

Högskolan Dalarnas första tvärvetenskapliga AI-konferens
AI på schemat – perspektiv, metoder och arbetssätt för utbildning, forskning och pedagogisk utveckling

Abstracts Parallella sessioner / Abstracts Parallel sessions

11.00-11.30h

Att främja kritisk generativ AI-litteracitet i högre utbildning: insikter från workshops inom olika discipliner

Miguel Garcia-Yeste och Sylvi Elsner (Institutionen för Språk Litteraturer och Lärande)

Aktuella studier (t.ex. Nasr et al., 2025) visar att generativ AI (GenAI) i allt högre grad integreras i undervisning och lärande. Ändå vet man fortfarande relativt lite om hur dessa teknologier påverkar studenters kritiska tänkande och deras förmåga att använda GenAI på ett ansvarsfullt sätt. Systematiska översikter (t.ex. Qian, 2025; Melisa et al., 2025) visar att GenAI kan stödja kreativitet och effektivitet, men pekar samtidigt på risker såsom överberoende, oetiska arbetssätt och en möjlig försvagning av metakognitiva och kritiska förmågor. De framhåller även att riktad handledning är nödvändig för att studenter ska kunna utveckla kritisk GenAI-litteracitet, särskilt förmågan att bedöma kvalitet, verifiera källor, bearbeta innehåll och använda AI-genererat material på ett ansvarsfullt sätt.

Vår presentation fokuserar på två pedagogiska interventioner vid Högskolan Dalarna som syftade till att främja studenters kritiska GenAI-litteracitet och att uppmuntra reflektion kring etiska aspekter av AI-användning i akademiska sammanhang.

Studien omfattar två datainsamlingsmiljöer: (1) tre workshops integrerade i en kandidatuppsatskurs i tyska, och (2) fyra workshops som erbjöds via Språkstödet till en tvärvetenskaplig studentgrupp. Samanlagt deltog 14 studenter, och datainsamlingen skedde under höstterminen 2025. Under workshopparna arbetade studenterna praktiskt med GenAI genom olika uppgifter och reflekterade över frågor som tillförlitlighet, verifierbarhet och akademisk integritet. Korta utvärderingar efter workshopparna gav värdefulla kvalitativa insikter om studenternas attityder till GenAI, inklusive vilka fördelar de upplevde, vilka framtida användningsområden de såg och vilka farhågor som fortfarande fanns kvar.

Våra resultat bidrar till den växande forskningen om GenAI i högre utbildning genom att (a) erbjuda praktiska strategier för att utforma undervisningsaktiviteter som syftar till att utveckla kritisk GenAI-litteracitet och (b) belysa studentperspektiv på GenAI-användning i akademiska kontexter.

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Teaching Critical Thinking with Generative AI: A Workshop for Business Students

Lenka Klimplová (Institutionen för kultur och samhälle, företagsekonomi)

Purpose

The purpose of this presentation is to share and reflect on an instructional practice designed to strengthen Master's students' critical thinking skills through the pedagogical use of generative AI (GenAI). In addition, the presentation aims to provide concrete insights and practice-based recommendations to inspire higher education instructors interested in integrating similar activities into their teaching.

Implementation

The contribution is based on three workshops conducted between 2023 and 2025 within a Knowledge Management course, one of the first courses in the Master's programme in Business Studies with an International Focus.

The workshops were designed around collaborative group work and experiential learning activities. In 2023 and 2024, students used ChatGPT as part of the process of developing seminar papers, followed by critical reflection of the generated output. In 2025, the focus shifted towards critically analysing and comparing outputs generated by different large language models. The workshops involved students with highly diverse levels of prior experience with GenAI, ranging from complete beginners to advanced users.

Experiences

The workshop format fostered active engagement and facilitated rich discussions on the opportunities, limitations, and risks associated with the use of GenAI in academic contexts. Students developed a more nuanced understanding of generative AI tools, particularly regarding reliability, bias, and ethical considerations.

Introducing GenAI early in the programme proved valuable in shaping both students' understanding and shared expectations regarding its appropriate academic use in subsequent programme assignments. Observations suggest that students demonstrate greater responsibility and reflexivity when utilising GenAI in later courses within the programme. Notably, even students with extensive prior experience of generative AI reported gaining new insights, especially in relation to critical evaluation and responsible use.

The presentation draws on student feedback and concludes with practice-based recommendations for integrating similar workshops into other programmes and courses.

Understanding competence gaps through perceptions and generative AI usage among early-career software developers

Hannes Salin (Institutionen för information och Teknik, datavetenskaper)

We present the preliminary results from a case study at the Swedish Transport Administration on how newly graduated software developers use generative AI tools in their daily development work and how prepared they were from their university studies in using AI for software engineering. The study includes semi-structured interviews complemented by self-assessed competence measures. Using a sociotechnical systems theory lens, the analysis focuses on perceived competence gaps, observed usage patterns, and indications of what educational gaps future university curricula should include. The results are preliminary and aim to establish empirical scope and identify key themes for a larger follow-up study.

11.30-12.00h

Kunskap, intelligens och expertis: betraktelser kring AI utifrån undervisning i sociologi

Magdalena Kania Lundholm & Daniel Normark (Institutionen för kultur och samhälle, sociologi)

Artificiell intelligens och dess olika föregångare utmanar genomgående våra föreställningar om vad vi betraktar som kunskap. Från cybernetikens och systemteorins kommunikativa feedbackloopar till dagens AI-genererade textmassor sätter gränslandet mellan teknik och människa frågor på vad vi menar med detta begrepp. Detta blir synnerligen påtagligt i relation till kunskapsintensiv verksamhet såsom undervisning om det sociala samhället. Det finns dock en tendens att överskatta "förmågan" hos olika tekniska system genom att underskatta intersubjektiva utmaningar som latent existerar i vårt kunskapsbegrepp.

Dessa utmaningar förstås inte genom att dokumentera vad AI "gör" utan snarare genom att studera HUR vår förståelse kring vad vi lägger i ord som kunskap förändras när vi möter AI. Syftet med denna text är resonera kring hur vår undervisning och vår värdering av studenternas resonemang förändrats med tillgången på AI genererade textmassor och sammanfattningar. Harry Collins och Martin Kusch (1998) lanserade tidigt en distinktion mellan polimorfiska och mimeomorfiska handlingar både som ett sätt att skapa en taxonomi för vad vi betraktar som kunskap (se även Collins & Evans 2007, Collins 2010) och för att resonera kring vilken form av kunskap maskiner respektive människor är bra på. Mimeomorfiska handlingar är främst speglade, explicita och kodifierbara medan polimorfiska handlingar är de omdömeshandlingar som kan lösas på massor av olika sätt.

En viktig del av undervisningen, ur ett sociologiskt perspektiv, är exempelvis den socialisation som studenten gör med lärare, medstudenter och det organisatoriska system som vi kallar lärosätet. Denna socialisation består inte enbart av explicit (mimeomorfisk) och kodifierad kunskap utan även av utsagd (tacit/polimorfisk) kunskap. Tillgången till textgenererande AI system sätter detta likhetstecken mellan explicit och utsagd kunskap ur spel och examinationspraktikerna tvingas omvärderas. Denna utmaning är därmed inte ett resultat av AI-systemens "intelligens" utan en konsekvens av att vi organisatoriskt förutsatt att studenterna socialiserar sig till disciplinen när de tillgodogör sig en explicit kunskap som vi värderat vid examinationstillfället. Diskussionen HUR vi (ut)värderar kunskap, hur och vad som examineras är en utmaning som vi bara ser början på.

The Impact of Generative AI in Higher Education: A Crossover Study on Quality, Efficiency, and Knowledge Retention

Yves Rybarczyk (Institutionen för information och teknik, data- och informationshantering)

Purpose

The rapid integration of Generative Artificial Intelligence (GenAI) in higher education has transformed societal and educational landscapes, presenting both unprecedented opportunities and critical challenges (Brynjolfsson & McAfee, 2017; Russell & Norvig, 2021). While these tools offer potential for personalized learning and assessment efficiency (Holmes et al., 2019; Wang et al., 2024), they also necessitate clear ethical frameworks to prevent over-dependence and preserve human-centered critical thinking (Garzón et al., 2025; Kosmyna et al., 2025). This study aims to empirically investigate these tensions by analysing the impact of AI tools on a standard academic task: the systematic literature review. Specifically, it addresses three core research questions: (1) Is the quality of an AI-assisted review superior to that of a manual review? (2) Does AI usage significantly reduce student workload? (3) Does the reliance on AI tools negatively impact student learning outcomes and content retention?

Implementation

The research employs a crossover experimental design with a group of master's students. Each participant completes two systematic reviews on distinct topics (environmental science and human-centered design), alternating between a "Manual Protocol" (using Scopus and PRISMA) and an "AI-Assisted Protocol" (using tools like Elicit and GPT-4). A mixed-methods approach is used for data collection: quality is assessed via a blind peer-review rubric, workload is measured through granular time-tracking logs, and learning retention is quantified using pre- and post-task knowledge questionnaires and oral defence interviews.

Experiment

The experimental design ensures a blind assessment to eliminate evaluator bias regarding AI usage. Beyond the experiment, the study culminates in a collaborative meta-analysis where students triangulate their performance metrics. This process transforms the participants from subjects into researchers, allowing them to critically evaluate the trade-offs between the speed of automation and the depth of cognitive processing required for academic mastery.

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AI-Supported Oral Practice in Beginner Mandarin: Student Perspectives from Sweden and Hong Kong

Man Gao (Dalarna University) and Xin Liang (The Hong Kong University of Science and Technology)

One of the key challenges in beginner-level Mandarin instruction is supporting learners' development of oral proficiency in contexts where opportunities for authentic language use are limited. This challenge is particularly evident among beginner learners in Sweden and Hong Kong, where students study and live in environments in which Mandarin is not the primary language of everyday communication and where practice is mostly limited to Chinese classroom. As a result, learners often face difficulties in developing accurate pronunciation, and confidence in speaking Mandarin. Recent advances in freely accessible AI conversational tools, such as ChatGPT, TalkAI, and Grok, offer new possibilities for addressing these challenges.

This study examines how AI tools can support oral proficiency development for novice Mandarin learners, with a particular focus on pronunciation, simple interaction, and reducing foreign language anxiety. While previous research on AI-assisted oral practice has largely focused on English language learning (Cui & Zhang, 2025; Qiao & Zhao, 2023; Taeza, 2025), research within Chinese as a foreign language (CFL) remains limited. Existing studies (e.g., Yingsoon, 2021; Divekar et al., 2022) have mostly focused on how specially designed or standalone AI tools affect learning, rather than on how learners independently use freely available AI tools on their own.

To address these gaps, this paper reports the results of a survey study conducted among beginner-level CFL students in Sweden and Hong Kong. The study investigates (1) whether and how students use AI tools for Mandarin oral practice, (2) their evaluations of these tools and perceived benefits and limitations, (3) reasons for tool selection and continued use, and (4) their expectations regarding the integration of AI into spoken examinations and exam preparation. Drawing on the survey findings,

previous research, and teachers' instructional experience, the study offers pedagogical suggestions for integrating AI tools into Chinese oral proficiency teaching and formative assessment.

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