the teachers share a collective motive regarding what we are going to work on. Then I say: We'll see if they manage to develop ownership of the work. The members are discussing the focus on digital tools. In the research team we also experience tensions regarding who should decide the content to work on—the teachers or the researchers. My preliminary conclusion is that we need monthly meetings to discuss the development processes, and that I need to conduct continuous analyses of dialogues in the meetings to be able to follow up, guide and provoke development within the group. I think that there is no one-size-fits-all approach to leading a research group, and I have so far experienced that the leading researcher should establish leadership practices that fit the styles and personalities of the members and the work to be accomplished in the group.

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Expansive learning and reflexive praxis in higher education: A cultural-historical activity perspective

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Keywords: Reflexivity; Expansive Learning; Cultural Historical Activity Theory; Contradictions; Higher Education

Abstract

This study examines reflexive praxis in university classrooms in India through the lens of Cultural-Historical Activity Theory (CHAT), focusing on the pedagogical transformations of three university teachers. Utilizing Engeström's expansive learning framework, the study investigates how contradictions within the classroom activity system mediate the development of reflexive teaching practices. Data were collected from three faculty members at Jawaharlal Nehru University, India, using biographical narrative interviews (BNIM), classroom observations, and written autobiographical accounts. The findings illustrate how reflexivity, when conceptualized as an expansive cycle, emerges through the dialectical movement between internalization, which is manifested in critical self-reflection and externalization which is achieved by the creation of new mediational tools, that restructure pedagogical activity. By struggling with contradictions through thinking, questioning and transforming practice, this study highlights the role of reflexivity in reconfiguring the object of activity, thereby expanding possibilities for agentive pedagogical change within university classrooms in India.

Extended abstract

The neoliberal assault on higher education is real and disturbing as it instrumentalized relationships between teachers and students, the cognitive and affective resources and the pedagogic systems. The intersubjectively charged pedagogic space of the classroom is reduced to a space of didactic routines performed mutually by the teachers and students. Spaces that are meant to emphasise dignity, mutual respect, freedom, democratic values, critical thinking and collaboration become sites for producing docile bodies for the market (Giroux, 2017). Both the teachers and students surrender to market imperatives, the rules of which are determined by everyday routines of completing the syllabus on time, chasing deadlines for assignment submission, and end-term evaluations and helping students find a placement in the market before leaving the university system. These everyday routines create uncritical and non-reflexive teachers as well as student bodies (Feigenbaum, 2007). There are, however, a few teachers who have made a difference by disagreeing with these goals of higher education and by interrogating their own practices. They reflect on what naturalises this classroom praxis and invisibilises the pedagogic practice that produces domesticated subjects. They introduce tensions into these practices by constantly interrogating the goals of higher education and their own pedagogic practices. This study interrogates the lived world of teachers who learnt to question everything that was considered normal and given, and, reflected critically on their engagement with enormous diversity among students, their knowledge systems, creative potential and affective resources (Harvey & knight, 1996).

A university teacher belonging to a particular caste, class, religion, ethnicity, gender, and discipline brings the collective unconscious of the field to the class (Schirato& Webb, 2003). This collective unconscious is one of the major sources of bias that are manifested in meditational as well as psychological systems that are employed by the teacher in a classroom. The choice of texts, language and examples by a teacher that mediates the pedagogical processes in the classroom is often informed by these biases (Lampert-Shepel & Murphy, 2019). Unfortunately, these biases remain invisible to the teacher as they are embodied through a process of long socialization and normalization of power hierarchies. In classrooms, contradictions arise when a teacher introduces a particular concept in 'A' dominant language using examples from his own social and intellectual fields disregarding the enormous linguistic and epistemic diversities present in the class. A teacher who has the capacity to critically reflect on this and realise the problems that arise from the mismatch between the funds of knowledge (Moll et

al.,1992) and their own pedagogic practice, develops a reflexive praxis. The question here is: how does a teacher develop a reflexive capacity that allows them to interrogate their own beliefs, knowledge and pedagogic practices?

A reflexive teacher may not find an immediate solution because they are still struggling with the contradictions present in the activity system of the classroom, but accept their partial failure in connecting to students' lived world and their semiotic and emotional resources. As the conflict between their privately held beliefs and the new realisation of conflicts widens, they go through a process of internalisation (Engestrom, Miettinen & Punamäki-Gitai, 1999) resulting from critical self-reflection. They revise their mediational tools as well as relational resources and simultaneously experience a process of externalisation (Engestrom, Miettinen & Punamäki-Gitai, 1999) brought in by the creation of new mediational tools. The pedagogy transforms from a mere teaching or solution-oriented approach to a more reflexively orchestrated intellectual as well as personal encounters. It becomes a cycle as new challenges continue to surface resulting in a shift in his identity from an unreflexive subject to a reflexive being. The cycle begins when a teacher questions an accepted and normalised pedagogic practice. It soon expands into a collective movement in the relational space of a classroom resulting in building a reflexive praxis. Reflexivity is an expansive cycle (Engestrom, Miettinen & Punamäki-Gitai, 1999) that constantly destabilizes the pedagogic space of a classroom and brings in qualitative transformations in the pedagogic praxis.

Every mediational artefact that a teacher uses to mediate reflexive praxis is a psychological tool that transforms reflective action into reflexivity as an expansive cycle. This cycle helps a teacher recognize the contradictions present in a classroom and think of a working solution by developing new mediational tools to deal with those contradictions and transform their pedagogy. This whole process, in retrospect, unravels the struggle that a teacher goes through on a day-to-day basis to themselves and creates a space for critical reflection and re-carving of their identity bringing in the pedagogical transformation.

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Empowering principals: Mutual support in school development initiatives

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Keywords: Learning community; Principals professional development; Leadership in school development

Abstract

The study examines how participation in a community of practice may influences principals' leadership development and their ability to implement effective school development initiatives. It follows principals with varying levels of experience in leading development work and different school cultures, providing theoretical input through models and workshops that promote the development and exploration of practice theories.

Drawing on Lave and Wenger's (1991) theories on communities of practice, the study emphasizes the sociocultural aspect of learning and how communities of practice enable principals to engage in shared activities, discussions, and reflections, fostering a collaborative environment where knowledge is co-constructed through social interaction. A community of practice within management education significantly can enhance leadership development by leveraging the members' experiences and practices, thereby advancing effective leadership in small businesses (Smith et al, 20219).

This participation enhances principals' understanding of how to facilitate and lead teachers learning, and their own professionalism, promoting discussions on leadership, teaching, collaboration, and student performance. Using action plans, principals set long-term and short-term goals, planning actions as a basis for their leadership development. These action plans describe the theories of action underlying their leadership strategies, which are explored and challenged during PPLC meetings. This structured approach to learning and reflection helps principals move from merely sharing problems to actively discussing literature and teaching practices, ultimately leading to better educational outcomes.

Data consists of transcriptions of audio recordings from five meetings. Each meeting lasted about 2 hours. The audio recordings were transcribed for analysis purposes. Additionally, reflection notes from the meetings and the principals' action plans were included. By conducting longitudinal content analysis, I aim to uncover patterns, trends, and shifts in opinions and behaviors over time. This approach involves the systematic study of data collected at multiple points, providing valuable context for interpreting changes and developments.

This study focus on meetings and progress tracked through principals' stories and reflections. The results will be analyzed in conjunction with data on how teachers and students perceive progress in the school's work and the leader's role. This broader context will allow for connections to be drawn between past events and the current situation.

Preliminary findings show that principals struggle to move from describing actions to recognizing the leadership strategies behind them. However, discussing and reflecting on each phase of development work is beneficial for less experienced leaders. Principals need support to make their implicit leadership strategies explicit and to reflect on their actions and their consequences. Discussions often become narratives with superficial explanations, and awareness is raised only when researchers ask for precise descriptions of leadership strategies. While models promoting reflection have been introduced, external support is needed to enhance group communication. Without understanding whether leadership strategies achieve intended outcomes, learning opportunities are limited. Leaders need support to shift focus from specific actions to reflecting on their leadership practices and how these practices promote school improvement and student learning.

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Design as a transformative activity in young learners' education: A journey through the zone of proximal development

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Keywords: Activity Theory; Design reasoning; Expansive Learning; Design activity; Zone of Proximal Development; Young learners; Agency formation; Socio-ecology; UNESCO; Education for Sustainable Development; Global Citizenship; Education; Lifelong Learning

Abstract

In alignment with UNESCO's Education for Sustainable Development and Global Citizenship Education, this PhD research explores how a design activity can enrich learning experiences on critical socio-ecological issues and motivates lifelong learning. In Ontario (Canada) schools' curricula predominantly emphasize standardized pedagogical approaches, focusing on knowledge acquisition in subjects on culture and ecology, with limited emphasis on learning through experience and knowledge formation. To address this gap, the theoretical framework is two-fold. First, it introduces the design reasoning approach to young learners, traditionally used by designers to solve ill-defined problems. Second, it embeds the design activity within the Cultural Historical Activity Theory and integrates Yrjö Engeström's Expansive Learning Theory to track young learners' journey through the Zone of Proximal Development. In this study, the theoretical framework informs and intertwines with a practice-based approach to investigate: 1) how design reasoning can shift young learners' actions toward environmental issues, fostering more engaged, proactive attitudes through reflective, culturally and socially grounded activities and 2) how young learners develop a design reasoning approach as they collectively find ways to resolve conflicts and progress into the ZPD. This work will focus on lived experiences to encourage reflections and learning on culture, society, and ecology.

Extended abstract

This PhD research seeks to address the social and environmental dilemmas our planet faces. UNESCO developed Education for Sustainable Development (ESD) and Global Citizenship Education (GCED) to support UN SDG#4: Quality Education. These initiatives emphasize a balance between cognitive, socio-emotional, and behavioral learning dimensions to foster lifelong learning attitudes, expand knowledge of global issues, hold accountability for decisions, and promote proactive actions[1]. Such challenges are complex, ill-defined, interconnected, and nonlinear in their resolution. In the design realm, designers use their design thinking approach to innovate and solve such problems. They employ a reasoning pattern combined with reflective practices, tools, and collective actions to navigate solutions. This study argues that integrating a design activity centered on socio-ecological issues into school education, can enhance collective knowledge construction and empower young learners as future agents of change.

In Ontario (Canada), a gap persists between the goal of aligning school curricula with UNESCO's initiatives and the actual outcomes. Environmental education and social studies are often isolated, inconsistently integrated into the curriculum[2]. Curricula emphasize theoretical knowledge, memorization, and assessments, limiting learning beyond the classroom.

To address the gap, the research aims to understand how engaging in a design activity enriches and expands the learning experience of young learners, motivating lifelong learning on socioecological issues; and to align with UNESCO's dimensions, balancing ESD and GCED through lived experiences. Therefore, the study seeks to answer two questions: How to study the changing attitudes of young learners towards environmental issues when employing a proactive, design reasoning approach? How to develop design reasoning attitudes in young learners towards the environment through cultural and social reflective activities?

The theoretical framework converges two foundational pillars. The first examines design reasoning as the "interior situational logic and the decision-making processes of designers in action, as well as with theoretical dimensions that both account for and inform this kind of undertaking"[5](p2). McDonnell[4] adds that design is a purposeful, goal-oriented mental, social, and cultural activity that relies on imagination and reasoning before creating tangible objects. Design reasoning involves collaborative efforts to define and frame the problem, evaluate and reflect on potential solutions, iterate between problems and solutions, and represent newly generated ideas. It is empathetic and grounded in participatory activity[3].

The second, roots the study in the Activity Theory. This approach will help better understand design reasoning development of young learners as they negotiate conflicts and contradictions to form new outcomes. They move from focusing on short-term actions and knowledge acquisition, to engaging in goal-oriented activity and knowledge formation[1]. The Zone of Proximal Development (ZPD)1 manifests intellectual growth and transformative agency[6].

Thus, we position design reasoning within the learning and development sphere. Fig. 01 presents a preliminary path for establishing the methodological framework. Expansive Learning Theory will bring our investigation full circle, emphasizing the formation of design reasoning in young learners. The seven actions in the expansive learning cycle will guide the analysis, viewing design activity as a cultural-historical process that stimulates agency as young learners navigate ZPD. Design activity becomes a tool to create relationships between learners' current knowledge, and the new knowledge they transform. Additionally, they are confronted with conflicts both within themselves and with the collectives.

By integrating young learners into their social context and raising their awareness of complex problems, the goal is to foster lifelong learning and constructive attitudes toward socio-ecological issues, while balancing UNESCO's dimensions to enable learners to contribute to an inclusive, peaceful, and sustainable society[7].

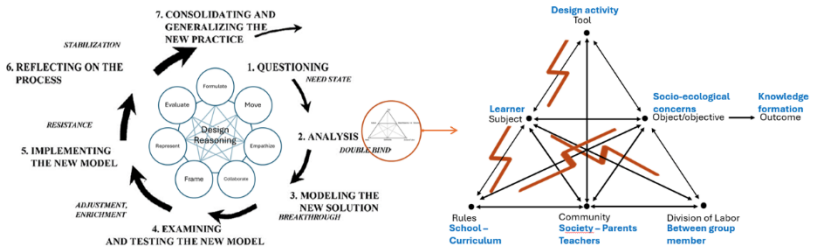

Fig 01. Design reasoning from the Expansive Learning Theory lens.

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Exploring contradictions in school leadership: A study of the interaction between school leadership teams and local educational authorities

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Keywords: CHAT; Managerial shared leadership; School leadership team; Principal; Deputy principal; Organizational change

Abstract

This upcoming study examines the contradictions that emerge in the interaction between activity systems, with a particular focus on the complex relationships between principals, deputy principals, and local school authorities (LEAs). By applying third generation cultural-historical activity theory (CHAT), the study aims to deepen the understanding of how significant changes in the principal's role are shaped by contradictions and various influences from surrounding activity systems. Since the introduction of the 2010 Swedish Education Act, mandating that each school unit has only one principal, there have been notable organisational changes for Swedish principals. The policy shift has led to an increased emphasis on managerial shared leadership within school leadership teams, where principals and deputy principals adapt to the evolving complexity of their evolving roles and responsibilities.

This qualitative case study focuses on a specific LEA and six school leadership teams, providing a broad basis for analysis. Data is collected through semi-structured interviews and observations with principals, deputy principals, and LEA representatives to capture multifaceted perspectives. The findings of this upcoming study will provide valuable insights into the relationships between school leaders and the LEA, examining how contradictions between activity systems mediate leadership roles and contribute to ongoing organisational transformation and development.

Extended abstract

Introduction

This upcoming study investigates the contradictions that arise in the interactions between different activity systems, focusing specifically on the dynamics between school leadership teams and local educational authorities (LEAs). Since the enactment of the 2010 School Act in Sweden (SFS, 2010:800), which mandates a single principal per school unit, the role of school leaders has undergone significant structural changes. This legislative change has not only transformed leadership frameworks within schools but has also fostered an increased emphasis on managerial shared leadership among principals and deputy principals. Such a shift necessitates a deeper understanding of how these leadership interactions operate within the broader educational landscape.

Aim and research questions

Utilizing the third generation of cultural-historical activity theory (CHAT), as its analytical framework (Engeström, 2001; Engeström, 1987/2014, Engeström & Sannino, 2010), this planned study aims to deepen knowledge regarding the relationships between activity systems, particularly focusing on the interactions between school leadership teams and LEAs. CHAT provides a comprehensive lens for examining the interplay between LEA and the school leadership teams in a cultural, historical, and social context, thereby allowing for an insightful analysis of leadership interactions. The study addresses the following research questions:

1. How do school leaders describe their relationships with local authorities in relation to their leadership roles within the school leadership team?

2. What factors—including rules, tools, division of labor, and community—shape these relationships?

3. What tensions and dilemmas do school leaders experience in their interactions with local school authorities, and what contradictions can be identified at the systemic level?

Research methods and theoretical framework

This planned study employs a qualitative case study approach (Bryman, 2011), focusing specifically on one LEA alongside six school leadership teams. Data collection will involve a combination of observations (Fangen, 2004; Capelán & Göransson, 2021) and semi-structured interviews (Rowley, 2012; Gubrium et al.,2012) with principals, deputy principals, and municipal representatives. Each interview will take place individually and for example, will the observations be conducted in contexts where school leadership teams engage in shared work, such as formal management meetings where LEA is a part of the meeting.

The theoretical framework utilized in this study is grounded in CHAT, which underscores the importance of cultural, historical, and social contexts in shaping human activity. Within this framework, an activity system is identified through specific nodes that include the interactions between team members and the collaborative efforts they engage in to achieve common objectives. The analysis will particularly emphasize the interplay among different activity systems, homing in on critical nodes such as rules, tools, and community.

Within the CHAT framework, the analysis emphasizes the contradictions that arise when external factors, such as new regulations and demands for change, are introduced into the existing activity systems. These contradictions can create tensions but also present opportunities for development and learning within and between interconnected activity systems. The relationships between school leadership teams and LEAs can highlight this complexity and illustrate how conflicting perspectives on leadership roles or responsibilities can be manifested.

Contribution to knowledge

By shedding light on the relationships between school leaders and LEAs, this planned study aims to increase understanding of how these interactions influence leadership behaviours. The study aims not only to identify the challenges faced by school leaders, but also to highlight development opportunities in complex interaction and how LEAs influence the work of school leadership teams.

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Formation of upper secondary vocational education in Sweden through the state-controlled reform process

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Keywords: Activity theory; Education reforms; State governance; Upper secondary vocational education

Abstract

The aim of this paper is to analyse state-controlled transformations in vocational education at upper secondary level in Sweden (USVET) between 1970 and 2011, and what purposes they may serve. The study is based in cultural historical activity theory. Vocational education is seen as an activity system that evolve over time in interaction with neighbouring activity systems, and in relation to societal needs. The analysis is guided by the following questions: What tensions and contradictions can be identified? How is USVET materialized as an object-oriented activity? What changes can be discerned, and what do these changes indicate about the tentative object? The preliminary findings indicate shifts in USVET in relation to the general object of schooling, i.e. the students' learning. In 1970 the tentative object emerges as school based, industry tailored national USVET paths preparing for work. In 1994 the tentative object indicates disparate vocational and university preparatory USVET paths, created by the education providers. In 2011 the tentative object shifts to unclear USVET paths that may be created in collaboration with the regional industries and the students. These shifts emerge as the government handles the failures of USVET and may be related to societal needs.

Extended abstract

The aim of this paper is to analyse government-led transformations in vocational education at upper secondary level in Sweden (USVET) between 1970 and 2011, and what purposes they may serve. In the 1950s the government starts to successively reform the different education paths which precedes and is present at the upper secondary school level (Lundahl et. al., 2010; Olofsson & Persson Thunqvist, 2018). Through the lens of cultural historical activity theory (Engström & Sannino, 2011), this paper examines how the state governed reform efforts are manifested in USVET. Vocational education is seen as an object-oriented activity system that is shaped over time in interaction with neighbouring activity systems, and in relation to societal motives. The analysis is guided by the following questions: What tensions and contradictions can be identified? How is USVET materialized as an object-oriented activity? What changes can be discerned, and what do these changes indicate about the tentative object?

The analysed data consists of government bills produced between 1964 and 2010, and the related USVET curricula of 1970, 1994 and 2011. The triangular model of the activity system was used to analyse the emergence of tentative objects in the selected reform periods. Manifestations of tensions and contradictions identified in the documents and, the materialization of USVET through prominent changes in the mediating nodes of the activity system, i.e. tools, rules, communities, division of labour and the tentative object were analysed and compared.

The preliminary findings indicate that manifestation of tensions and contradictions that comes to the fore concern the repeated failure of USVET to meet contemporary educational needs. To resolve the problem, in the 1970 education reform the government introduces USVET pathways with industry-oriented bases and gradual specialization. This national curriculum and corresponding syllabuses appear as rules that the schools are expected to follow. In addition, the syllabuses created by industry representatives may become tools in the teaching and learning community of the schools. This indicates a tentative object and an USVET activity that guides the students towards successive development of vocational knowledge and skills.

In the 1980s, uncertainty in the labour market indicates that the knowledge and skills manifested in USVET may fail to meet both the students' and the industries' educational needs. In the 1994 education reform a new division of labour appear. The USVET providers may create course packages in collaboration with the local labour market or based on students' interests. Dominating rules in this period are local autonomy and the students' choice. These rules may also be considered as tools placed at the

schools' disposal, and intended to create USVET programs that include eligibility to higher education and workplace-based education. This indicates a disparate tentative object that may be transformed to employment and further education.

In the first decade of the 21st century the USVET programs still fail to meet educational needs. In addition, students fail to complete their education. The 2011 curriculum emerge as a rule that gives the schools the option to provide vocational education as school-based, and as apprenticeships in collaboration with the industries. This indicates a division of labour where schools and workplaces may need to collaborate. The locally created USVET pathways emerge as a tool that may involve the students in the creation of their study path. The tentative object appears unclear and seems to be about school specific USVET paths or students' individual study paths.

In conclusion, the preliminary findings indicate shifts in USVET that are related to the general object of schooling, i.e. the students' learning, and the potential societal motives related to USVET.

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Paper abstracts

Fourth generation cultural-historical activity theory

An activity-theoretical study of the collaboration of civil society and municipal administration in the neighbourhood development

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Keywords: Community workshops; Fourth-generation activity theory; Expansive learning and Neighbourhood development

Abstract

The study investigates residents' efforts to influence in their neighbourhood development and collaboration efforts taken by residents and civil servants in a real-life context in multiactor neighbourhood development. It shows a systemic change process, the development of learning during the developmental interventions of promoting the improvements in the neighbourhood by means of cultural-historical activity theory (CHAT).

The method of community workshops expands learning and agency in informal learning contexts with heterogeneous actors and activities. Workshops are led by researchers, who elicit and maintain a collective learning process that consists of well-planned stimulating assignments, learning tasks, instructions, organization of the working groups and data-collection. The community workshop method enabled the existing conflicts between the needs of the people and practitioners to be addressed and turned into learning opportunities.

The results indicate communities as settings of learning where community workshops can promote the emergence of the new object of activity and change the activities in multiactor networks in neighbourhood development process. This research contributes to the fourth-generation activity theory (4GAT) studies of learning in the context of urban development.

Extended abstract

The context of urban development is a place where a fluid civil society and a hierarchical and cross-sectorial municipal administration are both involved and often from different perspectives. To ensure diverse voices in residential areas, we need more knowledge about the collaboration of residents, civil servants, and other urban stakeholders such as citizens' groups, city planners, and representatives of non-governmental organisations by building local practices for and solutions to the challenges of communities undergoing change. The context of neighbourhood development in municipalities with various actors depending on one another to enact their activities is an example of recent studies of CHAT focusing on the 4GAT (see Engeström & Sannino, 2020).

The 4GAT provides tools for creating and investigating activities in informal settings in which heterogonous actors face complex contradictions and multiple multisectoral objects of activity that affect lives across boundaries. The community workshop is a method that invites stakeholders and actors concerned to working together to solve practical and structural problems, including public administration, non-governmental associations, municipalities, and political bodies. It is a fourth-generation formative intervention method designed to addressing social inequities and wicked problems requiring active stakeholder engagement across various sectors in society including people in underrepresented positions. It boosts genuine development process based in expansive learning actions. The community workshop method is based on CHAT and has its roots in the Change Laboratory method (Virkkunen & Newnham, 2013). The actors are brought together by objects which are sometimes difficult to find and transform in heterogenous multiactor community with opposing interests. The dynamics of the interconnected objects relate to qualitatively different kinds of activities and work.

In this study, contradictions were built on the tension-filled objects, such as the responsibilities of the municipality's rental policy, its capacity to coordinate activities, and its collaborating practices. Fourth-

generation objects of activity called for expanding the diverse relations that can form an activity and meet the challenge of multiple multisectoral objects of activity. This required identifying and uniting the different stakeholders and developing processual relations: a dialogue between practitioners and political actors. Expanding the actors helped, as they could then elaborate and had the power to change the object of activity. The method of community workshop emphasized the expansion of the participants during the intervention. The multiple learning cycles were elaborated in processual relations, and they directed and supported each other's learning (see Sannino, 2020).

The new potential objects of activity were produced using stepwise construction of a second stimulus (see Jalasi, 2020). Fourth-generation problems called for a second stimulus that consists of a variety of artifacts and tools with many attempts and repeated implementations. This kind of second stimulus was powerful, suitable for the contradictions and emerging conflict of motives, socially engaging, and co-created with the communities (Lotz-Sisitka et al. 2023).

The strength of the method of community workshop lies in the transformation of individuals' actions into a collective activity through the change process. Participants' interest in the tensions in the activity emerged by using the principle of double stimulation, in which the researcher regulates the activity with two stimuli (Sannino, 2022). At the same time, it supported participants' learning and the development of their transformative agency. This allowed residents to envision possible futures and utopian visions by shaping real-world change of challenging existing power structures in social practices.

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Implementing innovations in local community cafeterias for the needy to protect users' dignity

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Keywords: Expansive learning; TADS (transformative agency trough double stimulation); Coalition; Local community cafeteria for the needy; dignity; stigma

Abstract

In Japan, support for the needy, has become a significant social issue in recent years. In this presentation, I will discuss the current status and challenges of support practices based on data collected through participant observation in a local community cafeteria targeting the needy, which the author has been conducting since 2019. As a result, I could find out the process of expansive learning and the ZPD cycle in the practice of this cafeteria. Which were based on both the life stories of the individual and the development of the cafeteria. Although the object of this activity was never explicitly stated, most of the cafeterias rely on the slogan "support for the needy." This ambiguity created a gap. These became evident in a series of specific practices, especially through several key events. This sequence of events led to conflicts, contradictions, and tensions. Based on the analysis, it is clear that the emphasis in this activity is on protecting the dignity of the user. This paper thus reports on how the activity system, as a collective of volunteers rather than a formalized organization, fosters a coalition among those who gather through practical engagement and the gaps in the activity's underlying purpose.

Extended abstract

Particularly since the 2000s, support for the needy, including children in poverty, has become a significant social issue in Japan. Based on data collected from observations at a local community cafeteria aimed at assisting the needy since 2019, this study discusses the current status and barriers encountered in providing this support. The analysis identifies the process of "expansive learning" (Engeström, 1987) and the zone of proximal development (ZPD) cycle within the cafeteria's practices. The cafeteria's founder described her personal history as one marked by social deprivation and hardship, which informs the underlying purpose of the cafeteria's activities. However, her personal story was not explicitly shared, and the cafeteria's mission was broadly presented with slogans such as "support for the needy." Although this distinction was not always evident in everyday practices, differences in underlying objectives became clear at key moments, leading to conflicts, contradictions, and tensions.

Through constructing and exchanging these experiences, the underlying purpose of the activity system gradually became clear, shared, and redefined. This cycle of expansive learning emerged through practical engagement, allowing the initially unorganized volunteer members to gradually develop a shared understanding of their purpose and collaboratively explore their next steps.

Developing and sharing these experiences provided a common ground. As part of the next phase of embodying the emergent ZPD, relevant members established a study group. Discussions continue on how living in poverty is experienced and perceived. These discussions include, for example, how to make the cafeteria more accessible to those who might experience stigma from being "needy" because it is a cafeteria for the "poor." One current initiative addressing this issue is the "blessing coupon" program. To avoid becoming perceived as a "free charity recipient," users purchase meals using coupons initially bought as donations by third-parties. In addition, under normal operating policies, charging a minimal fee—even just a single coin—for a simple meal helps maintain the dignity of users.

Regarding children's use of the cafeteria, parental understanding and support are essential. Some parents prohibit their children from visiting the cafeteria to prevent them from being labeled as "poor." Others are reluctant to accept charity from unfamiliar organizations offering free meals. In contrast, some children are drawn to the cafeteria after seeing it featured on TV, believing, without reason, that "it was on TV, so it's safe."

This type of encouragement represents the second stimulus in the double stimulus method, guiding individuals toward transformative agency through double stimulation (TADS; Sannino, 2020). We continue to work toward gaining the trust of the parents, including developing relationships with them. These initiatives and their outcomes are regularly discussed and analyzed in group meetings using specific examples.

This paper thus reports on how the activity system, as a collective of volunteers rather than a formalized organization, fosters a coalition among those who gather through practical engagement and the gaps in the activity's underlying purpose. As Engeström & Sannino (2020) noted, the fourth generation of activity theory focuses on heterogeneous work coalitions. To address critical societal problems involves considering the activity systems of such voluntary groups.

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Fourth-generation activity theory and exploring the zone of proximal development for school instruction through Change Laboratory interventions

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Keywords: Fourth-generation cultural-historical activity theory; Change Laboratory; expansive learning; school transformation; school instruction; zone of proximal development; pedagogy of questioning; community-based coalitions for learning; co-design

Abstract

Today, a key challenge in Change Laboratory research is to develop formative interventions focused on fourth-generation cultural-historical activity theory, which create alternatives to capitalism by transforming activity systems to confront planetary crises. In Change Laboratory intervention research on formal education, a new challenging initiative will be the generation of expansive learning gradually advancing an agentive and emancipatory school transformation whereby participants deviate from the logic of capitalism. This study explores the creation of Change Laboratory interventions to generate new educational practices that overcome the fundamental contradiction in contemporary neoliberal educational policy and reform by discussing two cases. The first is a Change Laboratory wherein teachers and interventionist researchers collaborate at a private elementary school in Japan for future-making of the school. The second is a Change Laboratory by high school students, teachers, and interventionist researchers at a public high school in Japan, where students collaboratively create community-based projects based on their interests in serving the common good. Such Change Laboratories encourage participants to move into a zone of proximal development, which is an alternative developmental orientation to learning and instruction in schools, creating a pedagogy of questioning and community-based coalitions for learning.

Extended abstract

Today, a key challenge in Change Laboratory research is the development of formative interventions focused on fourth-generation cultural-historical activity theory, which create alternatives to capitalism by transforming activity systems to confront planetary crises and threats to human survival. Fourth-generation activity theory aims to expand the unit of analysis of the study in the following three dimensions from the three preceding generations. The first is the temporal dimension—the direction that "alternatives to capitalism" (Engeström & Sannino, 2021) seek to create. The second is the socio-spatial dimension. In this direction, the unit of analysis has been expanded to "heterogenous coalitions" (Engeström & Sannino, 2021). The third is the ethical-political dimension that aims to expand activity theory toward "enacted utopias" for the common good (Sannino, 2020).

Change Laboratory is a participatory, bottom-up formative intervention rooted in cultural-historical activity theory. It is an experimental research method whereby practitioners and interventionist researchers collaboratively tackle the transformation of their work through participatory analyses and design sessions. It comprises a series of sessions that trigger and support participants' expansive learning. In Change Laboratory intervention research on formal education, within the established public education system, a new challenge will be the generation of expansive learning that gradually advances an agentive and emancipatory school transformation, whereby participants deviate from the logic of capitalism. Currently, education is under neoliberal pressure to produce measurable learning outcomes, such as academic test scores. The root of the intensifying conflicts and disturbances in education can be traced back to the systemic contradictions between a dominant reduction in exchange value under neoliberal pressure and the need to continuously build new use values to create alternatives.

This study explores the creation of Change Laboratory interventions based on fourth-generation activity theory to generate new educational practices that overcome the fundamental contradiction between exchange and use values in contemporary neoliberal educational policy and reform. In this paper, I

discuss two cases of Change Laboratories. The first is a Change Laboratory in which teachers and interventionist researchers collaborate at a private elementary school in Japan for future-making of the school. The second is a Change Laboratory by high school students, teachers, and interventionist researchers at a public high school in Japan, where students are divided into groups to collaboratively create community-based projects based on their interests in serving the common good. Such Change Laboratories in schools oriented toward fourth-generation activity theory encourage participants to move into a zone of proximal development, which is an alternative developmental orientation to learning and instruction in schools. In our Change Laboratory interventions, the teachers were able to shift to a zone of proximal development in the temporal dimension in the Change Laboratory at the elementary school. Teachers could find such alternative developmental orientation by ascending from the initial germ-cell abstraction of the inquiring child to the collaborative formation of a new concept of concrete and complex forms of pedagogical practice called the pedagogy of questioning. In the case of the high school Change Laboratory, students' learning was expanded in the socio-spatial dimension; in short, in this Change Laboratory, students' learning overcame being encapsulated within subjects, classrooms and schools, and individuals, and moved toward the creation of community-based coalitions for learning. In addition to these two dimensions, there is a third developmental possibility: the ethical-political dimension. At the intersection of these three dimensions, a newly enacted utopia, "students and teachers co-design the future" (Engeström, 2025, February), could be an alternative developmental possibility for school instruction.

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Between desire and plausibility: Learning by imagining

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Keywords: Change Laboratory; Professional imagination; Near future; Desire; Plausibility

Abstract

The paper presents a Change Laboratory intervention conducted to co-design the "Centro per le Famiglie" (Families' Center), led by the Adolescere Foundation in collaboration with 18 local institutions. The intervention employed professional imagination, narratives, and group techniques to identify the motives of each activity system and facilitate the definition of a shared-object. Grounded in Vygotsky's (1987) and Zittoun & Gillespie's (2016) perspectives on imagination, this study explored the creative dimension of imagination through a narrative approach. Specifically, professionals engaged in the "Letter from the Future" exercise, writing their own visions of the Families' Center in 2035. This method allowed participants to critically reflect on their present realities while envisioning transformative possibilities. The research followed the phases of the expansive learning cycle, integrating subjective, institutional, and professional motives to expand the object of activity. The analysis categorized the letters based on plausibility and desirability, mapping the desired changes and highlighting both material and symbolic conditions necessary for transformation. The findings demonstrate how imagination serves as a catalyst for systemic change by bridging present constraints with future aspirations.

Extended abstract

Background

The paper presents a Change Laboratory intervention carried out to co-design a new service, "Il Centro per le Famiglie" (Families' Center), led by the Adolescere Foundation in collaboration with 18 local institutions (schools, associations, churches, local authorities, social services). Professional imagination, narratives and group techniques were used to identify the motives of each activity system and co-design the new shared-object. These practices can support the exploratory creation of new ideas and enhance the understanding of evolutionary potential, helping to identify possible directions for development and change. According to Vygotsky (1987), "no accurate cognition of reality is possible without a certain element of imagination, a certain escape from the immediate, concrete, solitary impressions in which this reality presents itself in the elementary acts of consciousness. The processes of invention or artistic creation require an essential participation of both realistic thinking and imagination. Both act as a unity" (p. 349). Drawing on Zittoun and Gillespie's cultural-historical perspective on the concept of imagination - understood as an "expansion" of experiences and possibilities (2016) - we face the creative dimension of imagination using a narrative tool to stimulate professionals in an actual empirical analysis of current activity system and designing an interprofessional system for working with families in the near future.

Aims

The research aims to explore the reconceptualization of the shared- object of the Centro per le Famiglie during a Change Lab as an expansive learning process. "The object is both what engages and motivates the intentional participation and what is shaped and potentially transformed through participation (...) Forming a new, expanded object of activity requires questioning and breaking away from the constraints of the existing activity and embarking on a journey across the uncharted terrain" (Engeström & Sannino, 2010, p.7). Our intervention was therefore articulated into two dimensions: a knowledge level, aimed at grasping the subjective and institutional/professional motives of all the actors of the Centro per le Famiglie, and a transformative level, which used the lever of imagination to expand the object of the activity by suspending or deepening the operational and cognitive routines specific to this service.

Methods

The research and intervention process was structured according to the phases of the expansive learning cycle. The actual empirical analysis was carried out using the narrative tool “Letter from the future” (Zanzibar, 2022). In order to explore different motives through professional imagination, the interprofessional and inter-institutional group members were asked to write about the 'near future' (Kloetzer & Kloetzer, 2025) of the family centre. The narrative tool allows us to represent the proximal experience lived by the professionals in their context, “what is”, starting from an imagination of the near future, "what it could become", i.e. from the analysis of the future to read the question of the present. It is a realistic practise of imagination and a stimulus to reflect on systematic and professional representations, contradictions and desired changes. The letters were used as mirror data to identify experiential elements of the present and past. Practitioners were asked to read the letters they had created to identify what changes they had envisioned and what (personal or social) experiences they were based on.

Results

In order to examine the letters from the future and bring out the motives, we used two categories: Plausibility and Desirability. If the motive is what makes me act and gives meaning to my actions, we can say that it can arise from the relationship between the two dimensions of desire (what moves me) and plausibility (what I can realistically do). The intersection of these two categories ensures the expansion of the learning process, since desire acts as an impulse for the expansion of the possibilities for action in relation to the already existing present. At the same time, plausibility makes these new ideas potentially effective. We then created a graphic representation of the process based on two coordinates: on the horizontal axis, we measured the transition from 'not at all plausible' to 'very plausible'; on the vertical axis, we measured the transition from 'not at all desirable' to 'very desirable'. The result of this work was a mapping of the design areas of the family center that showed the desired changes by highlighting the material and symbolic conditions as well as the available resources for these changes.

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Reality bites: When friction frustrates and moves professionals and politicians towards accountable actions in cross-organizational settings addressing homelessness

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Keywords: Change Laboratory; Homelessness; Accountability; Professional agency

Abstract

In 2002, Sweden's National Board of Health and Welfare provided grants to support the implementation of the Housing First model to tackle homelessness. A Swedish municipality secured funding, and a project was initiated to enhance knowledge and collaboration on homelessness among responsible municipal organizations. Using the Change Laboratory (CL) method -collaborative workshops identifying systemic friction- 20 participants from 4 municipal organizations examined municipal homelessness initiatives. Tools like historical timelines and triangle analyses as material means helped identify obstacles, including rigid eligibility criteria and organizational misalignment. Furthermore, professionals expressed frustration over public misunderstandings and media oversight regarding municipal constraints. A key concern what the growing risk of homelessness among new social groups, highlighting the inadequacy of current policies. While Housing First was explored as a solution, professionals found its implementation contradicted structural realities, leading to frustration rather than optimism. The municipal councillor was invited to the final CL session to discuss a tragic incident with a homeless individual, sparking a critical dialogue on professional and political responsibilities. Results from the CL included improving communication, ensuring fairness in services and upholding ethical standards. Ultimately, the process emphasized structured collaboration, revealing the need for "friendly and dignified" interactions to strengthen municipal intervention regarding homelessness.

Extended abstract

In 2022, the National Board of Health and Welfare in Sweden announced municipal grants aimed at strengthening efforts to combat homelessness through the Housing First model. The studied municipality applied for and received funding, assigning a research environment the task of increasing knowledge and broadening collaboration between municipal administrations on homelessness-related issues. The municipality also sought to investigate the feasibility and implications of implementing the Housing First model.

Despite existing municipal collaboration on homelessness issues, some individuals in the municipality still lack housing for various reasons. At the time of the study, 93 individuals in the municipality were experiencing some form of homelessness. Previous research has shown that with a Change Laboratory, (CL argues that development occurs when friction is identified in a series of collaborative workshop sessions and can act as a catalyst for new solutions (Engeström et al 1996; Virkkunnen and Newnham 2013)), continuous development regarding the enactment of Housing First has proven to be promising and sustainable (Sannino, 2020). Hence, an initiative to use Change Laboratory as a method was suggested.

Throughout the Change Laboratory sessions, involving 20 professionals from 4 different organisations, participants examined past municipal efforts related to homelessness, identifying obstacles and contradictions. This analysis formed the basis for developing new collaborative models (Engeström and Sannino, 2011; Sannino 2022). A historical review using a "Timeline" tool provided insights into how past decisions shaped current challenges (Spante and Egelström 2025). Triangle analyses helped visualize organizational structures and pinpoint conflicts between operations, and four-filed models supported model creations (Chang, 2021).

One key moment in the process was the recognition of how public perception of municipal homelessness efforts is often inaccurate. Media coverage of homelessness-related issues sometimes overlooks legal constraints and operational limitations faced by municipal services. This created frustration among professionals who felt their work was misunderstood.

A critical realization from the Change Laboratory was that systemic "high thresholds" often prevent effective homelessness interventions. Many services impose strict eligibility criteria, making it difficult for those needing support. During the CL work, the participants repeatedly described a desire to be involved to a greater extent in goal formulation and planning around the conditions and initiatives that are decided on work relating to housing social issues. The participants experienced that organisational goals do not always match the resources and available working methods that exist in the reality of actual work. The requirements do not always correspond to the regulations, which is part of the perceived friction that emerges within and between the activities addressing homelessness. Furthermore, the view of homelessness did not corroborate with the new clients in need. The aggravated situation in the municipality, and the nation at large, showed that new groups of citizens were endangered of losing their homes.

Discussions highlighted the potential of Housing First as a solution during the CL process, though its implementation would require significant structural changes. Hence, the Housing First model became seen as a contradiction in itself and produced professional frustrations rather than hope for improvements.

The final step of the CL method allows participants to invite key actors they deem important to the process. In this case, the municipal councillor emerged as a crucial and desirable participant. This was due to his role as the ultimate political authority over municipal activities and his actions during the tragic incident involving a homeless man’s death in the municipality.

The professionals were deeply frustrated that their long-held responsibilities were suddenly scrutinized, as their expertise was disregarded in favour of the municipal councillor's collaboration with a voluntary organization after the tragic incident. The desire and need to tell and clarify their professional assignments to the responsible politicians was strong. An invitation went to the municipal councillor, who accepted. This was interpreted as a desire to get involved, and the hope of continued dialogue focusing on professional responsibility and political responsibility to create good conditions emerged in the session.

Following the Change Laboratory process, several key dimensions for improved collaboration to tackle homelessness were identified: 1) From vague to clarified: Enhancing communication and ensuring a shared understanding of responsibilities across organizations. 2) From unfair to fair: Ensuring equal treatment and access to services for all clients. 3) From unethical to ethical: Upholding professional and ethical standards in homelessness intervention efforts, lowering the threshold and altering routines that exclude access to help.

In conclusion, the Change Laboratory process in the municipality demonstrated the value of structured collaboration in addressing homelessness. By identifying contradictions, fostering dialogue, and testing new models, professionals strengthened their collective ability to act rather than uncritically work with “best practice” model implementation in an institutional surrounding that could not support such an initiative. The guiding principles of "friendly and dignified" interactions emerged as essential to improving homelessness intervention efforts in the municipality rather than following the current exclusion criteria, efficiency measurements, and policy regulations.

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Adolescent students building bridges between their multiple worlds

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Keywords: Cultural-historical activity theory; Adolescents' multiple worlds; Change Laboratory; Boundary-crossing; Common ground; Bridging

Abstract

In this paper, we analyze the movement of adolescent students across their six worlds while producing projects that hold significance for them. Drawing on cultural-historical activity theory and the expanded model of adolescents' multiple worlds, we employ the Change Laboratory (CL) intervention formative method to explore how students' self-directed projects can contribute to building interconnections between adolescents' worlds. A total of thirty-two eighth-grade students voluntarily participated in two CL interventions to create projects important to them. The CL sessions took place during regular school hours and in a school space, allowing students the autonomy to select, design, and implement project topics, contents, and means without the constraints of the regular curriculum and the pressures of testing and grading. The data analysis focuses on identifying discursive manifestations of contradictions and interactions and hybridization between adolescents' multiple worlds. The findings reflect two primary sources of tension in adolescents' lives: intolerance and discrimination in peer relations and stress and pressure related to school. In addition to the world of primary concern, several projects were anchored also in other worlds. The results of the analysis shed light on the potential of adolescent students to build bridges and productive hybrids between their often fragmented worlds.

Extended abstract

In this paper, we analyze the movement of adolescent students across their six worlds while producing projects that hold significance for them. Our research question is: How can students' self-directed projects contribute to building interconnections between adolescents' worlds. This study draws on cultural-historical activity theory (CHAT) and the expanded model of adolescents' multiple worlds (Phelan et al., 1998; Engeström et al., 2024). We see adolescents' worlds as spheres of activity. Besides the three worlds named by Phelan, namely family, school, and peers, we examine three additional worlds: digital, civic, and future.

In this study, we conducted two Change Laboratory (CL) formative interventions. These CLs represent the first instance of positioning adolescent students as central actors redesigning their activities (Engeström et al., 2023; Hopwood, 2024). The CL interventions were carried out in two comprehensive schools in major cities in Finland during the school years 2020-21 and 2021-22. Thirty-two eighth-grade students voluntarily participated in these CL interventions to create projects important to them. The CL sessions took place during regular school hours and in a school space, allowing students to freely choose, design, and implement project topics, contents, and means without the constraints of the regular curriculum and the pressures of testing and grading. At the end of the CLs, public closing events were held in a hybrid setting to present the 11 projects created in the CLs.

The data of this study consists of recordings of students' initial interviews (n=30), CL sessions (n=16), and follow-up sessions (n=17) from two distinct CL interventions. Our analysis proceeded in five steps. First, we identified discursive manifestations of contradictions (Engeström & Sannino, 2011) in the transcripts of the student interviews. As a second step, we classified the manifestations into six worlds based on the primary environment in which the manifestation was located: school, peers, family, digital, civic, and future activities. As a third step, we looked at cases of hybridization of worlds in the manifestations. Fourth, we analyzed each of the eleven projects, focusing on their positioning within the

six worlds. Fifth, we analyzed the contributions of students' projects to interactions and hybridization between these worlds.

The foci of the students' projects were different in the two CLs, reflecting two main sources of tension in adolescents' lives: (1) contradictions involving intolerance and discrimination in peer relations, and (2) stress and pressure related to school. In CL 1, interviews and projects emphasized peer relations, aiming to promote positive human interactions in school and society. In contrast, CL 2 exhibited more contradictions and solutions related to school.

In addition to the world of primary concern, several projects were anchored also in other worlds. For instance, the project "Small Action, Big World" was primarily related to the world of peers, but also to the school world and the world of civic activity. Similarly, the primary world of the project "Everyone Should Be Accepted as They Are" was peer activity, but it was anchored also in the school, digital, and civic activities. The paper will analyze in detail the ways in which such interconnections between the worlds were constructed and implemented in the 11 projects. We conceptualize this dynamic interplay and hybridization of distinct worlds through the conceptual lenses of "boundary crossing," "bridging," and "common ground." The results of the analysis shed light on the potential of adolescent students to build bridges and productive hybrids between their often fragmented worlds.

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Paper abstracts

Studies of transformative agency and contradictions

Fostering teachers' transformative agency through structured professional development

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Keyword: Transformative Agency; Professional development; Teacher Learning; Double stimulation; Research-Practice Collaboration

Abstract

This study explores how teachers, through structured professional development processes, enhance their capacity to adapt instruction to students' diverse needs. Using Transformative Agency by Double Stimulation (TADS) as an analytical lens (Sannino, 2022), the study examines how teachers engage in agentive action through structured tools and collaborative inquiry.

The study is based on a three-year professional development initiative involving 170 teachers from preschool to adult education across Sweden. Teachers used case-methodology as a structured approach, integrating systematic documentation and collegial workshops, to identify students' learning needs and adapt instruction accordingly. The findings highlight how teachers, when encountering tensions between professional judgement and external demands, appropriated case methodology as the primary second stimulus to navigate dilemmas and take transformative action.

By engaging with double stimulation as an explanatory mechanism for agency formation (Sannino, 2022), the study contributes to research on professional development by illustrating how agency emerges collectively through iterative processes of sense-making and decision-making. The findings also provide insights into the role of structured CPD approaches in fostering teachers' transformative agency. The study aligns with the conference theme by addressing how structured interventions can mediate agency and professional growth in educational settings.

Extended abstract

This study explores how 170 teachers developed transformative agency (Sannino, 2022) as they worked to adapt their instruction to students' varied needs. A key aspect of this process was the introduction of specific stimuli, collaboratively developed through dialogue between researchers and teachers. Case methodology, systematic documentation, and collaborative teacher workshops were initially proposed by the research team as potential second stimuli (Vygotsky, 1931/1997) to support instructional development. However, their final form and use were co-constructed through iterative negotiations, ensuring relevance and usability in teachers' practice. By tracing how stimuli were appropriated and transformed over time, the study highlights the mechanisms through which transformative agency develops in CPD contexts.

TADS (Sannino, 2022) builds on Vygotsky's (1931/1997) principle of double stimulation, describing how individuals or collectives intentionally break out of conflicts of motives by forming and implementing auxiliary motives. While agency has been widely discussed in research on teacher learning (e.g., Biesta, Priestly & Robinson, 2015), dominant conceptualisations often remain individualistic or abstract, lacking processual accounts of how agency emerges in specific professional learning settings. TADS provides a dialectical, process-oriented perspective that captures the interactive and evolving nature of agency formation, highlighting how teachers' agency develops through contradictions in their professional practice and the appropriation of external stimuli.

This study conceptualises R&D collaboration as a structured, but non-prescriptive CPD process where teachers engage in systematic cycles of case methodology, collaborative workshops, and documentation of instructional adaptations. The research team introduced stimuli as starting points for

professional inquiry, but these were neither imposed nor predetermined. Instead, they were adapted and refined in collaboration with teachers. This negotiated stimulus development was central to the emergence of transformative agency, allowing teachers to take ownership of the tools and use them in ways that supported their evolving professional goals.

Data sources include observations, interviews, teachers' written self-reflections, and 101 case narratives documenting instructional adaptations. The analysis traces how teachers interacted with the introduced stimuli, how appropriation evolved over time, and how this process enabled them to take transformative action.

Findings indicate that teachers' engagement with second stimuli followed the phases of TADS: search actions, taking-over actions, and breaking-out actions (Sannino, 2022). Initially, teachers engaged in search actions, tentatively exploring how case methodology, documentation, and collegial workshops could be relevant to their practice. These early encounters with stimuli often triggered conflicts of motives, as teachers negotiated tensions between established routines and new instructional possibilities (Haapasaari & Kerosuo, 2015). Gradually, teachers moved into taking-over actions, where second stimuli became established in their professional routines. This phase was marked by an increasing sense of control over instructional adaptations and deeper engagement in collegial collaboration around student learning. The strongest evidence of transformative agency emerged in breaking-out actions, where teachers moved beyond initial problem-solving to fundamentally reframe their professional roles and collaborative capacity for instructional innovation.

By demonstrating how transformative agency can develop in CPD when supported by collaboratively introduced and negotiated stimuli, this study contributes to research on teacher learning and school development. It also extends the application of TADS by illustrating how warping (Sannino, 2022) operates in professional learning settings. Teachers engaged in forward-anchoring movements as they experimented with new practices, but their trajectory was non-linear, with moments of resistance, renegotiation, and adaptation. These findings suggest that transformative agency is an iterative process, where teachers gradually expand their agentive actions. The stabilisation of second stimuli plays a crucial role in this process, helping them navigate moments of uncertainty and move beyond impasses (Hopwood & Gottschalk, 2017).

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Transformative AI agency: How students negotiate and collaborate on the role of generative artificial intelligence in higher education

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Keywords: Transformative Agency; Double Stimulation; Higher Education; Generative Artificial Intelligence; Collaborative learning

Abstract

There is growing interest in integrating generative artificial intelligence (GenAI) in higher education, but less attention has been paid to how students actively negotiate AI's role in learning. This exploratory case study examines how students engage with ChatGPT not only as a tool for knowledge acquisition but as a mediating artifact that shapes and is shaped by student interactions. Based on qualitative data, including group interactions, focus groups, written reflections, and ChatGPT logs, we explore how students critically respond to and reshape AI's role when working with academic literature. Based on transformative agency and double stimulation, we argue that ChatGPT functions as a first stimulus that provokes tensions and leads students to create second stimuli, such as collaborative strategies, group norms, and critical dialogues. Our findings show that meaningful engagement with ChatGPT occurs when students actively collaborate and reflect on the output of ChatGPT, leading to the rephrasing of questions (prompts), and, in the process, the students construct or reconstruct new knowledge. Thus, we argue that GenAI should be understood as a negotiable and mediating artifact and that fostering transformative agency is key to supporting critical and creative uses of GenAI in education.

Extended abstract

The rapid integration of GenAI tools such as ChatGPT into higher education potentially challenges existing learning practices, knowledge production, and critical reflection (McDonald et al., 2025). As GenAI becomes embedded in educational contexts, there is a need to explore how students negotiate its role in collaborative learning. Drawing on transformative agency (Engeström & Sannino, 2010) and double stimulation (Vygotsky, 1997), we examine how students respond to ChatGPT's limitations and develop strategies to engage critically with AI.

To address this, we ask: *In what way does the double stimulation provided by ChatGPT transform student's agency in higher education?*

To explore this question, the study draws on data from a course module in Computational Thinking within a master's program. Discussions and reflections on course literature were conducted using ChatGPT as a resource where students could ask collective questions. The data set comprises audio recordings of students' group work, ChatGPT prompts, ChatGPT responses, and two follow- ups focus group interviews. A total of 10 students participated over five weeks.

Building on Haapasaari and Kerosuo's (2015) expansion of double stimulation, transformative agency is understood as a process where participants challenge and transcend existing practices by introducing new means and modes of collective action. The concept of dual stimulation emphasizes how participants encounter an initial stimulus, a problem or disturbance, and then use a second stimulus that enables them to act.

Our analysis identifies six forms of transformative actions in students' collaboration around ChatGPT:

- Resisting ChatGPT's authority or limitations
- Criticizing AI's superficial or inadequate outputs
- Explicating new potentials for how ChatGPT could be used as a learning partner
- Envisioning alternative collaborative uses of AI to deepen learning
- Committing to actions about engaging (or disengaging) with ChatGPT in future work
- Taking actions, such as implementing new collaborative strategies for AI use

Findings reveal that ChatGPT serves as a trigger for negotiation and collaboration, functioning as a mirror that reflects the limitations of AI-generated knowledge and stimulates discussions about the nature of academic knowledge and critical thinking. Following Vygotsky's concept of double

stimulation, we understand ChatGPT's problematic responses as a first stimulus that creates uncertainty and calls for action. As a second stimulus, students develop tools that enable them to respond, such as reformulated prompts, questioning strategies, and group discussions. These second stimuli allow students to critically engage with AI and shape their collaborative learning practices.

Inspired by Haapasaari and Kerosuo's (2015) focus on the sustainability of transformative agency, the study also explores how students maintain, or fail to maintain, meaningful engagement with ChatGPT over time. While transformative agency emerges from multiple group discussions, it is not stable. Rather, it fluctuates in some sessions, students critically examine ChatGPT and co- construct meaningful uses of AI; in others, they revert to uncritical acceptance of AI-generated answers. This highlights the fragility of transformative agency and underscores the need for ongoing collective reflection supported by second stimuli that anchor and sustain critical practice.

The study concludes that ChatGPT, when integrated into collaborative academic settings, can catalyze transformative agency. However, only if students are supported by teachers and peers in negotiating their roles actively and critically. GenAI in education should not be approached merely as a tool for efficiency or support. Instead, it should be approached as a mediating artifact that invites ongoing reflection on knowledge, learning, and critical thinking. Teaching designs that integrate GenAI meaningfully should focus on creating spaces for collaboration and reflection. This will enable students to utilize GenAI technologies as part of collective learning practices.

This study contributes to research on GenAI in education by showing how transformative agency can emerge when students critically engage with GenAI and co-construct its role. It also highlights the importance of sustaining such agency through continuous collective efforts.

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Fostering transformative agency through commoning knowledge and skills: Learning among citizens, librarians, and students at a municipal library in Japan

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Keywords: Library; Librarians; Local Resources; Commoning; Cultural-Historical Activity Theory; Transformative Agency by Double Stimulation; Change Laboratory

Abstract

This study examines the development of transformative agency through collaborative lifelong learning at Takasago City Library, Japan. Public libraries face increasing operational challenges, particularly due to rising non-regular employment of librarians, which weakens expertise and disrupts reference services. Addressing this issue, the study explores how transformative agency emerges through commoning—active knowledge and skill sharing—while enhancing community engagement. Initially, the research applied ethnographic methods and the KJ method, later incorporating Cultural-Historical Activity Theory (CHAT) to analyse interactions among librarians, residents, and university students. Participants engaged in mutual learning and collaborative initiatives such as community tours, which strengthened their agency and skills. Results showed librarians becoming proactive facilitators, improving their reference skills, and leading community engagement. Residents evolved into active knowledge producers, forming independent groups to manage local resource-based activities. University students identified contradictions in participatory frameworks and introduced innovative solutions like short video workshops, equipping residents with sustainable skills. Findings indicate that participatory and commoning approaches effectively enhance transformative agency among stakeholders. Future research will implement Change Laboratory sessions to deepen theoretical understanding, guided by Transformative Agency by Double Stimulation (TADS), further conceptualising the link between commoning and transformative agency.

Extended abstract

1. Background and Purpose

This research investigates the development and impact of transformative agency within collaborative lifelong learning initiatives conducted at Takasago City Library in Hyogo Prefecture, Japan. In recent decades, public libraries have struggled with operational challenges, largely due to increasing non-regular employment among librarians. This shift has reduced job security, weakened professional expertise, and hindered the accumulation of reference skills, diminishing both individual and institutional reference capabilities. As a result, libraries face long-term instability in reference services, limiting their role as knowledge hubs in communities. These systemic challenges necessitate innovative strategies aimed at revitalising the professional roles and capabilities of public librarians while simultaneously enhancing community engagement and involvement. Therefore, this study aims to analyse how transformative agency emerges through commoning one's knowledge and skills while exploring practical and effective approaches to fostering this process.

2. Research Methodology

This action research initially did not adopt a specific theoretical framework. The project began with ethnographic research and the KJ method, a widely used qualitative approach in Japan, to explore collaborative efforts among librarians, residents, and university students in addressing challenges at Takasago City Library. Through these activities, participants engaged in mutual learning, knowledge sharing, and community engagement.

As the project progressed, the Cultural-Historical Activity Theory (CHAT) and its activity system model were recognised as a useful framework for analysing the transformative processes taking place among the three stakeholder groups. Using CHAT, this study examined how the interactions between librarians,

residents, and university students fostered commoning—the active sharing of knowledge and skills—and how this process led to the development of transformative agency, along with the key factors that influenced and supported its emergence.

3. Results

The project yielded significant transformative outcomes for all stakeholders. Librarians grew professionally by engaging with the community and linking local reference materials to local resources. This experience improved their reference skills and highlighted the value of active community involvement. This shift enhanced their skills in community engagement, local history, and event planning. They formed a team to organise and lead community tours, applying knowledge from reference materials and real-world contexts. Residents underwent similar transformations, shifting from passive recipients of historical knowledge and library services to proactive knowledge producers and advocates of local resources. Their transformative agency led to independent groups managing sustainable local resource-based activities. This engagement strengthened individual and collective agency, ensuring these initiatives remained viable beyond the research project. University students provided external insights, identifying contradictions in participatory frameworks, particularly the challenge of sustaining resident engagement beyond temporary projects. To address this, they introduced innovative methods, particularly short video workshops. These equipped residents with practical skills to document, promote, and sustain local resources independently. Commoning played a key role as students shared technical skills, further strengthening collective agency and ensuring long-term sustainability of community initiatives.

4. Conclusion

The findings of this research indicate that participatory, collaborative, and commoning approaches significantly enhance the transformative agency of diverse community stakeholders. The active sharing of individual knowledge and skills—commoning—has begun to facilitate mutual learning, trust-building, and active community involvement, effectively addressing systemic challenges faced by public libraries. These collaborative practices suggest the potential for addressing various issues faced by public libraries and librarians in Japan from a localised perspective.

5. Challenges and Future Directions

As a future research direction, Change Laboratory sessions will be conducted for librarians, residents and university students. Since the action research has not been based on a specific theoretical framework, future interventions will be guided by theoretical frameworks such as Transformative Agency by Double Stimulation (TADS). Additionally, this study aims to conceptualise the relationship between commoning and the promotion of transformative agency.

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Dealing with the contradictions of permanent control to manage the risks associated with strategic change

Traiter les contradictions du contrôle permanent pour maîtriser les risques liés au changement stratégique : une approche par la théorie de l'activité

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Keywords: Risk; Internal Control; Strategy; Activity System
Mots clés: Risque, Contrôle Interne, Stratégie, Système d'activité

Extended abstract in French

Cette communication analyse le dispositif de maîtrise des risques du contrôle permanent au sein du Groupe ASSUR, dans un contexte de transformation stratégique profonde. Suite au changement du statut fiscal en 2023, le groupe a adopté un nouveau positionnement, plaçant la réassurance au cœur de son activité et devenant une Société Groupe d'Assurance (SGA). Cette évolution s'est accompagnée d'une nécessaire adaptation aux exigences de la réglementation Solvabilité 2, impliquant un renforcement du contrôle interne, en particulier du contrôle permanent.

L'étude repose sur une approche empirique combinant entretiens semi-directifs avec des acteurs clés du contrôle interne, observations de réunions et analyse approfondie des données collectées à l'aide de la théorie de l'activité historique et culturelle (CHAT). Ce cadre théorique permet de décomposer le système de maîtrise des risques (SAMR) en différentes composantes interdépendantes : finalité, acteurs, objet, outils, communauté, règles et division du travail. L'objectif est d'identifier les contradictions émergentes au sein de ce dispositif et d'évaluer leur impact sur l'efficacité du contrôle permanent.

L'analyse révèle plusieurs contradictions qui constituent des points de tension susceptibles d'affecter la performance du contrôle interne. Parmi elles, les contradictions liées aux sujets agissants du SAMR mettent en évidence des divergences entre les attentes des différents acteurs impliqués. Ces tensions se manifestent notamment dans les interactions entre les départements de la conformité, du contrôle interne et de la gestion des risques, où des différences d'interprétation des réglementations et des objectifs organisationnels peuvent freiner l'efficacité du dispositif.

Les contradictions liées à l'objet du SAMR concernent l'évolution rapide du contexte réglementaire et la capacité du Groupe ASSUR à ajuster ses pratiques en conséquence. Alors que le contrôle permanent doit garantir la conformité aux exigences de Solvabilité 2, la complexité croissante des réglementations peut entraîner une rigidification des processus, nuisant à leur réactivité face aux enjeux stratégiques.

Les contradictions relatives aux outils du SAMR reflètent les difficultés liées à l'usage des systèmes d'information et des méthodes de reporting. L'intégration de nouveaux outils de suivi et de contrôle vise à améliorer la gestion des risques, mais leur appropriation par les acteurs demeure un défi. La lourdeur administrative induite par ces outils peut créer une distance entre la stratégie de l'entreprise et la mise en œuvre opérationnelle des contrôles.

Les contradictions au sein de la communauté du SAMR traduisent des enjeux de coordination entre les différents niveaux de l'organisation. La transition vers un modèle de réassurance a redéfini les rôles et responsabilités, ce qui peut engendrer des incompréhensions et des difficultés d'alignement entre les fonctions. Ces tensions se retrouvent dans la nécessité de concilier une approche globale du contrôle permanent avec des pratiques adaptées aux spécificités locales des filiales et entités du groupe.

Enfin, les contradictions des règles du SAMR mettent en lumière les dilemmes entre conformité stricte et adaptabilité aux contraintes opérationnelles. La standardisation des procédures de contrôle vise à garantir l'homogénéité et la fiabilité des pratiques, mais elle peut aussi limiter la capacité d'innovation et d'adaptation des acteurs face à des situations complexes.

Cette analyse des contradictions permet d'identifier des leviers d'amélioration essentiels pour optimiser l'efficacité du contrôle permanent. Parmi les recommandations issues de cette étude, on souligne l'importance d'une meilleure coordination entre les différents acteurs du contrôle interne, la flexibilisation de certaines procédures pour favoriser une adaptation rapide aux enjeux stratégiques, ainsi que le renforcement de la formation des collaborateurs sur les outils et méthodologies de maîtrise des risques.

En conclusion, la transformation du Groupe ASSUR en Société Groupe d'Assurance impose une révision profonde de son dispositif de contrôle permanent pour répondre aux exigences de Solvabilité 2 et assurer une gestion efficace des risques liés à la réassurance. L'application de la théorie de l'activité historique et culturelle permet d'explorer les tensions internes et d'en dégager des perspectives d'amélioration. En reconnaissant et en traitant ces contradictions, le groupe peut renforcer la robustesse de son système de maîtrise des risques et garantir la pérennité de son modèle économique dans un environnement réglementaire en constante évolution.

Extended abstract

This paper analyses the risk management system of the Permanent Control function within the ASSUR Group, in a context of far-reaching strategic transformation. After the change of its tax status in 2023, the group has adopted a new strategy, placing reinsurance at the very heart of its business and becoming an Insurance Group Company (SGA). This change has entailed the need to meet the regulatory requirements of Solvency 2, which requires strengthening the processes of internal control and, particularly, the function of Permanent Control.

The study is based on an empirical approach combining semi-structured interviews with key informants about internal control processes among middle-managers, and observations of meetings. An in-depth analysis of the data collected has been achieved using the theory of historical and cultural activity (CHAT). This theoretical framework suggests to conceive the risk management processes as constituting an activity system (Risk Management Activity System - RMAS) interweaving different interdependent components: purpose, subjects, object, tools, community, rules and division of labour. The analysis consisted of identifying emerging contradictions within this system and to assess their impact on the effectiveness of the Permanent Control function.

The analysis reveals several contradictions that constitute points of tensions, likely to affect the performance of internal control processes. Among these, the contradictions linked to the subjects of the RMAS highlight the divergence between the various expectations of the middle-managerss involved. These tensions are particularly apparent in the interactions between the compliance, internal control and risk management departments, where differences in the interpretation of regulations and organisational objectives can hamper the effectiveness of the overall RMAS.

The contradictions about the purpose of RMAS are caused by rapid changes in the regulatory context and the ability of ASSUR Group to adjust its practices accordingly. While Permanent Control must guarantee compliance with Solvency 2 requirements, the increasing complexity of regulations can lead to a rigidification of internal processes, making the group less responsive to short-term strategic challenges.

The contradictions in the tools used in RMAS reflect the difficulties arising in the implementation of information systems and reporting methods. The integration of new monitoring and control tools is intended to improve risk management, but it remains a challenge to convince all the middle-managers in charge of risk management to actually adopt them. The administrative burden of these tools can create a gap between the company's strategic objectives and the operational implementation of controls.

Finally, the contradictions in the rules of RMAS highlight the dilemmas between strict compliance and adaptability to mundane operational constraints. The standardisation of control procedures aims to guarantee the homogeneity and reliability of practices, but it can also limit the ability of middle-managers to innovate and adapt to new or complex situations.

This analysis of contradictions helps identify the levers for improvement that are essential to optimising the effectiveness of the Permanent Control function. Among the recommendations arising from this study,

we underline the importance of a better coordination between the various middle-managers in charge of internal control, making some procedures more flexible to encourage rapid adaptation to strategic challenges, and reinforcing staff training in risk management tools and methodologies.

To conclude, the transformation of the ASSUR Group into an Insurance Group Company requires a thorough review of its Permanent Control function in order to meet Solvency 2 requirements and ensure a truly effective management of new risks related to reinsurance. Drawing on the theory of historical and cultural activity, a systematic exploration of internal tensions contribute to the identifcation of new avenues for collective improvement. By recognising and addressing these contradictions, the Group can attempt to strengthen the relevance of its risk management system and ensure the sustainability of its business model in a constantly evolving regulatory environment.

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From reluctance to agency: The "resource-interventionist" as instrument of transformative action among an interprofessional healthcare team

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Keywords: Activity Theory; Expansive Learning; Transformative Agency; Interprofessional Healthcare

Abstract

This study explores knowledge construction and transformative agency among an interprofessional healthcare team (IHTs) in a short-term geriatric care ward. Using Cultural-Historical Activity Theory and Expansive Learning theories, we analyzed an IHT meeting on patient care. We filmed, then chose segments that we played back to clinicians, members of the same IHT in the video. This "mirror-data" was replayed to clinicians in individual and paired interviews combinations to enlarge dialogic possibilities. Clinicians saw themselves and discussed their actions, questioning, affirming, but also challenging assumptions and envisioning new potentialities. We focused our study on the IHT's adoption and integration of a new mandated role—the "Resource-Interventionist" (RI)—entrusted as liaison-person between IHT and patients. Our findings identified the RI as a contradictory artefact in the IHT's overall activity. Several negotiation efforts were identified that point to expansive learning efforts and agentive action on the part of IHT clinicians seeking to appropriate the RI and make it meaningful for their day-to-day work. This movement towards a future-oriented process of expansive learning offers potential benefits for interprofessional collaboration and improved patient care

Human-centric transformative agency in complex industrial work: A Study of unplanned production stops and restart

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Keywords: Manufacturing industry; Human agency; TADS

Abstract

This study applies CHAT to understanding human agency in complex industrial work, which is increasingly shaped by the intersection of machines, automated systems, and digitalization. The aim is to explore the interplay between human agency and a complex production context of unplanned stops and restart, by focusing on the interdependence between humans and technology, and the dynamics of human agency problem-solving situations. The Industry 4.0 era has been marked by the emergence of cyber-physical systems that seamlessly integrate physical components with advanced technologies. As technological solutions increasingly automate work tasks and reduce our reliance on human labor, a question arises: How are paralyzing situations affecting human-centric agency toward industrial transformations? The case study is a Swedish manufacturing company, specializing in mass-producing crankshafts for lawnmowers, saws, etc. In a Change Lab (CL) with eight sessions during 2023-2024, shop floor disturbances and stress were discussed. The TADS analysis demonstrates two levels of conflicts of motives between operators and machines and between operators and managers. This article argues that human-centric agency in complex industrial work is intrinsically linked to machines, by an operational power deeply embedded within machine-system artifacts. In addition to material-related knowledge, human agency supported by strong social skills becomes essential for implementing a sustainable workforce.

Extended abstract

To date, Cultural Historical Activity Theory (CHAT) and the analysis of Transformative Agency by Double Stimulation (TADS) (Sannino et al., 2015; 2016) have scarcely been applied in production research from a human agency perspective. However, this study demonstrates that CHAT serves as a crucial theory for understanding human agency in complex industrial work, which is increasingly shaped by the intersection of machines, automated systems, and digitalization. The aim is to explore the interplay of human agency and a complex production context of unplanned stops and restart, by focusing on the interdependence between humans and technology, and the dynamics of human agency in stressed problem-solving situations.

The Industry 4.0 era has been evolving since 2014 (Lasi et al., 2014) marked by the emergence of cyber-physical systems, that seamlessly integrate physical components with advanced software technologies. This integration aims to enhance production efficiency, intelligence, and automation, ultimately reducing human involvement in manufacturing processes (de Assis Dornelles et al., 2021). As technological solutions increasingly automate work tasks and reduce our reliance on human labor, questions arise: what is the role of humans in the production process? How are paralyzing situations affecting human-centric agency toward industrial transformations?

The study case is a medium-sized Swedish manufacturing company, specializing in mass-producing crankshafts, a small product for lawnmowers, saws etc. The company is organized in a traditional hierarchical structure with a clear division of labor, highly routinized and sequential. Through one Change Lab (CL) with eight formative sessions during 2023-2024 with managers (3), operators (4), maintenance support (2), and one technician, we discussed shop floor disturbances and stress. Additional data was collected by 15 interviews, before and between the sessions. To trigger transformative change, the CLs followed the expansive learning cycle. By capturing human agency in its entirety, the unit of analysis was considered a dialectical relationship between the original conflict of motives and the second stimuli, where

the second stimuli are not seen as a single entity but as a series of stimuli consisting of material/digital, conceptual/discursive or symbolic artifacts, well aligned to TADS (Sannino, 2015).

Findings from the TADS analysis demonstrate primarily two levels of conflict of motives:

1) Operators' vs machines. **First stimuli:** Operators are responsible for ensuring that machines run efficiently while simultaneously maintaining high standards of product quality. **Second stimuli**: sustain stable machines and continuous maintenance. **Towards implementation:** Stabilize the machines and increase collaboration between functional units.

2) Operators vs Managers. **First stimuli:** Operators are expected to handle many complex machines simultaneously, but have limited knowledge. Management expects operators to work flexibly across different stations and shifts but does not provide training. **Second stimuli:** Collaborative flexibility and education. **Towards implementation:** Supporting workplace learning and relevant machine operator education, well-being, and pride.

First, the analysis reveals that human agency is intrinsically linked to machines, with their operational power deeply embedded within machine-system artifacts. This is closely linked to how professional knowledge and learning can be harnessed to navigate and overcome these technological constraints. Hence, machine breakdowns (the artifact) tend to trigger conflicts that operators must manage; however, it is hard to negotiate with the material. Second, empowering operators to handle more than one machine is related to handling social collaboration, responsibilities, and workplace learning. In addition to material-related knowledge, human agency supported by strong social skills, becomes essential for implementing a sustainable workforce. In conclusion, this study highlights a human-centric approach that nurtures human agency, across all professionals, emphasizing their dynamic interactions with materials, tools, and colleagues within the complexities of modern industrial work.

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Paper abstracts

Formative interventions and expansive learning

Embedding expansive learning opportunities into doctoral education: Experiences of online Change Laboratory research-interventions in miniature

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Keywords: Change Laboratory; Online Change Laboratory; Formative intervention; Doctoral education; Expansive learning

Abstract

This paper addresses the issue of fostering expansive learning in doctoral education using the Change Laboratory approach. Doctoral students face many problems when understanding activity-theoretical methodologies such as the Change Laboratory which, while cutting-edge and promising, are not easy to grasp for newcomers. In a practice context increasingly prioritising timely completion, such obstacles incentivise students towards adopting conservative, well-understood research approaches. Yet doctoral students also face many practice problems concerned with isolation, wellbeing, lack of agency, and academic skill development. This paper explores the idea that Change Laboratory projects-in-miniature can be valuable for giving doctoral students a Change Laboratory experience, but emphasises that the success of this endeavour depends on such projects addressing genuine practice problems experienced by the doctoral students in their own lives. Two miniature projects are considered—both conducted online, over a few weeks, with cohorts of distance doctoral students domiciled around the world. The projects' objects were, respectively, the informal mutual support provided by networks of online PhD students; and the use of Generative AI tools in academic research. The paper addresses issues of topic selection, workshop design, technical instrumentalities, the expansive learning actions addressed, project outcomes, and limitations of the approach.

Extended abstract

This paper addresses the issue of doctoral students experiencing expansive learning via the Change Laboratory methodology. The context of doctoral education is a nexus of intellectual and practical tension and possibility. The PhD is an intellectual journey of personal growth, where new researchers are forged individually and where the groundwork is laid for the next generation of scientific projects and epistemic communities—without which the latter would eventually wither through lack of generational reproduction. Yet the PhD is also a challenging time of crisis, with PhD students facing traditional issues of loneliness and intellectual uncertainty alongside challenges of financial difficulty, balancing research and paid work, and heavy pressure to complete within demanding deadlines. Against this context, there is an incentive for PhD students to choose "do-able" research projects using well-established principles and documented procedures. Cultural Historical Activity Theory (CHAT), with its reputation for intellectual ambition and a steep learning curve (Lémonie, 2025), can therefore seem an unattractive avenue. This is problematic, because CHAT is well-placed to address contemporary and urgent societal challenges (Engeström, 2016)—and it is often such challenges which motivate people to attempt PhD studies in the first place!

The basic idea discussed in this paper is to give PhD students the opportunity to participate, voluntarily, in a Change Laboratory-in-miniature within a doctoral training module. Doing so can, it is hoped, help such students appreciate the nature and purpose of the approach, understand how such a research-intervention can be designed and might unfold, and experience using second stimuli (such as the activity system) themselves. Yet such an attempt faces difficult challenges, including those of choosing a suitable object for the work and restrictions on timescale and workload.

Notwithstanding the antecedents of expansive learning in classroom research (e.g., in mathematics in the Soviet era), most Change Laboratory projects do not address objects of formal education (Engeström, 2016). This work is part of my research agenda to bring the approach into contact with higher education (Bligh, 2024; Bligh & Flood, 2015), where its activist and interventionist approach (cf. Sannino, 2011)

might serve as a counterweight to neoliberal managerialism. Prior projects have explored the use of the Change Laboratory to help university students relate classroom knowledge to work on placements (Snowden, 2018) and to encourage more agentic participation in questioning teachers and curriculum knowledge (Reid, 2019).

The presentation will discuss two Change Laboratory projects-in-miniature, conducted in the same training module in successive academic years. The module is delivered via distance learning to PhD students domiciled around the world who study part-time while working. For this reason, the project was designed as an online Change Laboratory (cf. Spante et al., 2023) using a range of online digital platform tools (cf. Obexer, 2024).

The presentation will be structured as an illustrated discussion of the experience of conducting such work, with prominent focus placed on the following issues:

- Topic selection: The Change Laboratory-in-miniature should be oriented towards an object in which the PhD students have a direct stake and, ideally, personal experience. In the first year, participants worked on an object of the informal mutual support provided by networks of online PhD students; and in the second on the use of Generative AI tools in academic research.
- Workshop design: Simple outline designs (cf. Bligh, 2023) were produced and discussed with participants. Five 90-minute workshops were conducted, twice each (for participants in different timezones), over around 8 weeks.
- Technical instrumentalities: The workshops were facilitated using Zoom for video conferencing and Miro for collaborative knowledge production.
- Expansive learning actions: The projects aim to focus in turn on questioning, analysis, modelling, examination and process reflection. Other expansive learning actions cannot be addressed realistically.
- Project outcomes: Participants are able to undertake many expansive learning actions successfully and produce interesting ideas for the ZPD of the activity they consider. Many go on to use CHAT (and in some cases the Change Laboratory) in their own doctoral research.
- Difficulties: Difficulties arise from time constraints and the need to conduct each workshop twice; sometimes from the nature of the Change Laboratory as an end-in-itself (despite the attempt to choose suitable topics); and from the lack of advance preparation and consequent inadequacy of mirror data.

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Expansive learning and visibilization in the pedagogical change laboratory

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Keywords: Expansive learning; Expansive visibilization; Co-design of technology-enhanced learning; Formative intervention; Teachers' professional development

Abstract

Drawing on cultural-historical activity theory (CHAT), the paper analyses how card-based co-design of technology-enhanced learning (TEL) scenarios supports expansive learning and visibilization in a formative intervention adapted from the Change Laboratory. Called the pedagogical change laboratory (PCL), it combines expansive learning with Learning by Design to support four secondary teachers of French from an international school in transforming their teaching-learning activity along with effective integration of digital technologies. The data were analysed using specific methodological approaches for tracing types and subtypes of expansive learning actions, frequency, and cyclicity. The results demonstrate the expansive nature of the learning process taken by the teachers, both across the entire intervention and at the level of co-design episodes. Teachers moved from questioning their practices and analysing their problematic situation in the first two steps of expansive visibilization to modelling a new concept for their activity system and then implementing it through grade-specific learning sequences in the third step. This study contributes to knowledge of how formative interventions grounded in CHAT can support expansive transformation of teaching-learning activity in the digital age. It also addresses gaps in understanding expansive visibilization.

Extended abstract

Background

While teacher training is crucial for technology-enhanced learning (TEL), digital integration into teaching-learning requires more than direct instruction (Koehler & Mishra, 2005) and implementation approaches (Engeström, 2009). From a cultural-historical perspective, it relies on a re-mediation (Kaptelinin, 2015) that both requires and generates a transformation of the activity system. Effective professional development should therefore foster expansive transformations (Engeström, 2009), adopting pedagogical approaches that enable teachers to reconceptualise (Virkkunen & Newnham, 2013) their activity system while integrating digital technologies into their practices.

To address this issue, we combine expansive learning (Engeström, 2015) and Learning by Design (Yeh et al., 2021) in a formative intervention called the *pedagogical change laboratory* (PCL). Card-based co-design of TEL scenarios is introduced at the modelling step of the expansive learning cycle. Teachers are expected to redesign their activity system while developing their Technological, Pedagogical, and Content Knowledge, known as TPACK (Mishra, 2019). Embedded in the expansive learning cycle, co-design of TEL scenarios aims to foster expansive learning actions and facilitate an expansive visibilization process (Engeström, 2018) through card deck mediation (Figure 1).

Figure 1. The card deck as a mediator of expansive visibilization

Purpose

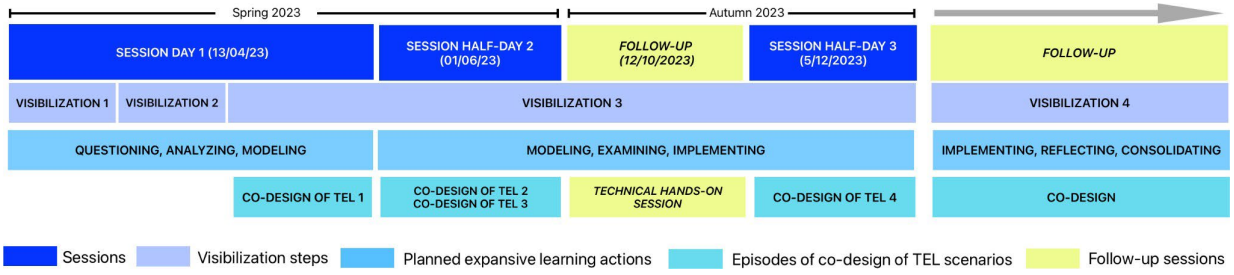
This paper aims to answer the following research question: How does card-based co-design of TEL scenarios support expansive learning and visibilization in the *pedagogical change laboratory*?

Methods

The participants are four secondary teachers of French from an international school in Switzerland who seek to overcome pedagogical issues related to teaching patrimonial literature while leveraging digital technologies at their disposal.

The PCL methodology is based on the same epistemological principles as the Change Laboratory (Virkkunen & Newnham, 2013), namely expansive learning and double stimulation. It relies on steps of expansive visibilization and consists of three sessions, with follow-up that is not included in our study (Figure 2).

Figure 2. Overview of the PCL as designed by the interventionist



The data consists of video recordings that were transcribed verbatim. To answer our research question, we follow Engeström et al. (2013) to identify and analyse types and subtypes of expansive learning actions, frequency, and cyclicity, distinguishing between the overall intervention and the level of co-design episodes.

Findings

Our findings demonstrate the expansive nature of the learning process across the intervention. They reveal five of the seven expansive learning actions and new subtypes, with three of them emerging from the use of the card deck in visibilization$_3$. We find cyclicity at different levels, with iterative clusters between expansive learning actions (Rantavuori et al., 2016). The results indicate that teachers primarily questioned their practices and analysed their situation in visibilization$_1$ and visibilization$_2$. During visibilization$_3$, they mainly modelled and examined their new concept in the initial two episodes of co-design and then predominantly implemented it through specific learning sequences across grade levels in the final two episodes.

Implications

These results contribute to understanding the process of expansive transformation of teaching-learning activity and address existing gaps about expansive visibilization. The study has implications for teachers' professional development in suggesting a CHAT formative intervention that could help them transform their practices along with effective integration of digital technologies.

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The Change Laboratory: A method for agile change management and strategic steering of organisations

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Keywords: Expansive learning; Change laboratory; Proximal development zone

Abstract

The change laboratory is a transformative management method designed to stimulate collective learning within organisations. Based on expansive learning (Engestrom, 1987), this participative approach can be used to build a shared vision and enchance agile strategic management of small and medium-sized businesses. Based on a dialectical approach that combines analysis of the past, this method combines an understanding of the present and a projection into the future. It encourages the transformative agentivity (Sannino & al., 2016) of employees, who become active agents of change. Analysing and overcoming the contradictions within the activity system (Engeström & Sannino, 2010) plays an essential role in the emergence of new practices and the stimulation of innovation. The change laboratory differs from traditional change management approaches (Virkunnen, 2007) as it focuses on the dynamic development of the business system rather than simply seeking to adapt the organisation to a specific environment (Stetsenko, 2015). This method promotes collective strategic steering within the proximal development zone (Engeström, 2015) in an attempt to simultaneously transform the actors and the environment (Vygotsky, 1978).

Extended abstract

I. The creative potential of change laboratories : expansive learning

The change laboratory is an intervention approach designed to stimulate a collective by providing a method for deploying change management. This participative method enables the researcher to interact closely with the company employees involved in resolving specific managerial issues.

The operational perspective of the change laboratory encourages individual and collective learning, while stimulating a shared vision, thus facilitating the management of transformations.

As part of our research, we propose to use the change laboratory as a method for supporting small and medium-sized enterprises in the development of agile strategic management.

This approach is based on expansive and collective learning that fosters a shared vision. According to Sannino and Engeström (2017), the change laboratory emphasises voluntary action and transformative agentivity, i.e. the ability of individuals to become agents of change.

This participatory approach encourages forward-looking and proactive visions, stimulated by the involvement of participants. It is based on a regressive-progressive method, which consists of investigating the past, returning to the present to better project ourselves into the future.

This method requires the involvement of managers, who must share their strategic vision while integrating divergent points of view, in order to achieve a qualitative reconfiguration of the business system.

The change laboratory is part of a knowledge-generating perspective, materialised by expansive learning. According to Engeström (1987), collective activity, driven by an object, takes shape through individual actions directed towards conscious goals, which are themselves dependent on a specific context.

This type of learning differs from traditional approaches based on the acquisition of identified content, and constitutes the central device in the transformation of practices (Engestrom, 2016). This type of learning is designed to modify the structures of collective activities, by changing the main purpose of the activity, i.e. the object, in order to extend the action realms of professionals (Virkkunen & Ahonen, 2011).

Expansive learning enables company employees to become the main vectors of the transformation of their organisation, and to stimulate professional initiatives in the qualitative development of the activity system (Virkkunen & Schaupp, 2008).

The role of the researcher is to foster the emergence of the conditions favouring this learning by providing practitioners with methodological tools for analysing the systemic contradictions within organisations.

II. Contradictions as vectors for development

Engeström and Sannino (2010) consider that contradictions are inherent to the development of a collective activity and stress the need to distinguish between systemic contradictions and conflictual situations, which are merely apparent symptoms (Engestrom & Sanino, 2011; Ivaldi & Scaratti, 2018).

Practitioners involved in change laboratories engage in a dual analytical process: identifying recurring problems and analysing the historical evolution of the business system. The resolution of contradictions often involves innovation or the emergence of new practices, which is an key driver of expansive learning.

The transformative agentivity, that is materialised by the collective process initiated by the employees, is a key indicator of the quality of a formative intervention (Sannino et al., 2016).

The development induced by the learning generated by the change laboratory is unpredictable; it differs from a traditional conception of change where the objectives are pre- established. Consequently, this intervention method should not be confused with top-down approaches (Virkunnen, 2007).

III. Adapting the organisation to the environment or developing the activity system ?

The interventionist dimension of the change laboratory aims to capitalise on collective practices and transformations.

By prioritising the development of activity systems as a goal and expansive learning as a theoretical tool, the change laboratory rejects the idea that the aim of developmental research is to adapt to a given reality (Stetsenko, 2015).

In the context of collaborative and transformative practices actors adopt a dynamic posture ; they collectively transform their environment and through this transformation they are in turn transformed (Vygotsky, 1978).

This formative intervention methodology is therefore likely to transform the activity system by encouraging agile collective strategic management within the zone of proximal development (Engeström, 2015), thus opening up new possible horizons for the future of the organisation.

Mirror data from a Change Laboratory in music: A study in the Swedish compulsory school for pupils with intellectual disabilities

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Keywords: Change Laboratory; Formative Intervention; Musical Knowledge Formation

Abstract

Inter/national classroom studies on music education for children and youth (6–15 years old) with intellectual disabilities (ID) is scarce (Berthén et al., 2022). In the Swedish Compulsory School for Pupils with Intellectual Disabilities (CSID), over 90% of those who teach music are not fully qualified. Observations during local school development projects reveal that children' s songs, disregarding age, seem common. Simultaneously, organisations outside school in various countries show that other approaches could challenge sung teaching practices. Against this backdrop, a small scale Change Laboratory of 12 months duration was designed and funded. The aim for this paper is to firstly describe and discuss the design of an online CL (Bligh, 2023) with three qualified music teachers working in the CSID. Secondly, the experiences of the stages 1–3 of this CL as well as to present the preliminary results of the analysis of historical and the actual empirical data (stage 2 – cf. Virkkunen & Newnham 2013). The project that this paper is part of, aims at collaborative development of knowledge products (Morris & Hiebert, 2011) shareable for non-qualified music teachers in CSID, that is, co-creation of assignments that contribute to formation of musical knowing for this group of pupils

Extended abstract

In this paper we present experiences of an online CL (Bligh, 2023) with music teachers in the CSID, and the preliminary results from an ongoing study concerning music education for children with ID in Sweden. The education for students with ID in Sweden has been subject to several critical changes during the latest decades. Firstly, the societal object has changed from caring to teaching/learning (Berthén, 2007; Riksrevisionen, 2019). Secondly, demanded qualifications for teaching music in this school have changed from general teacher or pre-school teacher education to music teacher with qualifications in special education. However, according to national statistics school year 2023–2024 (Skolverket, 2025), only 5,4% of the Swedish music teachers in the CSID are qualified.

Preceding the CL, a review of inter/national research on music education for pupils with ID (Berthén et al., 2022), showed a shortage of research in music education for pupils with ID. Furthermore, a phenomenographic interview study with five qualified music teachers within CSID was conducted (Backman Bister et al, 2025). A significant finding was a perception that reduction of the musical content is needed for music teaching in CSID. Two qualitatively different ways of reduction were found: 1) reduction for temporary participation, which puts pupils' further musical knowledge formation at risk; 2) reduction for qualified participation, which opens for progression of knowledge formation. Based on these preparatory studies, the issue for the project of which this CL is part, is to explore what kind of instruction and tasks enable musical knowledge formation for this group of pupils?

Aims

This project aims at collaborative development of knowledge products shareable for non-qualified music teachers in CSID, that is, co-creation of assignments that contribute to formation of musical knowing for this group of pupils. The research questions are:1) What appears as the object for musical knowledge formation for pupils in CSID; 2) What principles should underpin knowledge products (content, introduction to pupils, classroom communication) in order for teaching to contribute to pupils' long-term musical knowledge formation?

Methods

The methodological approach is based on the CL-model (Virkkunen & Newnham, 2013). The main idea for CL is 'formative interventions' (Sannino, Engeström & Lemos, 2016) where the interventions are carried out in relation to the activity being studied. The activity is restructured based on the participants' current beliefs, rules, division of labour and tools, and by a critical review of the current activities by all participants identifies other opportunities.

Preparing for the CL process, mirror data were produced with three music teachers, which reflect their current teaching. This includes two video-recorded music lessons per teacher. Furthermore, each teacher was interviewed between the two lessons. The audio recorded interviews were transcribed and shared with each teacher. Specific for this CL is that it is planned and conducted as an online CL, based on experiences and previous research by e.g. Bligh (2023) and Spante et al. (2023). The choice of an online CL is motivated by the fact that music teachers in SCID have no local colleagues and therefore have few opportunities to discuss experiences. Furthermore, there is no inservice training specifically directed to music teachers in SCID.

The data for this paper is based on the three first stages in the CL model:

1) the first collaborative stage is a preparing for a baseline analysis of shared problem areas and ideas for analysis, e.g. questions such as 'what characterises our previous ways of working?' or 'what are our current problems and contradictions?' (Virkkunen & Newnhamn, 2013, p. 17).
2) Collaborative analysis of important historical data as empirical mirror-data, identification of significant turning points.
3) Modelling central features of the past in order to identify specific historical features and contradictions for the next stages.

Results

Expected results are based on the work during these three stages, carried through by early May. The final stages of this CL-project are planned for August– November 2025.

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Developing strategies for transdisciplinary teaching: Insights from an intervention study in a Norwegian upper secondary school

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Keywords: Transdisciplinary; Upper secondary school; Intervention, Student perspectives

Abstract

This study explores Norwegian upper secondary students' perspectives on their participation in a transdisciplinary school project and identifies strategies to navigate its successes and challenges. The participants are students aged 17-18, all in Year 12 in upper secondary school. Qualitative data is collected from one school involving 30 students across three classes. The theoretical framework is grounded in sociocultural theory. Accordingly, Cultural-Historical Activity Theory (CHAT) and the expansive learning cycle provide a lens to explore the complexities and tensions within the transdisciplinary teaching design. Furthermore, the framework incorporates key research on transdisciplinary teaching and learning. The research question guiding this study is: What strategies can be developed to address the successes and challenges of transdisciplinary teaching design? This study employs an intervention-based approach, exploring how interactive learning processes within a transdisciplinary framework align with the principles of expansive learning. Transdisciplinary teaching adopts a student-centered approach, focusing on meaningful topics that address local and global real-world challenges. Preliminary data analysis shows that students appreciate the independence and choice in the transdisciplinary project but find the subject-specific timetable and mandatory assessments challenging and conflicting. Not all see the connection between their project and the subjects.

Extended abstract

Proposal information

This study explores Norwegian upper secondary students' perspectives on their participation in a transdisciplinary school project and identifies strategies to navigate its successes and challenges. This research aims to provide insights into the dynamics of transdisciplinary education, identifying what promotes and inhibits transdisciplinary approaches. The research question is: What strategies can be developed to address the successes and challenges of transdisciplinary teaching design?

Methodology and Methods

The theoretical framework is grounded in sociocultural theory (Vygotsky, 1978). Accordingly, Cultural-Historical Activity Theory (CHAT) and the expansive learning cycle provide a lens to explore the complexities and tensions within the transdisciplinary teaching design.

Furthermore, the framework incorporates key research on transdisciplinary teaching and learning. The study employs a case study scheduled for spring 2025, spanning four months.

As part of the case study, an intervention study will be conducted, using the theoretical framework of CHAT (Engeström & Sannino, 2010), and the expansive learning cycle (Engeström, 1987). The participants are students aged 17-18, all in Year 12 in upper

secondary school. Qualitative data is collected from one school involving 30 students across three classes. The qualitative data from interviews and video observations is analysed using thematic analysis to address the successes and challenges within a transdisciplinary framework.

Using the model of the complete activity system in the present study, the six elements in the model could be interpreted as follows (fig. 1):

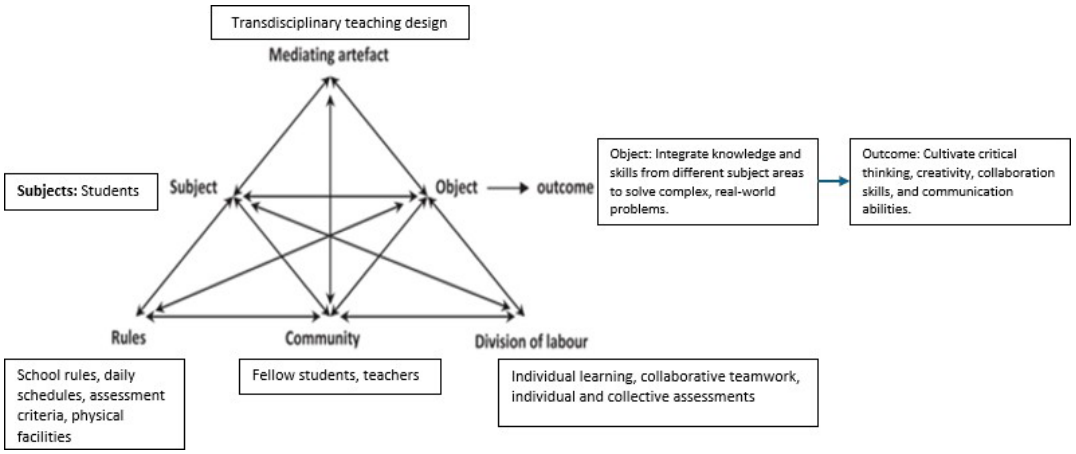

Figure 1 a modified model of the complete activity system (Engeström & Sannino, 2010)

Subject represents the selected students in the three classes who participate in the study. The *Object* is to integrate knowledge and skills from different subject areas to solve real-world problems. *Object* represents the learning objectives that students are expected to achieve through the transdisciplinary school project. The outcome is to develop critical thinking, creativity, collaboration skills, and communication abilities. The object and the outcome align with the overarching aims of transdisciplinary teaching design (Drake & Reid, 2018). To achieve the object and outcome, transdisciplinary learning activities represent the *mediating artefact*. *The division of labour* is divided in individual learning and cooperative teamwork, and individual and collective assessment. *The community* is the fellow students and the teachers in the learning environment. Finally, *rules* refer to restrictions of the learning activity, in this case the school rules, daily schedules, classroom facilities, and informal/formal assessments.

The intervention study follows the stages of the expansive learning cycle (Engeström, 1987, 2015). Initially, the cycle explores the historical development of the activity, in this case, the current school project in question. Then, based on the collected data from the intervention study, new conceptual models for solution, in this case a transdisciplinary teaching design, are proposed and implemented (fig. 2).

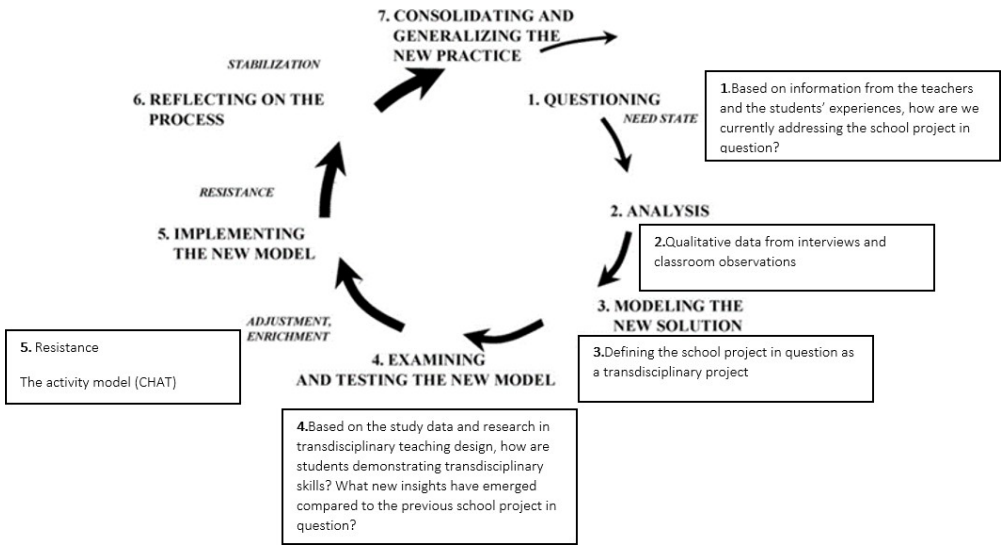

Figure 2 a modified model of the expansive learning cycle (Engeström, Learning by Expanding. Second Edition, 1987, 2015)

Expected findings and Conclusions

The expected findings of this study include enhanced understanding of transdisciplinary learning, by identifying factors that promote or inhibit transdisciplinary skills in education. These insights will contribute to the development of strategies for implementing transdisciplinary teaching practices. Preliminary data analysis shows that students appreciate the independence and choice in the transdisciplinary project but find the subject- specific timetable and mandatory assessments challenging and conflicting. Not all see the connection between their project and the subjects. This study's findings can contribute to the international discourse on transdisciplinary education and provide insights that are applicable beyond the Norwegian context.

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Creating a space for student-driven meaningful learning experiences

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Keywords: Adolescent students; Power; Cultural-historical activity theory; Change Laboratory; Meaningful learning; Object-oriented pedagogy

Abstract

This study, grounded in cultural-historical activity theory, examines the potential of schools to engage adolescent students in meaningful learning challenges. It explores the possibility of creating a space within the school where students can identify and follow their interests and how to protect and sustain this student-owned space. Employing the Change Laboratory (CL) intervention method, this research delves into the power dynamics between students and adults. CL sessions, conducted during regular school hours, afforded students to choose, design, and implement projects without the constraints of the regular curriculum or testing pressures. Data analysis focused on discursive actions exemplifying students' power and adults' actions. The findings reveal that establishing and protecting a student-owned learning space constitutes a collective, long-term endeavor that necessitates time and resources, beginning with engagement in a meaningful object. Key actions for fostering student-driven learning experiences include students taking ownership of the process and committing to taking concrete actions. Additionally, the interplay between students' transgressive actions and adults' restrictive actions emerges as a critical aspect of this dynamic. This study advocates for a pedagogical approach that is object-oriented rather than controlling, positing that projects initiated by students can engender meaningful learning experiences.

Extended abstract

This study explores the potential of schools to engage adolescent students in meaningful learning content by creating a space where students can identify and pursue their interests. Additionally, it investigates how to protect and sustain this student-owned space. We are currently facing significant global challenges related to education, such as school absenteeism and the diminishing relevance of educational content (e.g., McPherson et al., 2023; FNAE, 2023). This raises the essential question: What can school give? There seems to be a clear need for redefining the overall purpose of education.

To address these pressing challenges, this study builds on Cultural-historical activity theory (CHAT) and utilizes its conceptual and methodological resources (Engeström, 2015). It underscores the object of activity, a foundational concept in CHAT, as a central force driving the development of learning activities. By employing the Change Laboratory (CL) intervention method (Sannino et al., 2016), this research delves into the power dynamics between students and adults. CL sessions, conducted during regular school hours, allowed students to choose, design and implement projects without the constraints of the curriculum, testing pressures, or time limitations.

This study was conducted in a comprehensive school with 8th-grade students (Engeström et al., 2023). During the intervention, students produced projects that held significance for them. The CL sessions were conducted during school hours over one academic year, in collaboration with school staff. This study analyses one of the projects, created by four students and focused on issues of equality, diversity and bullying. These students created a documentary titled "Everyone Should Be Accepted as They Are."

The data consists of recordings of eight CL sessions and four follow-up sessions, which were transcribed verbatim. This study presents new analytical methods, specifically focusing on discursive actions exemplifying students' power and adults' actions. The need for these methodological frameworks stemmed from practical concerns, as we found no existing framework capable of systematically analyzing these actions. We identified six types of discursive actions exemplifying students' power:

taking ownership of the process, committing to taking concrete actions, declaring ownership, expressing knowledge and competence, recognizing one's own progress, and taking transgressive actions. In terms of adults' actions, we identified eight type of adults' actions: asking questions and making suggestions, respecting students' ownership, providing encouragement and positive feedback, co-planning, enabling and providing concrete help, giving instructions, and taking restrictive action.

The findings reveal that the establishment and protection of a student-owned learning space constitute a collective, long-term endeavor that requires time and resources. Creation of this space begins with identifying and formulating a meaningful object. Key actions for fostering student-driven learning experiences include students taking ownership of the process and committing to taking concrete actions by students. Actions taken by adults', such as asking questions and making suggestions and respecting students' ownership were the most prevalent during this process. Notably, the interplay and interconnectedness between students' transgressive and adults' restrictive actions emerge as a critical aspect of this dynamic. Restrictive actions by adults created opportunities for students to take transgressive actions, which expanded their learning space and helped protect it.

To describe the collective student-led learning process that emerged in the Change Laboratory intervention, we developed the concept of object-oriented pedagogy. This approach is oriented towards and directed by the object, which is identified and formulated collaboratively with students and adults. Object-oriented pedagogy shifts the focus from control and power dynamics to supporting students engaging meaningful learning experiences. Rather than relying on predefined content and methods, this approach encourages exploration of the unknown possibilities that have yet to emerge.

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Interactive workshop abstracts

"Exploring how to 'dock': Expanding the expansive learning cycle with directionality and the interplay between learning logics"

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Organizers: Clara Saglietti, Johan Holmén and John Holmberg

Keywords: Expansive learning; Directionality interplay learning logics

Abstract

Building on the third and fourth generation of CHAT, this interactive workshop aims to expand the knowledge and practices around formative interventions "in the wild" by exploring the concept of "docking" for the collaborative governance of sustainability transformations. We invite participants to discuss, problematise, and expand the expansive learning cycle by (1) reflecting on the possibility, meaning, and consequences of adding a step 0 to negotiate the directionality of change; and (2) zooming in the steps 4 and 5 on the interplay among different learning logics and action logics that characterise more explorative or established activity systems. The workshop will open a space to share experiences and co-develop ideas to better understand the scaling, institutionalisation, and stabilisation mechanisms in activity systems under the introduction of novel concepts or in transferring across logics. The workshop will also facilitate dialogues to critically discuss and nuance the assumed role of resistance and inertia, as well as contradictions as driving forces in CHAT. Together with the participants, we hope to explore and offer new perspectives beyond conventional dialectical approaches, and to inspire the development of new tools to cultivate relational agency, expertise, and practices to collaboratively transform structures and systems.

Extended abstract

Learning-oriented modes of governance for transformations towards desirable futures offer innovative approaches to deal with the complexity, ambiguity, and uncertainty characteristic of sustainability challenges (Rotmans & Loorbach, 2008; Williams et al., 2024). In particular, expansive learning can help to collaboratively navigate and set new directions for sustainability transformations by focusing on 'learning what is not yet there' in open-ended, experimental, and exploratory processes (Engeström, 2014; Engeström & Sannino, 2012; Lotz-Sisitka et al., 2017).

This interactive workshop creates space to discuss and broaden the expansive learning cycle (Engeström, 2001) to support collaboration between activity systems that aim to address complex challenges (Engeström & Sannino, 2021). First, the workshop will facilitate discussions around the addition of a preliminary step 0 where the purpose of activity and the directionality of change are negotiated (Andersson et al., 2021). Second, the workshop will focus on what happens in between steps 4 and 5 of the cycle with a more dynamic and nuanced understanding of the implementation of new practices to transform activity systems and drive broader systemic transformations. In particular, it will zoom in the interplay between the dominant logics of the activity and the explorative logics of the new concept of activity in its implementation and consolidation (March, 1991; Virkkunen & Newnham, 2013). To facilitate the conversation, we will introduce and discuss with the participants a framework that describes stable activity systems as "cruise ships", and "expeditions" as change laboratories and similar experiments that seek to explore alternatives to be stabilised into new activities, institutionalised, and scaled by "docking" (Foxman & Bateson, 1973; Holmberg & Holmén, 2022).

The workshop invites for dialogue around how the different learning logics and underlying action logics meet in an expansive learning cycle through docking, with a particular focus on directionality and what happens between steps 4 and 5. We would like to co-create a space to connect and reflect with participants with theoretical and practical interest in working with activity systems transformation through collaboration between different logics. In addition to the experiences of the participants, case

studies from different contexts will be presented, focusing on examples from the health care sector and participatory forms of governance like citizens' assemblies.

We suggest the following structure for the workshop:

- 15 minutes to introduce the work
- 45 minutes to share experiences and further the theoretical understanding of the interplay between logics in expansive learning between steps 4-5 and at step 0
- 15 minutes to consolidate and share key insights
- 15 minutes to discuss the ways forward

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Exploring the emotional dimensions of expansive sustainability learning

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Keywords: Sustainability; Expansive learning; Emotions

Abstract

This interactive workshop will critically explore the intersection of emotions and societal transformations towards sustainability through a lens of expansive learning. Engeström and Sannino (2010) noted already fifteen years ago two opposing moves in expansive learning research: its analysis can move up- and outwards towards networks of activity systems, as well as down- and inwards towards emotion, embodiment and commitment. Our recent research found that learning in sustainability contexts tend to involve both these moves (Holmén & Lönngren, 2025). To date, research into emotions in expansive learning for sustainability are scarce. However, the critical role of emotions in learning is well established, as is the field of sustainability education and learning at large. In this interactive workshop, we bring together participants with interest/experience in exploring the intersection of emotions and sustainability from a lens of expansive learning. Likely, both third and fourth generation CHAT will be of relevance given the scope of the issues. Participants bring their rich experiences, knowledges and curiosities into various aspects of importance to better understand the intersection and explore questions and issues of theoretical, methodological and practical interest.

Extended abstract

This interactive workshop will critically explore the intersection of emotions and societal transformations towards sustainability through a lens of expansive learning.

Societal transformations in light of contemporary sustainability challenges and desired futures can essentially be understood as large-scale processes of transformative social learning (Macintyre et al., 2018). As futures are unknown until they are given shape, this expansive process can lead to new sustainable cultures, structures and practices by learning what is not yet there (Engeström, 2016).

Sustainability is a complex, moving and essentially contested concept (Robinson, 2004) that develops through culturally and historically mediated activity systems trying to address wicked issues. As diverse actors collaboratively navigate deep-rooted contradictions and conflicting perspectives, they create opportunities for transformative change (Lotz-Sisitka et al., 2024). Cultural-historical activity theory with its expansive learning cycle and learning actions at its heart seek to capture the general direction and flow of such learning processes. By surfacing and overcoming historically nested contradictions, activity systems transform themselves, their objects, and the fields in which they operate.

Engeström and Sannino (2010) noted already fifteen years ago two opposing moves in expansive learning research: its analysis can move up- and outwards towards networks of activity systems, as well as down- and inwards towards emotion, embodiment and commitment. Our recent research found that learning in sustainability contexts tend to involve both these moves (Holmén & Lönngren, 2025). First, to address planetary challenges and complex crises, multiple actor groups and activity systems engage in purposeful, contested, and collaborative learning processes spanning from the local to the global level. Second, such learning processes are (heavily) influenced by emotions, in particular epistemic but also existential, social and achievement-related. This is because sustainability is inherently complex, future-oriented and planetary. Besides,

as it is negotiated locally, it evokes affect, hopes, fears, values, foregrounding collective intentions and agency. Thus, emotions in expansive learning for sustainability necessarily put the simultaneous up- and downward movement of the development of expansive learning in direct dialogue.

To date, research into emotions in expansive learning for sustainability are scarce. However, the critical role of emotions in learning is well established, as is the field of sustainability education and learning at large.

In this interactive workshop, we bring together participants with interest/experience in exploring the intersection of emotions and sustainability from a lens of expansive learning. Likely, both third and fourth generation CHAT will be of relevance given the scope of the issues. Participants bring their rich experiences, knowledges and curiosities into various aspects of importance to better understand the intersection and explore questions and issues of theoretical, methodological and practical interest.

The workshop will start with a brief presentation to frame the activity and its focal concepts (15 minutes). This theoretical framing will be supported by empirical examples and experiences from the workshop hosts in working with emotions and expansive learning in particularly educational contexts and formative interventions.

Participants will then be divided into groups, where each group draft a rich picture and systems diagram (conceptual model) of their assumed connections between emotions, sustainability, and expansive learning (30 minutes). Each group will then present their respective conceptual model and respond to questions related to understanding (20 minutes).

The groups will then be asked to reflect on observed similarities and differences and based on their inspiration from both their own models and the models of others', formulate critical theoretical, methodological and practical questions or challenges to further explore and share experiences around (15 minutes), to enhance our research and practice on emotions in expansive learning for sustainability.

The session will then be wrapped up with a brief reflection and next steps (10 minutes).

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Symposium abstracts

Change Laboratory and formative interventions for social justice and sustainability in the workplace: Global evidence, new initiatives, scaling up and future directions

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Keywords: Change Laboratory; History; Sustainability; Workplace

Abstract

The global challenges of sustainability and social justice are forcing profound and systemic changes in human productive activities, and similar changes in the way scientific knowledge about work is produced. The paradigm of Cultural Historical Activity Theory (CHAT) with its Change Laboratories is affirming itself around what can be described as transformative and generative research. This brings together researchers and practitioners with the aim of transforming their activities by refocusing on and reconceptualizing what the work is ultimately for, and by carrying out participatory systemic analyses of practical problems as manifestations of historically aggravated contradictions (Loorbach & Wittmayer, 2023).

This research paradigm has several features. Firstly, it adopts a developmental, future-oriented perspective in that it involves collective learning to redesign a new activity. Methods are therefore designed to open up a new horizon of possibilities and seek to move beyond the status quo. Secondly, research rooted in this paradigm is participatory in that it integrates multiple perspectives and their conflictuality in the production of a desired and necessary future. Interventionist methodologies thus involve considering and supporting the transformative agency of the collectives involved (Hopwood &

Sannino, 2023). Third, this emerging paradigm is largely transdisciplinary in that it involves knowledge of a very diverse nature (Lam et al., 2021). Fourthly, as heterogeneous groups learn to transform their activities, the question of learning is central (Engeström, 2016). Within this emerging paradigm of research, CHAT and the formative intervention methodology of the change laboratory constitute a solidly rooted research tradition (Sannino & Sutter, 2011), but one that is evolving and developing through four generations of studies (Engeström & Sannino, 2020). The fourth generation focuses on the emergence of real utopias in the fight against potentially destructive and fateful objects (Engeström, 2009; Sannino, 2020).

This proposal of symposium brings together papers mobilizing the Change Laboratory methodology in work-centered initiatives. This methodology is currently one of the most visible and influential interventionist research programmes on work in the learning sciences (Penuel et al., 2016). The Change Laboratory is an intervention methodology designed to support expansive learning efforts (Engeström & Sannino, 2010) wishing to transform their activity. The methodology was conceptualised at the close of the 1990s within the CRADLE laboratory in Helsinki. It comprises a series of work sessions during which professionals discuss their work, collectively analyze the developmental history of their activity system, identify contradictions and potential areas for development of their activity system, collectively elaborate and design an activity system around a new object (the tools, the division of labour, the community, the rules, the desired results) and take steps to implement this new activity.

In the context of the promotion of social justice and sustainable work practices, we assert that it is essential to move away from dependence on "miracle solutions" and instead implementing a multitude of more modest but tangible interventions that have demonstrated their effectiveness in the real world, but also, and more importantly, those that enable the recognition and support stakeholders' enacted utopias. This is the case with Change Laboratories.

The aims of this symposium are:

- To present creative experimentations based on Change Laboratory methodology, and the impact of these formative intervention in terms of promotion of social justice and sustainable work practices;
- To present how these laboratories are implemented in "in real-world" and how some details can make the difference between success and failure in intervention for social justice and decent work;
- To discuss the eligibility of these formative interventions for scaling up and how to develop an implementable large-scale policy version.

The fourth generation of historical-cultural theory, which proposes the implementation of a series of interconnected and multi-level laboratories (local, territorial, national), appears to be mature and particularly recommendable for scaling up. This is primarily explained by the involvement of various stakeholders (employers, workers, trade unions, NGOs), particularly governments and policymakers. Obviously, there are precautions to be taken before drawing conclusions from localized creative experimentation about an implementation at scale: political reactions, context dependence, piloting bias, cultural issues, prerequisite training.

This Symposium will be organized in two parts.

- The first part of this symposium focuses on the history of interventions and training interventions in the workplace and provides an opportunity to discuss future possibilities in the light of lessons learned from the past.
- The second part of the symposium will focus on change laboratories organised around sustainability issues.

Part 1: Interventions and Formative Interventions in the Workplace: Evolution, Lessons From the Past and Future Challenges

Chair: B**rett Bligh,** *Lancaster University, United Kingdom, b.bligh@lancaster.ac.uk*

Discussant: Katsuhiro Yamazumi*, Kansai University, Japan, kyamazum@kansai-u.ac.j*

Title: The Evolving Change Laboratory: Methodological Development and Emerging Challenges
Author: Yrjö Engeström
Abstract: The first Change Laboratory intervention was conducted in 1995 among the mail carriers of the Finnish postal services. Since then, Change Laboratories have been conducted in more than 30 countries in various fields of work. This paper will take stock of the methodological development of Change Laboratory interventions over the past 30 years. The methodological evolution will be analyzed using the model of an activity system as framework. While the analysis will draw on a large number of published Change Laboratory studies, in-depth examination with the help of transcript data will be focused on the very first Change Laboratory from 1995 and on the recent set of three interconnected Change Laboratories conducted among practitioners and organizations working to eradicate homelessness in Finland. The paper will conclude by identifying emerging methodological potentials and challenges for Change Laboratory interventions.

Title: Identification of Key Challenges in Ergonomics Intervention Using the Formative Interventions Methodology
Authors: Lémonie, Y., Cuvelier, L., Grosstephan, V., Bationo-Tillon, A., Bourmaud, G. & Real, C.
Abstract: Ergonomic interventions contribute to improving or adapting work situations with the dual aim of improving health and performance in the workplace. Ergonomists carry out their work in organisations that are constantly evolving and must adapt their intervention methods accordingly in the face of emerging health risks (Clerté et al. 2024). The aim of this proposal is to identify the learning challenges and contradictions historically inherited from ergonomic interventions, on the basis of a workshop inspired by the change laboratory methodology and mobilizing the key instruments (history wall, activity system, contradiction and four fiels models), bringing together around a hundred consultant ergonomists and ergonomists in training. The article will discuss the role of history and the future-oriented dimension of the laboratories and the possible expansion of the object of ergonomics intervention.

Title: Generativity of Change Laboratories: Lessons from Homelessness Work in Finland
Author: Annalisa Sannino
Abstract: Generativity may be understood as constant going beyond what has been achieved, in terms of both spreading the new innovations and creatively developing them further as they are being adopted and implemented. Although studies of work have led to significant contributions on the generation of innovations initiated by practitioners themselves or in collaboration with researchers, seldom these studies consider the diverse socio-economic circumstances that might support or hinder generativity and research-practice-collaboration. Finland is at the forefront of consistently reducing homelessness with its renowned Housing First policy since 2008, with nationwide workplace training of service providers and a strong orientation to social justice and sustainability.This article offers an historical analysis of how a series of Change Laboratories (2018-2020) within and across workplaces were enabled by developments that practitioners in homelessness services in Finland pursued in times particularly favourable to resourcing social services (2008-2018). The analysis investigates also how these Change Laboratories (2018-2020) contributed to further generative developments in times of uncertainty and cuts on public funds (2020-2025). The findings shed light on the critical role that Change Laboratory participatory investigations and analyses of work can play in maintaining generativity to face acute societal challenges during shifts toward radically diverse socio-economic circumstances.

Part 2: Change Laboratory and Sustainability in the Workplace

Chair: Yannick Lémonie, *Conservatoire National des Arts et Métiers, France, yannick.lemonie@lecnam.net*

Discussant: Daniele Morselli

Title: Accelerating Sustainability Agency in Higher Education: A Change Laboratory Approach
Authors: Regina Obexer, Brett Bligh
Abstract: "Transforming our world: the 2030 Agenda for Sustainable Development," adopted in 2015, marked a global commitment to a sustainable future. However, 10 years later, progress on the 17 Sustainable Development Goals has stalled or reversed due to crises like COVID-19, climate change, and geopolitical conflicts, highlighting the urgent need for action, and for the development of sustainability agency, across all sectors, including higher education. Universities play a pivotal role in the transition to sustainable development through their teaching, research and outreach activities. As workplaces, they harbour enormous potential to contribute significantly to the SDGs, but only if transformative agency is developed and nurtured within higher education communities. This contribution describes a Sustainability Change Laboratory (SCL) project involving staff and students at a University of Applied Sciences in Austria, which had the aim to accelerate sustainability integration at the university in a way that promoted the development of transformative agency of the participants and resulted in the development of a range of strategies impacting curriculum development, strategic direction and communication about sustainability integration, and student engagement. Employing the TADS model (Transformative Agency through Double Stimulation; Sannino, 2022) as an analytical frame, we examine the emergence of transformative agency within the SCL, situating it within an evolving definition of Sustainability Agency. Our findings make a strong case for conceptualizing Sustainability Agency as a type of transformative agency in the CHAT tradition and for the use of Change Laboratory methodology as a suitable and powerful approach to generate sustainability agency across heterogeneous coalitions.

Title: The Co-Development and Use of Double Stimulation Tools in Change Laboratory Workshop in a Formative Interventionist Study: The Case of Nyanyadzi Irrigation Scheme in Zimbabwe.
Authors: Robson Mukwambo
Abstract: Double stimulation is a special unit/aspect in the Change Laboratory Workshop method in a formative interventionist project. How change laboratories have been developed and used, especially in Southern Africa seems to vary (Mukute, 2010; Kachilonda, 2015; Jalasi, 2018; Mukwambo, 2021). Yet, double stimulation tools facilitate and mediate expansive learning processes necessary to transform activity systems and develop agency. This paper seeks to showcase and explain the co-development and use of double stimulation tools in a change laboratory to unearth multidimensional complexities and respond to contradictions in the Nyanyadzi irrigation scheme in Ward 9 of Chimanimani in the Manicaland province of Zimbabwe. Furthermore, provide in-action evidence on the transformative agency (embedded in Learning Actions: L1, L2 & L3) that unfolded in the change laboratory. This paper argues for the importance of co-developed double stimulation tools in change laboratories to advance expansive learning and develop transformative agency desperately needed to transform activity systems in Southern African communities.

Title: Activity Coalitions and Change Laboratory: Promoting Sustainable Working Environment at A University Hospital
Authors: Monica Lemos, Rodolfo Vilela, Daniel Braatz, Karen Greeco, Vivian Mininel
Abstract: This paper analyzes the coalition of heterogeneous activities in a Change Laboratory (CL) in a Brazilian University Hospital to promote well-being and occupational risk prevention. Three CL-groups (G1, G2 and G3) with a total of 30 participants were carried out simultaneously: G1=14 frontline health workers (operational; lower level); G2=11 health managers (middle level of management); G3=5 directors (top level management). We went through the first three EL-actions in 27 sessions using double-stimulation and remediation of collective activities considering the shared

object of prevention and previously identified contradictions. For action four, seventeen integrated sessions with all participants were carried out (different levels working together). Throughout the CL-session participants were able to identify the shared object of the activity coalitions at the hospital in the three levels. The formative intervention required the engagement of frontline workers, middle and top levels of management, from the hospital's different activities, requiring them to act collaboratively towards the changes to be implemented.

Title: The Role of Multiple Level Learning Spaces to Support Transformative Agency Formation Across a Change Laboratory Intervention
Authors: Renata Matsmoto and Marco A. P. Querol
Abstract: Previous studies have explored the use of the Change Laboratory (CL) method in fostering Transformative Agency and Expansive Learning. However, most research has focused on actions occurring within intervention sessions, leaving the agentive actions taken between sessions and the role of complementary learning spaces unexplored. This paper examines the significance of these spaces—such as planning groups and remote communication platforms—in supporting transformative agency. We analyze an online CL intervention conducted with 18 labor inspectors from Brazil's Ministry of Labor in the civil construction sector. Our findings illustrate how the connection between the CL with multiple complementary learning spaces helps bridge temporal and spatial gaps, ensuring the continuity and expansion of learning beyond CL participants. Furthermore, results suggest that these spaces facilitate the adaptation of the intervention to participants' diverse learning needs, helping to close learning gaps among them and enriching the overall process.

ISBN Electronic: 978-91-89969-28-5