

TEACHERS' ATTITUDES AND PERCEPTIONS OF THE USEFULNESS OF AI IN ACADEMIA: HOW SHOULD UNIVERSITIES RESPOND TO A CHANGING EDUCATIONAL LANDSCAPE?

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Abstract

Artificial intelligence (AI) is rapidly reshaping higher education, yet many universities remain reactive in their approach, focusing primarily on academic integrity rather than comprehensive integration. This study explores university teachers' attitudes, usage patterns, and support needs related to AI in teaching at the University of Iceland. Understanding teachers' perspectives is essential for developing effective institutional strategies that align with evolving educational demands.

In spring 2025, a 79-item survey and six open-ended questions were distributed to 2,003 university teachers, yielding 339 responses (17% overall response rate; 33% among tenure-track faculty). Quantitative data were analyzed using descriptive statistics, while qualitative responses underwent thematic analysis.

Findings reveal cautious optimism among teachers regarding AI's potential, with most using it for supplementary tasks such as generating assignments, developing teaching materials, and creating rubrics. However, widespread pedagogical integration remains limited. Key barriers include concerns about student misuse, AI hallucinations, ethical dilemmas, and a lack of institutional guidelines. Teachers expressed a strong need for comprehensive training, paid access to AI tools, clear policies, and personalized support.

This pilot study highlights the urgent need for universities to move beyond ad hoc responses and develop robust, interdisciplinary frameworks for AI integration. Faculty development initiatives must prioritize hands-on training, ethical guidance, and infrastructure support to ensure educators are equipped to navigate the AI-driven educational landscape. These findings offer baseline data for future monitoring and policy development, and they underscore the importance of engaging faculty in shaping the future of AI in academia.

Keywords: Artificial intelligence, higher education, university teachers, teacher perceptions, AI in teaching, faculty attitudes, educational technology, AI support needs, AI policy, teacher development, professional learning, ChatGPT, Copilot, ethical concerns, data security, content quality, AI tools in academia, instructional support, academic innovation, survey research.

1 INTRODUCTION

Artificial intelligence (AI) is rapidly transforming higher education. Despite growing research interest, significant gaps remain in our understanding of AI's educational impact [1]. In a large, recent analysis of publications, the emerging themes included implementation strategies, the training needed for utilizing the technology, and the impact on students' academic performance. AI use has the potential to enhance future learning experiences, but for that to be successful, all stakeholders need to be involved in the dialogue [1]. In this paper, our focus will be on teachers, their attitudes, beliefs, and needs for support.

In many universities, the dialogue on how to respond to the rapid development of AI began relatively late and was more reactive than thoughtful. University administrations primarily responded by posting statements about academic integrity on their websites, often accompanied by vague guidelines on how to respond to AI-related cheating and plagiarism [2]. Many teachers feel unprepared for AI-related challenges due to limited personal experience with the technology and insufficient institutional support. Administrators themselves often lack the necessary expertise to provide adequate guidance. The focus of this study is on understanding educators' experiences and needs, which is crucial for universities developing AI policies and support systems. Research examining teachers' experiences and attitudes toward AI in education remains limited. While efforts to support teachers are increasing, we still don't know whether attitudes toward AI vary by teaching context, academic field, or cultural background. Teachers' attitudes toward AI may also depend on their prior experiences, confidence levels, and other personal factors. To effectively support teachers, faculty developers must understand three key areas:

how teachers currently use AI, their attitudes toward the technology, and what help they need. This study represents the University of Iceland's first systematic effort to understand how AI is currently being used at our institution. Our goal is to test the quality and usefulness of the survey, modify it, and continue to use it to monitor the implementation of AI.

1.1 Teachers' usage of AI

According to recent publications, AI, in higher education, has had mostly supplementary roles in teaching, such as feedback, grading, data analytics, content transcriptions, and monitoring learning progress in large online courses [3,4]. Recent studies indicate that teachers are increasingly using AI in content and feedback drafting, ideas for assessment and learning activities, personalized scaffolds, brainstorming, creating quizzes, managing schedules, and simulations [1,5,6,7]. In addition, AI is used to design creative tasks and scaffold student creativity [8]. A large global faculty survey [3] indicated that faculty adoption is increasing, but that widespread, embedded use for teaching practice remains emergent; most faculty use AI for admin tasks rather than fully AI-led teaching. Drivers of adoption are first and foremost perceived usefulness and institutional support [5].

1.2 Teachers' attitudes and concerns

Most studies reveal that teachers seem to have a positive view of AI in education, believing in its potential for personalized learning, efficiency, and practical use, such as for idea generation and drafting resources [9,10]. However, many express a concern for data privacy, plagiarism, and ethical issues or academic integrity, as well as a lack of accuracy (bias), and a decrease in human communication and critical thinking [9,11,7,10]. Students and faculty members at a medical university in Nigeria expressed a concern that AI "might dehumanize healthcare, make physicians redundant, diminish their skills, and ultimately jeopardize patient care" [12]. Similarly, in a study from Peru, respondents expressed an unfavorable view of the impact of AI on the learning process, indicating concerns about its effectiveness [13]. Another study found that the ease with which teachers use AI technology and perceived usefulness for student learning influences their likelihood of using it with their students to support teaching [14]. Self-efficacy and anxiety also played a role. This stresses the urgency with which university administration and faculty developers need to provide guidance and support.

1.3 Teachers' support needs

In general, teachers' support needs include professional development, institutional frameworks, technical and pedagogical support, and time and resources [9,11]. Professional development entails hands-on, scaffolded practice and continuous AI literacy training [15]. Faculty also call for critical evaluation and the preservation of human elements in education [11]. Institutional frameworks should offer clear policies on acceptable AI use and ethical guidance. Technical and pedagogical support should provide infrastructure, tools for plagiarism, ongoing technical support, and collaboration spaces to discuss and share practices [4]. Finally, teachers stress the need for time allocated for experimenting and redesigning courses.

1.4 Purpose of the study

To summarize the above, university teachers see AI as useful but limited, worry about its impact on pedagogy and integrity, and consistently call for ethical guidance, training, and institutional support. Faculty developers need to create pedagogical strategies to help teachers integrate AI into teaching and assessment practices, and provide training and advice aimed at balancing human-machine collaboration in teaching [13,6]. To succeed in this effort, they must understand their audience. They need to assess how attitude and support needs may vary depending on the teaching context or the field, and identify which forms or types of assistance are most effective.

This pilot study examined how teachers at the University of Iceland experience and perceive AI in their teaching practice, their attitudes toward student use of AI, and their support needs in a rapidly evolving educational landscape. Our interest was inspired by the statement that "Exploring teachers' perceptions of AI can serve as a starting point for developing training programs aimed at fostering teachers' informed engagement with AI in education" [16].

2 METHODOLOGY

In the summer and fall of 2025, a survey was distributed via SurveyMonkey to 2,003 university teachers (including sessional staff). It comprised 79 Likert-scale items and six open-ended questions. The survey was designed by our research team based on a thorough literature review and new items created to address local context. This preliminary analysis focuses on descriptive statistics using SPSS, with full inferential analysis planned for the complete study. For open-ended questions, a thematic analysis was employed, using an inductive approach, where we determined meanings and created themes without preconceptions [17].

3 RESULTS

Of those invited, 339 teachers (both tenure-tracked and sessional teachers) participated in the survey with a response rate of 17%. The response rate among tenure-tracked faculty members was 33% (260 out of 806). For more detailed demographics, see Table 1.

Table 1. Demographics.

<i>Category</i>	<i>Response options</i>	<i>N=339</i>	<i>Proportion</i>
Gender	Male	137	40%
	Female	193	57%
	Other	9	3%
Age	39 years or younger	78	23%
	40-49 years	95	28%
	50-59 years	92	27%
	60 years or older	74	22%
Position	Professor, Associate Professor, or Assistant Professor	201	59%
	Adjunct Lecturer and Sessional teacher	110	33%
	Other	28	8%
School	School of Social Sciences	55	16%
	School of Health Sciences	83	24%
	School of Humanities	63	19%
	School of Education	61	18%
	School of Engineering and Natural Sciences	74	22%
	Other	3	1%

3.1 Teachers' usage

Teachers reported varying levels of AI use across different activities, ranging from minimal to extensive integration. Teachers most commonly used AI for: (1) generating ideas for assignments and rubrics, (2) developing teaching methods and materials, and (3) structuring course content. They also used AI to create questions for exams or assignments and got AI assistance in providing feedback on students' work (see Table 2). Moreover, some teachers taught their students how to use AI in their studies. A small number of teachers used AI for advanced applications: simulations, video creation, student performance analytics, and chatbot training. A large group of teachers had very little or no experience at all with AI.

Table 2. Frequency of AI use for teaching activities (n=339).

<i>Teachers' usage</i>	<i>Somewhat agree to strongly agree</i>	<i>Agree to strongly agree</i>
Get ideas for assignments for students	39%	18%
Developing assignments (e.g. Format structure)	35%	18%
Create questions for exams or assignments	30%	13%

Get ideas for teaching methods	29%	12%
Create learning materials (texts, exercises etc)	29%	13%
Get ideas for learning materials	27%	9%
Guide students in using AI in their studies	26%	15%
Designing courses or parts of courses	25%	12%
Develop assessment rubrics	24%	11%
Use/show AI during class	24%	14%
In Data analysis	23%	11%
Prepare lecture or slides	22%	8%
Write or assist with programming code	21%	15%
In programming	20%	14%
Creating teaching plans	20%	7%
Create visual content (images, illustrations)	19%	9%

Of AI tools, teachers were the most familiar with ChatGPT, and Copilot (see Table 3). Many teachers highlighted their limited knowledge of AI tools, with 49% agreeing that lack of knowledge was a significant challenge.

Table 3. Usage of AI tools (n=339).

AI tools	Percentage of users (n=339)	Percentage of subscribers (n=339)
ChatGPT	62%	12%
Copilot	29%	2%
Gemini	14%	0%
Elicit	11%	1%
Claude	10%	3%
Deepseek	8%	0%
Scite_	8%	2%
Perplexity	5%	0%
Scispace	4%	0%

3.2 Teachers' attitudes and concerns

Our findings suggest that the majority of our university teachers hold a generally positive attitude toward AI and perceive it as potentially useful in academic contexts. Of the respondents, 63%, on the average, responded positively to six items suggesting the use of AI for various teaching activities. Despite a claimed interest in AI integration, teachers expressed some areas of concern, such as student misuse and over-reliance on AI; data security, including fears about shared content becoming public; and a lack of content quality, such as potential bias, inaccuracy, or unreliability in AI-generated materials. Furthermore, teachers claimed a lack of guidelines and information for AI use, and finally admitted to a lack of knowledge, requiring both technical and administrative support.

Table 4. Teachers' concerns in AI use (n=339).

Concerns	Somewhat agree to strongly agree	Agree to strongly agree
Irresponsible use of AI by students	89%	71%
AI hallucinations	76%	56%
Ethical issues	71%	48%
Concerns about data privacy	69%	50%

Bias in AI responses	68%	44%
A lack of guidelines and information	62%	36%
Lack of support (e.g., technical, administrative)	49%	29%
Teachers' lack of knowledge	48%	25%
Lack of resources (e.g., time, funding, materials)	40%	27%
Lack of access to AI tools	28%	16%
Technical problems	28%	15%

3.3 Teachers' support needs

Based on an analysis of 123 open-ended responses, several key themes emerged regarding the support university teachers at the University of Iceland seek for integrating AI into their teaching. The most prominent need was for comprehensive training and personalized support, followed by requests for university-funded access to AI tools and the establishment of clear institutional policies. Teachers identified six key institutional supports needed (see Table 5).

Table 5. Teacher's support needs.

Themes	Number of mentions	Example quotes
Professional development opportunities	64	"Offer accessible, on-site courses that are not about how clever this all is, but about how AI can easily be useful in regular classroom teaching."
Funding and access to AI tools	28	"Pay for licenses to different AI tools so one can experiment. There is a significant cost and bureaucracy involved in having monthly subscriptions to various services."
Hands-on or personalized support	22	"Want personalized or discipline-specific support/training."
Need for a clear policy, incl. ethical guidelines	19	"Publish a policy on the use of artificial intelligence in teaching and learning. The message needs to be clear and realistic ... The policy must therefore clearly state that AI use is permitted ... I believe it is mainly this kind of policy or framework that everyone is waiting for. The current framework is far too vague and the guidance unclear."
Skepticism, opposition, or lack of Interest	12	"The University of Iceland should prohibit staff from using artificial intelligence in teaching."
Support for assessment	8	"Needs help with designing assessments and assignments in the age of AI, including preventing cheating."
Secure and private AI infrastructure	6	"I would like to have my own language model that I can use privately on a closed server, accessible only to me (and those I grant access to), such as OpenAI, LLaMA, or other language models."
Time and workload reduction	4	"Create time and space to better focus on the development of teaching, including the use of artificial intelligence."

4 CONCLUSIONS

4.1 Usage and attitudes toward AI

Our findings reveal a paradox: while teachers recognize AI's potential, significant barriers prevent widespread adoption. Key concerns include academic integrity, ethical challenges, data privacy, lack of institutional guidance, and diminished human interaction in education. Teachers at the University of Iceland were generally in favor of using AI in their teaching, though many expressed similar concerns, such as irresponsible or unethical use by students. Recent studies show that AI has primarily played supplementary roles in education, assisting teachers with administrative tasks such as feedback, grading, content transcription, and analytics. In our study, AI was mainly viewed as a practical tool for generating ideas and materials, rather than as a teaching partner, and has not yet been fully integrated into pedagogy. A large group of teachers reported limited experience with AI, while a smaller group had more hands-on familiarity, primarily using it to generate assignments, organize courses, and to create

rubrics and teaching material. The most common AI tools were ChatGPT, Claude, and Copilot, but some teachers were experimenting with more specific tools.

As previous studies have indicated, teachers' readiness to work with AI is closely tied to their prior skills and experiences [14]. Our faculty showed relatively positive attitudes toward AI, though they shared some concerns about implementation challenges. Consistent with international studies, our respondents requested comprehensive institutional support: ethical guidelines, dedicated training time, discussion forums, and—uniquely—paid software subscriptions, a need rarely mentioned in existing literature.

4.2 Institutional needs

Given teachers' inexperience and lack of confidence in using AI, experts emphasize the importance of comprehensive university policies, training programs, and evaluation methods [13]. These are essential for preparing both teachers and students for an increasingly digitized teaching environment.

In addition to requesting clear university policies, including ethical guidance, our teachers called for targeted training and support structures. Universities must urgently address these support needs or risk leaving teachers unprepared for AI's inevitable integration into education. The findings reveal a critical gap between teachers' cautious optimism and their preparedness to use AI effectively. There is an urgent need to move beyond *ad hoc* or reactive approaches focused solely on academic integrity and instead develop comprehensive, interdisciplinary AI support frameworks. Universities that fail to address these needs risk leaving both teachers and students unprepared for an AI-driven educational future.

4.3 Future directions

Long-term impacts on pedagogy, equity, and institutional change remain largely unexplored. All stakeholders must be involved in this evolving dialogue. For teachers and students, adapting teaching and learning practices—as well as curricula—will be necessary to meet changing educational objectives [18]. For university administrators and policymakers, the focus should be on ethical and legal dimensions, along with the development of a clear institutional framework.

Faculty development staff must respond by offering ongoing training workshops and personalized support, both in using AI tools effectively and in adapting teaching and assessment methods. Researchers have a valuable role in monitoring and evaluating the development and implementation of AI in education, as its utilization will continue to evolve. Quality teaching, educational integrity, and the well-being of both teachers and students are of utmost importance. Finally, university-industry and societal partnerships will be valuable in maximizing the benefits of AI while addressing its challenges.

This data analysis is part of a pilot study on the usage, attitudes, and support needs of teachers at the University of Iceland. We believe it would be useful for faculty development staff to explore whether attitudes vary depending on context, length of employment, field, age, or gender, and whether other underlying factors influence teachers' perspectives. Furthermore, there are plans to monitor the implementation of AI at our university, once the survey used in this pilot study has been shortened and modified.

4.4 Limitations

Several limitations should be considered when interpreting these findings. First, the relatively low response rate of 17% (33% among tenure-track faculty) may introduce selection bias, as teachers with stronger opinions about AI—either positive or negative—may have been more motivated to participate. This could potentially overrepresent extreme views while underrepresenting neutral or undecided perspectives. Second, this study represents a single-institution snapshot from the University of Iceland, limiting generalizability to other cultural, linguistic, or educational contexts. Nordic educational values and technological infrastructure may differ substantially from other regions. Third, the cross-sectional design captures attitudes at one point in time during a period of rapid AI evolution, meaning that findings may quickly become outdated as both technology and teachers' familiarity advance. Fourth, we relied entirely on self-reported data, which may be subject to social desirability bias or inaccurate self-assessment of AI competencies. Teachers may overestimate or underestimate their actual AI usage and skills. Fifth, the survey's length (79 items) may have contributed to respondent fatigue, potentially affecting response quality in later sections. Finally, this preliminary analysis presents primarily descriptive statistics; deeper inferential analyses examining relationships between variables (such as age, discipline, or experience level and AI adoption) await the full study. These limitations underscore

the need for longitudinal, multi-institutional research with mixed methods to fully understand the evolving landscape of AI in higher education.

ACKNOWLEDGEMENTS

The authors would like to thank the teachers for participating in the study.

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