Three years of teaching about generative artificial intelligence

Anna Borgström and Lovisa Liljegren
Karolinska Institutet, Stockholm, Sweden

Abstract
Ever since ChatGPT was launched, the authors of this paper – a writing instructor and a librarian – have been teaching extensively together about generative artificial intelligence (AI). Our first workshop generated numerous additional workshops for students, teachers, researchers, and administrators – and we were invited to contexts we had formerly not been invited to. We have always focused on AI in relation to searching and writing, but also addressed additional aspects such as AI and learning. Teaching together has added additional value, since our fields of expertise complement each other. In a rapidly changing field, we have focused on collaborative learning, expressed a non-judgemental attitude, and always welcomed discussions. Finally, generative AI has brought our areas of expertise – information literacy and writing – to the top of the agenda.

Key words: *academia; education; generative artificial intelligence; information literacy; writing.*

Introduction

In November 2022, the reality for university libraries changed. When ChatGPT was launched, we started receiving questions from students, researchers, and teachers. About sources: could you trust these tools for information? (Some simply assumed that you could). About writing: could we allow them to write for us? (Some had already started doing so). And about education: how might the use of generative artificial intelligence (AI) affect learning? (Many were worried).

Our library was quick to take on the challenge, and as a first step, we offered an open online session on the topic in April 2023, as part of a series about education and learning. The two of us were chosen to prepare the presentation. Lovisa is a librarian and information specialist who had recently completed a master's degree in information science. Anna is a writing instructor who has worked extensively on effective and transparent source use. The session attracted over 100 researchers and teachers, many times the average audience for the series.

Overview of teaching conducted

That first presentation spawned numerous new workshops. Audiences vary and include students, teachers, researchers, supervisors, and administrators. We offer open, online workshops and are frequently invited to give workshops. Every workshop renders new invitations, some from groups who have not previously reached out to the library about information literacy and writing, such as numerous research groups and a course for doctoral supervisors.

What we usually talk about – and how these topics may have changed

From our first session until this day, we have almost always covered three areas: 1) generative AI, what it is and how it works (in academia), 2) searching with AI, and 3) writing with AI. Two additional topics have also been covered: some form of AI and learning and, as higher education and academic publishers began to adopt policies and recommendations on the use of AI, we integrated these policies into our sessions as well. Depending on how much time we have, we incorporate exercises to the different areas.

Generative AI: what is it and how does it work (in academia)?

First of all, we always seek to ensure that our audience understands how generative AI tools work: that large

Address for correspondence: Lovisa Liljegren, Karolinska Institutet, Berzelius väg 7B, 17177 Stockholm, Sweden.
E-mail: lovisa.liljegren@ki.se.

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language models (LLMs) are trained to generate text – not facts or knowledge – and that the generated text may or may not correspond to reality or truth. We staunchly reject the term "hallucinations", commonly used to describe factually incorrect information; these models merely do what they have been trained to do: generate text (for an early critic of the term, see 1). We have also increasingly highlighted that the companies behind AI tools often promise more than they can keep. For example, AI has been criticized for being a marketing term, used for a variety of technologies (2). Some have even suggested that as soon as something becomes useful, it is not called AI anymore (3).

We usually highlight news and reflections on the topic of AI in academia and/or education. Examples include how AI has been used to generate fake data sets (4), fabricate articles (5) and how individuals have been falsely accused of using AI in their manuscripts (6).

Finally, we always address ethical aspects. These concern both the output of LLMs, such as copyright issues (7-9), transparency, reproducibility as well as the making of these tools, such as environmental aspects (10), enormous and profit-driven companies owning these models (11), and the outsourcing of the hard and tolling work of making AI output palatable to users (12).

Searching with AI

Initially, our teaching focused on solving a practical concern: patrons contacting the library with generated references to books and articles that did not exist, a concern also noted by others (13, 14). We therefore needed to explain to our patrons how LLMs differ from databases or search engines. Soon, new tools started to emerge, integrating LLMs with databases or search engines. It became possible to search for real sources using natural language and a chat interface. Technologies were blurred and are even more so today. AI search tools can be considered more intuitive thanks to their ability to interpret natural language, but they are not as transparent or reproducible. Increasingly, our teaching has focused on the difference between searching with AI and in traditional databases.

Writing with AI

As we address writing with AI, we first emphasize that although AI should generally not write texts for you, there may be productive ways of using it: to brainstorm about a topic, overcome writer's block, or receive feedback on texts. However, we caution our audience to not over rely on these tools. Since the very first year of teaching, we have shared changes generated by a generative AI tool to an authentic student. Together with our audience, we identify changes that make the text better and clearer, changes that neither make the text better nor worse, and, most importantly, changes that risk changing the entire meaning of a text. Finally, we remind our readers how easy it is to "fall asleep at the wheel" and merely glance at AI generated changes. Increasingly, we have recommended AI users to ask for suggestions rather than re-writes to ensure both quality and ownership.

AI, education, and learning

While we have always focused on AI, information literacy, and writing, we quickly realized that we needed to address issues regarding teaching and learning as well. Many teachers were worried, and some feared that any conversation about AI may prompt students to use such tools. While we understood such fears, we urged for an open, explorative dialogue based on curiosity and a belief that most students are trying to do their best. We also suggested that the emergence of generative AI may allow us to address important subjects that have largely disappeared from the agenda: What does it mean to study at the university? What do students need to learn? Is it enough to merely produce a text to indicate that one has fulfilled the intended learning outcomes? Since we started teaching about the topic, we have happily noted that similar questions have been raised in opinions pieces (see for example 15, 16).

The topic of how to address AI with students gradually changed into a conversation about AI and learning, especially as much research emerged in mid-2025. This research has conflicting results; some are rather positive (17), while others show detrimental effects to learning (18). Although these studies do not always answer questions but rather pose new ones, we share them with our audience in the hope that they will continue these discussions beyond our workshops.

Disclosing your use of AI

As publishers and universities began to publish AI policies, we began to address how to disclose the use of AI.

When our own university implemented a mandatory AI disclosure in doctoral theses, we were asked to co-write recommendations about AI use in accordance with the new requirements (19). This topic, however, was very pertinent for a while but quickly became less so as people adjusted to both journal policies and our own.

Lessons learned

During these three years of teaching about generative AI, we have learned several things. We realized quickly that together, we could do much more than either one of us could have done on our own – and we would have more fun! Our competencies complement each other, since generative AI concerns information and writing, our respective areas of expertise. We also work together to keep track of the quickly evolving field, sharing scientific articles, news, and opinion pieces. While we do not teach every workshop together, we have realized that we lose value if we teach individually about the topic for too long without also teaching together.

Although more people use AI now than three years ago, every single group that we have ever taught has included both people who use AI frequently and with developed strategies and people who are less experienced and/or interested. Because of this diversity, collaborative learning works well – and benefits learning in numerous ways (20). We always acknowledge that some participants will likely be familiar with some of the information in the workshop (making them more likely to accept that fact) and invite them to share their experiences with the group. Teaching about generative AI has certainly allowed us to learn as well and develop our understanding of how people use generative AI, how they feel about it, and what concerns they have. Finally, we always encourage our audience to continue addressing the topic of AI as a collaborative learning experience.

As we teach, we have also considered our own roles. Firstly, we are rather humble: we are experts on searching and writing, but not on all the technical aspects of AI. Of course, we do need to stay updated about the topic of AI, but it is perfectly fine that we do not know everything that is happening in this rapidly evolving field. Secondly, we aim to stay neutral towards AI, although we have been accused of being both overly positive and overly negative. Some have expressed sentiments such as "you do not know what life is like for a busy researcher; we use these tools frequently and if we did not, we would 'fall behind' ". In response, we always aim for a non-judging attitude, welcome the sharing of experiences, while at the same time, we are happy to fully engage in an academic discussion about the topic. Importantly, being skeptical about generative AI does not mean being skeptical about technological advancements in general.

In relation to the above, we have noticed that people tend to be more positive about generative AI if they have used the tools extensively but are not as aware of the technical aspects, compared to those who have technical knowledge as well. Therefore, we tend to focus on technical aspects to give participants a more nuanced view of AI, that is, how do the tools work? We have deliberately chosen to focus less on prompting, a practical skill which we paid more attention to in our very first workshops.

Although AI is more commonly used now than three years ago, we have noted an increased resistance in the last year. At least one of us thought, about two years after ChatGPT was released, that using generative AI for writing would be the new normal for most. A few months later, however, we were not so sure anymore. Not only did research articles start to appear on the effects of AI use on cognition and work engagement (21) – and the results were inconsistent but concerning – but we also started noticing that many students grew increasingly hesitant to use generative AI. In parallel, we have seen similar signals from the world outside of academia (22-25).

Finally, perhaps one of the most interesting and pleasing effects of the launch of generative AI is that it has brought both of our areas of expertise to the top of the agenda, and allowed us to discuss questions that we have always wanted to discuss, with more people than ever: Why does it matter how and where we search? Why do we need to be aware of bias in searching? What is it? And: why do we write? What do we learn from writing a scientific text about a topic? And how does a writing assignment correspond to learning?

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