Empowering education using AI

KauKan 2024 Seminar Series

KARLSTAD UNIVERSITY SWEDEN

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Overview

- About us

- *In this presentation:*
  - *3 AI cases in education*

- Takeaways

About us

Ala Sarah Alaqra	Agnieszka Kitkowska	Leonardo Martucci
• Docent	• Lecturer	• Professor
• KAU	• JU	• KAU
• Information Systems	• CS and Informatics	• Computer Science
• Programledare SAINF		
• Focus on master's level education	• Master level education (particularly UXD programme)	• Undergraduate + UPE course in AI

Case 1: SAINF's ISAD11

- SAINF is the MSc programme in information systems

- Max 10 students:

    close teacher to students interactions in all courses

- Examinations: (usually) written reviews of articles and then a final examination with oral presentation

- This case:
    - ISAD11 "Current Research on Information Systems" 7.5 ECTS
    - 1st semester

    - **Multiple teachers**:

        mostly one seminar per teacher depending on the theme
    - **Examination**:
        - **Graded based on written review assignments** and **in-seminars discussions**
        - Contains four mandatory seminars and one final seminar examination

Case 1: AI role in examination

Written text observations:

- Lack of personal insight in the written text: reviews lack personal reflection
- Follow specific pattern and structure
  - Written English is too good!
  - Written style is too formal and uniform

Teachers discussions commence

- Shared concerns and observations were brought-up
- Learning objectives in focus
- Student's ability to discuss their assignments is a **must** criteria for passing!

During seminars observations:

- Inability to discuss what is written
- Present the content on a surface level: just as written

Student dialogue & reexamination

- Some students were open about using AI tools to help with the language
- Boundaries set: generation of text
- Extra tasks were given to students and they must discuss their assignments

Case 1: Aftermath and ongoing approach

- Further dialogues among teachers on how to set AI use boundaries.

- We give students chances to:

  disclose the use of AI tools explicitly (this semester) and

  a dialogue with each responsible teacher.

- Examination has

  more emphasis on the discussions and

  oral presentations are given more time for interaction.

Case 2: UX design at JU

- 1-year MSc programme:

    User Experience Design

- 30 – 40 students

- Experiences from 2 courses:
    - Digital Ethics and Privacy (7.5)
    - Cognitive Psychology for HCI (7.5)

- Courses structure
    - Interactive lectures
    - Seminars (students work)

- Teacher / examiner: same person

- Examination
    - Written assignment
    - Weekly reflections and active participation in seminars

Case 2: students use of Generative AI

- Seminars
  - Pros
    - Searching for ideas (e.g., topic to investigate in the discussion)

  - Cons
    - Searching for explanations of the topics they are due to discuss
    - Information not always accurate
    - Reduced creativity / discussion
    - Diminished skill in associating and linking different topics of study with each other

- Assignments
  - Pros
    - Fixing grammar (according to the honesty statements)
    - Translating to English
  - Cons
    - Diminished writing skills
    - Inaccurate references, even in resubmitted work
    - Totally different topic discussed in weekly submissions
    - Multiple submissions, initial failure that might have negative effect on students' mental state and on teacher's workload

Case 2: Afterthoughts

- Honesty statements
  - insufficient to ensure that students do not use GAI in their assignments.

- Teachers must pay more attention to referencing
  - ensure that references exist

- Suspiciously looking assignments, resembling an output from GAI result in reexamination
  - adds to teachers' workload
  - difficulty in proving whether the text is written by GAI makes it hard to bring it to disciplinary boards

- More emphasis should be placed on active engagement of students in the classroom and

  grading based on such activities

Case 3: Cybersecurity Course

- Cybersecurity Course

    - ca. 60 students
    - Semester 6 course
    - LP5 2023

- All Computer Science programmes (Kandidat, Ing, Civ-eng)

- One teacher

(course responsible + examinator)

- Examination:

    - In-class digital written-exam
    - 3x Laboratory reports

Case 3: AI Tutor and Writing Support

- AI Tutor

  - A pre-prepared prompt to be copied and pasted to MS Bing / ChatGPT *

  - Tailored to the course's topic and target group

  - Goal: Offer support to students to learn

- AI Writing Support

  - MS Bing and / or Grammarly

  - Goal: support students to write better lab reports,

  - Side-effect: ease the lab supervisors effort in correction

  - Requirement: usage of tools and prompts must be provided

Case 3: Outcome and Future

- Student Feedback:

  - *"ChatGPT as an extra teacher/tool was very useful"*

  - *"… it was useful, but it could also be misleading."*

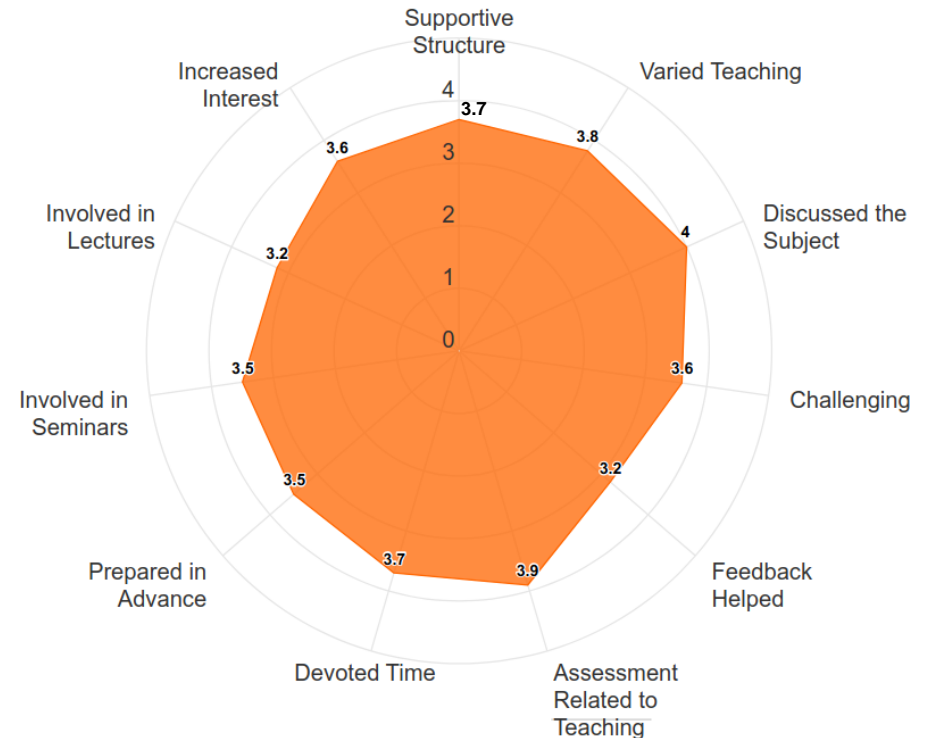- Next:
  - Extend it to a GPT (done!)

    KAU-DVGC19

  - Guidelines to lab report prompts

The highest value is 4   n=27, response ratio 42%

Radar chart with axes: Supportive Structure 3.7, Varied Teaching 3.8, Discussed the Subject 4, Challenging 3.6, Feedback Helped 3.2, Assessment Related to Teaching 3.9, Devoted Time 3.7, Prepared in Advance 3.5, Involved in Seminars 3.5, Involved in Lectures 3.2, Increased Interest 3.6. Scale 0 to 4.

Takeaways

- AI tools to **aid** student's academic writing are positive

- Boundaries should be clear on what can be used depending on the task/examination.

- Students are *likely* to be honest when given the opportunity to negotiate the use of AI

- Reminder that learning outcomes should be in focus.

Questions?

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