Is LTH keeping up with the AI revolution?

Sergio Davila Martinez, Leandro Iannacone, Viktor Jönsson, Erik Ottosson, Taqwa Saeed, *LTH*

***Abstract*—Our objective is to identify how LTH teachers are adapting their teaching to the rise of generative AI tools. We conducted a survey targeting course coordinators at LTH to assess their opinions on AI and its impact on their courses. We also conducted interviews with some of the respondents. 62% of respondents reported making changes to their courses, most commonly in course assessments. Only 7% of course coordinators believed no changes were necessary. For over 60% of respondents, the main challenges in implementing changes were a lack of time and knowledge. More than half of the teachers were either unaware of LTH's guidelines on generative AI (34%) or did not use them (21%).**

Keywords: GAI, course adaptation, survey, LTH

I. Introduction

Since the release of ChatGPT in 2022, large language models (LLMs) have transformed multiple sectors, including customer service, data analysis, programming, and higher education. The popularity of LLMs (i.e., generative AI ,GAI) tools has driven a dramatic rise in academic interest, with published articles on LLMs in education increasing by over 4000% within a year of ChatGPT's debut [1].

While LLMs offer powerful opportunities for improving learning and teaching, their integration raises several concerns [2]–[5] such as reducing student critical thinking and causing over-reliance [2], [3]. Also, LLMs are prone to inaccurate answers [2], [3] and using generated texts can be in violation of plagiarism and copyright rules [2], [3]. Finally, teachers may not have the experience or knowledge on how to handle LLMs in their education [2].

A survey by UNESCO found that "less than 10 percent of schools and universities have formal guidance on AI" [6]. On Lund University's (LU's) webpage, AI is predicted to be used more in the future but there are no formal rules for its use, as long as the teacher "can confirm that students have achieved the program's and course's learning objectives" [7]. This gives teachers at LU great autonomy when deciding how AI can be used. In this study, we use an online survey and interviews to investigate how teachers at LTH are adapting their courses and teaching methods to the rise of GAI.

II. Methodology

Data was primarily collected through an online survey distributed to course coordinators at the LTH departments/divisions of the authors of this work. Due to time constraints, a more targeted participant selection or a more structured approach was deemed not feasible. Participants could provide their contact information if they were open to participate in a follow-up interview. Due to the limited sample size and the small selection of departments, the data do not support broad trend analysis for the faculty. However, they offers meaningful anecdotal insight into the attitudes of LTH instructors toward AI and its integration into teaching.

Survey: A teacher's belief about education affects their teaching more than their pedagogical knowledge [8]. Teachers with a constructivist view are more open to integrate LLMs in their teaching compared to those with a transmissive view [9]. Hence, we divided the survey in two main sections to explore the relationship between teachers' personal attitudes towards GAI and their response to the use of GAI in teaching and learning. Section 1 focused on understanding the respondent's engagement with GAI technologies, including questions about the frequency of GAI usage, the types of tasks delegated to GAI (e.g., Image generation, draft preparation, prompts/ideas, coding), and the respondent's perspective regarding the future impact of GAI on everyday life. Section 2 focused on the use of GAI in teaching and learning. Respondents were again asked about their views on the impact of GAI, this time specifically in the context of education. They were asked whether they had made any changes to their course in response to GAI, and to explain why or why not. They were also asked if they had any rules for students regarding the use of GAI and, if so, to describe them. Finally, we included a question on familiarity with LTH guidelines on the use of GAI tools in education.

Additionally, four follow-up **interviews** were conducted to allow the participants to elaborate on their survey responses.

III. Results

A. Survey

Over the 10 days that the survey was open, it was answered by 29 course coordinators at LTH, with teaching experience ranging from 1 to 31 years.

1) Perception: Most of the survey participants use GAI occasionally ($n = 10$) whereas only a minority never used it ($n = 2$). About a quarter of subjects ($n = 7$) use it everyday. In addition, the number of participants who use GAI approximately once a week was the same as that of participants who used it only a few times ($n = 5$). The results showed that participants who used GAI on daily or weekly basis were less likely to think negatively about the use of these tools on education as demonstrated in Fig. 1. Furthermore, the majority of participants ($n = 12$) thought that GAI will affect education neither negatively nor positively.

When asked about the positive uses of GAI, participants had many suggestions including 24/7-available tailored tutoring, language and coding support, improved engagement through its conversational style and providing administrative support to educators.

On the other hand, some participants ($n = 6$) were concerned about the negative influence of GAI usage. Their main concern was that students will ask GAI to do the work for them without "thinking" or "learning" which hinders skill development. $P7$ emphasized that students may lose basic skills if they rely on GAI and offers a way to overcome this issue *"You should know how to code, and then use AI to improve speed, etc)"*.

Participants were also asked about their opinion on the impact of GAI on daily life. The majority ($n = 15$) thought

that GAI tools will positively affect daily life. Comparison between answers about the impact on daily life and those about the impact on education showed positive correlation with a coefficient of 0.487 suggesting that LTH teachers are more likely to have a similar opinion on the impact of GAI on daily life and education.

Figure 1. Personal usage of GAI vs. perceived impact of GAI in education.

2) Implemented changes and rules: When asked about the changes they implemented in response to GAI usage, most participants ($n = 17$) said that they made changes to their assessment methods (e.g., assignments, exams, reports). Six participants made changes to the content of their courses whereas three and two participants made changes in teaching methods and learning outcomes, respectively. Nonetheless, around 38% of participants made no changes.

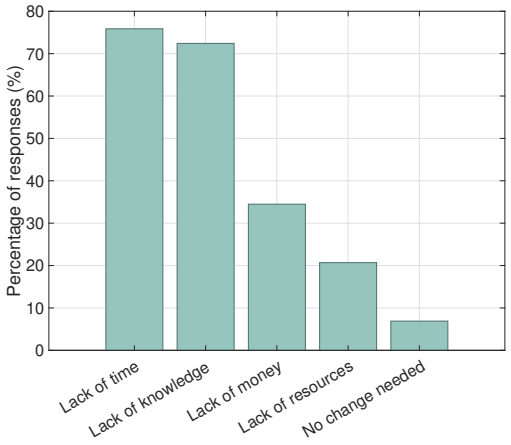

Figure 2. Reported factors hindering changes to course material.

The results showed that most participants ($n = 27$) plan to implement changes in their courses with regards to the use of GAI. However, these plans are hindered due to the lack of time, knowledge, money and resources, as depicted in Fig. 2. Two of the participants thought that no change was required in their courses. Then, participants responded to whether they had written rules for their students regarding using GAI. Most participants ($n = 19$) did not have written rules while ten participants did. Participants who had written rules were asked to briefly describe them. Most responses ($n = 6$) mention that students were allowed to use GAI under the condition of disclosing how they used it. Some participants explicitly ask for the prompt and the results whereas others ask for reasoning of why and how they used the tools. Other written rules included $p16$'s which states that students are not allowed to use GAI for writing, while $p12$'s rules allowed students to improve their text and generate images with GAI but not videos.

Finally, participants reported on whether they consulted LTH's guidelines with respect to the usage of GAI. More than half of the participants consulted LTH guidelines when writing their rules while 21% and 34% did not consult the guidelines and were unaware of them, respectively.

B. Interviews

Regarding the adaptability of different courses to the rise of GAI, participants thought that courses with assessment methods that rely on text/discussions are going to be hard to adapt since GAI tools are good at text generation. This also applies to engineering courses that rely on repetitive design. Additionally, students may rely on AI to solve calculation-based assignments for them which are hard to detect by the teacher and have bad consequences on the students' learning. $P19$, however, thought that tasks that could be fully performed by AI might become irrelevant.

We also asked participants if they think that there is a level after which students should be allowed to use GAI tools freely in their education. They mostly agreed that students must be prepared to use these tools without losing the capability of doing the work themselves. They should know the basics and develop problem solving skills. They also emphasized that as students learn more about AI they will be able to use it more effectively, or as $P30$ phrased it "I want smart students using smart tools". $P3$ mentioned that students must learn that as professionals, they will take responsibility of what they deliver. As such, they must be able to assess and evaluate the information they receive from GAI tools.

Regarding changes participants implemented in their courses, $P3$ and $p30$ asked students to disclose how they used GAI in their assignments. In addition, $p30$ uses GAI to generate answers to his discussion-based assignments, repeating the process 20–30 times. This gives him a "gut feeling" for how GAI would respond to the questions, helping him detect potential cheating more easily. He also gives his students a lot of time so that they are less tempted to cheat due to time constraints. $P10$, on the other hand, replaced lab reports with questions related to what happened in the lab. He shortened project reports and asked students to write them by hand to minimize the risk of copy-paste cheating. Last, $P19$ created a task where students write essays themselves and compare them to essays written by GAI.

Finally, participants expressed general agreement with the LTH Guidelines concerning the use of GAI. However, $p3$ thought that they were too generic and could be more clarified with example scenarios.

IV. Discussion

The results indicate that the general perception among LTH teachers regarding the potential risks and benefits of GAI mostly correspond to those mentioned in the introduction of this work. Risks may include students not developing critical thinking, developing over-reliance on such tools, and losing the ability to identify misinformation. Benefits, on the other hand, include individual tutoring, text summarization and language support. It is probably not far fetched to assume that most teachers see both the potential benefits as well as the problems, which might explain why 41% of the

respondents stated that they viewed the potential use of GAI by students "Neither positively or negatively" (i.e., they may view the impact of GAI as "both positive and negative").

The results also demonstrate that participants have started to adapt their courses to the presence of GAI. However, many seem to think more changes are needed (see Fig. 2). For instance, 40% of respondents are yet to make changes and, for most of those who have made changes, such changes were either limited to assessments ($n = 11$) or included assessment among more course elements. This can be an indication that the biggest worry among teachers is that students are using the tools to cheat or that the learning outcomes are no longer evaluated accurately by the old assessment methods. Another reason may be that changes to assessment methods are the least time-intensive. Since a large part of the participants ($n = 22$) reported 'lack of time' as an obstacle for change, quick changes may be prioritized.

Almost 50% of respondents have used LTH guidelines but it is unclear to what extent and if they consider them a helpful resource. The fact that 21% of respondents were aware of the guidelines and yet decided not to use them might indicate that the guidelines are unclear, optional, not easy to find, or do not provide suitable guidance. Since over 20 respondents reported that they lack knowledge to implement changes in their courses related to GAI use, the guidelines may have failed to provide sufficient information for teachers to act solely on the content provided. Lack of knowledge was not only a hindrance for teachers that had less experience of using the tools for themselves but was a perceived problem also for teachers that use them daily. This suggests that what is lacking is knowledge about how to use the tools effectively in an educational context.

We note that LTH holds regular seminars about GAI use in education [10] indicating the efforts LU is making to spread information and awareness. However, the low numbers reported in using the guidelines and awareness of the guidelines suggest that LU's efforts are yet to satisfy the staff needs. This can be attributed to the busy schedules of the educators at LTH as reported in Fig. 2 or that the channels LTH is using for communication (i.e the official website, internal publications etc) are not effective.

REFERENCES

[1] I. C. Peláez-Sánchez, D. Velarde-Camaqui, and L. D. Glasserman-Morales, "The impact of large language models on higher education: exploring the connection between AI and Education 4.0," *Frontiers in Education*, vol. 9, p. 1392091, Jun. 2024.

[2] E. Kasneci *et al.*, "ChatGPT for good? On opportunities and challenges of large language models for education," *Learning and Individual Differences*, vol. 103, p. 102274, Apr. 2023.

[3] S. Milano, J. A. McGrane, and S. Leonelli, "Large language models challenge the future of higher education," *Nature Machine Intelligence*, vol. 5, no. 4, pp. 333–334, Mar. 2023.

[4] T. Shahzad *et al.*, "A comprehensive review of large language models: issues and solutions in learning environments," *Discover Sustainability*, vol. 6, no. 1, p. 27, Jan. 2025.

[5] H. Yu, "Reflection on whether Chat GPT should be banned by academia from the perspective of education and teaching," *Frontiers in Psychology*, vol. 14, p. 1181712, Jun. 2023.

[6] UNESCO. Unesco survey: Less than 10 percent of schools and universities have formal guidance on ai. [Online]. Available: https://www.unesco.org

[7] L. University, "Questions and answers on gai tools," 3 2025. [Online]. Available: https://www.education.lu.se/en/current-themes/generative-ai-tools/questions-and-answers-gai-tools

[8] M. F. Pajares, "Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct," *Review of Educational Research*, vol. 62, no. 3, pp. 307–332, Sep. 1992.

[9] S. Choi, Y. Jang, and H. Kim, "Influence of Pedagogical Beliefs and Perceived Trust on Teachers' Acceptance of Educational Artificial Intelligence Tools," *International Journal of HCI*, vol. 39, no. 4, pp. 910–922, Feb. 2023.

[10] U. of Lund. (2025) Lu upcoming events on ai/gai. [Online]. Available: https://www.education.lu.se/en/calendar?category=75&date=2025-02-01