



Special Interest Groups (SIG)



Parallel session 1: SIG - AI Dynamics, Dialogues & Uncertainties Interacting with Textile Craft

Wednesday, September 18, 2024

3:15 PM - 5:15 PM
LOCATION ROOM F606

The panel is initiated by the Nordforsk research project Beyond E-textiles. <https://www.aalto.fi/en/beyond-e-textiles>

The panel opens with two short presentations, followed by a dialogue:

Anne Louise Bang:

AI Dynamics, Dialogues & Uncertainties Interacting with Textile Craft

As AI tools and workflows become increasingly integrated into various creative practices, their influence on Textile Craft warrants a comprehensive examination. This panel seeks to unravel the complexities of this intersection by discussing how AI tools can challenge or enhance the intrinsic value of Textile Craft. The panel will pose critical questions such as the potential of AI to influence the authenticity of Textile Craft, its role in the creative process, and how the deep-rooted knowledge of Textile Crafts can influence and advance digital technologies. Further, the panel will explore the prospect of AI as an active participant in the making of textile crafts, examining the implications for the role of Textile Craft practitioners and the future of Textile Craft making.

Maija Vaara & Jaana Vapaavuori:

Optimized textile actuator through collaboration between crafts and machine learning experts

In our current project, which aims to conceptualize textiles as active elements in our surroundings, one of the primary objectives has been optimizing heat-responsive textile actuators and integrating them into shape-changing textiles. Shape memory threads used to generate motion can be crafted from readily available materials like commercial fishing line, as well as from other materials possessing specific physical properties, like custom-synthesized starch-polyamide yarns. Machine learning models prove beneficial when handling vast amounts of data or optimizing parameters within complex parameter spaces to achieve



optimal outcomes. Here, we detail our endeavors to create the most effective artificial textile muscles by optimizing three crafting variables using a machine learning model based on Bayesian optimization.

In essence, a tight collaboration between a crafter and machine learning specialists revealed both challenges and opportunities. Translating test results into a format comprehensible to the model imposed precise requirements and necessitated adjustments to the physical testing setup. Overall, craft processes both limit the application of artificial intelligence and are limited by it. Even interpreting results from machine learning models demanded expertise from both material science and computer science domains.

Successful integration of artificial intelligence into the crafting process mandates expertise from both fields, coupled with close collaboration, meticulous planning, and understanding the added value AI brings. In this presentation, we share our experiences and aim to spark discussion on the various roles machine learning can assume in textile crafting, as well as what the machine learning community can learn from collaborations with crafters.

PANEL PARTICIPANTS:

The panel participants discuss in small groups and write statements on a poster. It finalizes with a plenum discussion. The panel is open for the conference participants, and we aim for a minimum of 10 participants – no maximum.

Questions for discussion:

- How can AI influence the role of making?
- How can the knowledge of Textile Craft contribute to digital development?
- What does it mean that humans are the indispensable link between Textile Craft & AI?
- What kind of dynamics can emerge in the interplay between Textile Craft and AI?
- How can we define the value of Textile Craft considering its presence in multiple contexts?
- Is AI a protagonist (the good guy) or an antagonist (the bad guy) in the interaction with Textile Craft?



Parallel session 1: SIG - Pedagogical practices in educational makerspaces

Wednesday, September 18, 2024

3:15 PM - 5:15 PM
LOCATION ROOM E610

Chairs: Camilla Groth, USN & Eva Lutnæs, OsloMet

Discussants: The presenters' comment on each other's papers and engage the public in the conversations

The session is open for all participants of the conference.

Educational makerspaces have entered the classrooms of all ages of pupils and open up for many new opportunities to engage with digital and analogue materials and tools.

The new spaces, equipment related digital competences that are required of the teachers also poses challenges for some teachers. There is a need for creating research based pedagogical practices and to discuss and share experiences about the developments across international, national, and local institutions. In this session we have gathered presentations by Nordic researchers who are all working in makerspace related topics and arenas, trying to develop best practices when it comes to pedagogy in these environments. Topics vary from: an overview of makerspace culture in Norway, how to facilitate a "Maker" mindset, to opportunities for learning technological competence in arts and crafts, to teachers' reflections on learning cultures, and presentation on the pedagogical implications of employing dimensions of design thinking in design, crafts, and maker pedagogy, and issues related to participatory democracy and Makerspaces' transformative potential in cultivating informed, collaborative, and empowered global citizens. We invite all conference participants to join us and to engage in fruitful discussions on best practices and experiences from the field of educational makerspaces and hope the session will offer food for thought to teachers and researchers who are interested in research-based teaching and learning in both K-12 sector and higher education (HE) sector.

Keywords: Arts & crafts, education, educational makerspaces, pedagogical practices



Camilla Groth & Eva Lutnæs USN & OsloMet

Welcome and Introduction

Pirita Seitamaa-Hakkarainen & Sini Davies, University of Helsinki

A Systematic Literature Review On K-12 Maker Education in the 2020s

Camilla Groth, Ingrid Holmboe Høibo, Lovise Søyland, Brynjar Olafsson, Larysa Kolesnyk, Pirita Seitamaa-Hakkarainen, USN & University of Helsinki

Norwegian educational makerspaces: an interview study on the state of the art

Mariam Aljabaly, Pirita Seitamaa-Hakkarainen, Tiina Korhonen & Kaiju Kangas, Helsinki University

Facilitating students' maker mindset in elementary classroom

Ingrid Holmboe Høibo, USN

Makerspace learning: Pedagogical believes and practices in Norwegian school Makerspaces.

Break, 10min

Noora Bosch, Helsinki University

Dimensions of design thinking in design, craft, and maker pedagogy: Pedagogical implications

Larysa Kolesnyk, USN

Shaping tomorrow's innovators: exploring participatory democracy in school makerspaces

Camilla Groth & Eva Lutnæs

Discussion and reflection

Parallel session 2: SIG - Slöjdens plats i samhället

Thursday, September 19, 2024

9:30 AM - 11:30 AM
LOCATION ROOM F606

Alla är välkomna att delta för att lyssna och diskutera.

Ordförande: Per-Åke Rosvall

Alla skolämnen förändras över tid och därmed förs en ständig diskussion om vad som ska vara ämnernas centrala innehåll och hur de ska organiseras. Idag är kanske skolämnens förhållande till teknologisk utveckling, klimatförändringar och globalisering särskilt synligt i den mediala debatten. I denna debatt tar slöjd och praktiskt-estetiska ämnen en särskild plats. Överlag, men kanske särskilt i Sverige, så måste företrädare för slöjdamnet återkommande argumentera för att slöjd ska få behålla sina timmar i grundskolans läroplan, eftersom "nyttan" med slöjdamnet ofta ifrågasätts.

Vid ett par tillfällen har forskare samlats för att presentera och diskutera sina pågående och avslutade projekt som på olika sätt problematiserar slöjdamnet eller slöjdundervisning. Dessa kan på olika sätt relateras till ovanstående presenterad debatt men de fokuserar också mer allmänna didaktiska utmaningar. Vid denna NordFo-konferens kommer dessa fördjupningar att presenteras. Dessa presentationer är ett led i färdigställande av en antologi riktad till slöjdlärarstudenter, universitetslärare, läroplansförfattare eller andra myndighetspersoner med intresse för slöjdamnet. Presentationerna spänner över en mängd områden, vilket syns i rubrikerna nedan. Det övergripande temat är slöjdens plats i samhället, vilket anspelar till den pågående mediala debatten. Presentationerna är uppdelade i två delar där den första mer fokuserar på "nyttan" genom att ta upp hur ämnet bidrar till bildning eller aktuella ämnen som teknologisk utveckling (digitalisering), klimatförändringar (hållbar utveckling) med mera. Den andra delen fokuserar mer olika didaktiska dilemman som slöjdläraren kan ställas inför, till exempel lärmiljöer, förhållningssätt och kommunikation allmänt men också i relation till nyanlända elever.

Presentationer och presentatörer:

Introduktion

Per-Åke Rosvall

Del 1: Slöjd i skolan och samhället

Mia Porko-Hudd & Juha Hartvik

Att göra är ett sätt att tänka - slöjdämnets bidrag till bildning

Eva Ahlskog-Björkman & Marie Koch

Att slöjda och kommunicera hållbarhet - "Tala med tråd"

Åsa Jeansson

Digital kompetens i slöjdämnet

Åsa Hjelm

Matematikens plats i slöjd och slöjdens i matematiken

Stina Westerlund

Elevperspektiv på slöjdämnet som emotionell och kunskapande praktik

Del 2: Slöjd, undervisning, lärare, elever

Hanna Hofverberg & Erik Sigurdson

Rörelse och stillhet i trä- och metallslöjdsalen

Stefan Myrskog

Slöjd och utomhuspedagogik

Joakim Andersson & Peter Hasselskog

Förhållningssätt och kommunikation - en slöjdlärares viktigaste didaktiska redskap

Marcus Samuelson (ej närvarande – presenteras av ordföranden Per-Åke Rosvall)

Slöjdundervisning som ett sammanhang där erfarenheter delas och lärande blir en gemensam angelägenhet

Emma Gyllerfelt

Nyanlända elevers möte med slöjdundervisning

Parallel session 2: SIG - Teaching clothing as part of the subject Craft – still relevant for our students?

Thursday, September 19, 2024

9:30 AM - 11:30 AM

LOCATION ROOM D302

Clothing is one of the oldest areas of craft, but is it an important future competence? In Finland, making clothes has been part of basic education textile craft studies since late 19th century. However, over the decades, position of clothing in basic education has changed, and several schools have curtailed the teaching of clothing. The current National Core Curriculum describes craft as a multimaterial subject, which identifies no specific techniques or materials. Naturally, this is reflected in the craft teacher education: along multimaterial craft, the room for clothing has diminished. Likewise, incoming students' readiness for university-level clothing courses varies. In our six presentations (from Finland, Sweden, Island, and Latvia) we touch, for instance, the following questions: What is the present and the future status of clothing design and sewing as part of national educational system? Is clothing design and sewing seen as a relevant competence by our students and by educators? Should it be, even though ready-to-wear industry provides fashionable, inexpensive clothes? What kind of topics and themes should teaching of clothing cover? For instance, should we focus more on mending, tuning, turning ready-to-wear clothes to more personalised items that reflect the wearer's self-image and values, or provide fundamental skills (designing, patterning, sewing)?

Presentations

Stina Westerlund, Karin Ågren & Nina Mattsson, Umeå University

Clothing and its role in teacher education in Crafts – a Swedish case.

Māra Urdziņa-Deruma & Lolita Šelvaha, University of Latvia

Clothing. Will we create or just wear?

Ásdís Jóelsdóttir, University of Iceland

Från kunskap i klädsömnad till hållbarhet - omfattar materiallära, mönsterkonstruktion, sömnadsteknik, design, nyskapande och mode- och samhällshistoria



Henna Lahti & Anna Kouhia, University of Helsinki

Recognizing the significance of self-made clothes through the reflective use scenarios.

Anniliina Omwami, University of Helsinki

Stitching Connections: Reflections on the Potential of Clothing and Apparel Design in Contemporary Educational Contexts

Tellervo Härkki, Marja-Leena Rönkkö & Minna Kaipainen, University of Turku, University of Eastern-Finland

Clothing related trends in Finnish education, industry and leisure activities