Students' Attitudes Towards Artificial Intelligence Across Disciplines in Higher Education

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Abstract: As artificial intelligence (AI) becomes increasingly integrated into higher education, it is crucial to understand how this affects students' learning. This study examines variations in students' cognitive, affective, and behavioral attitudes towards AI across different academic disciplines, with a comparative focus between students (n=104) in economics and administration and in health and social sciences. The increase in the use of AI tools raises important questions related to academic integrity, plagiarism, and the potential weakening of critical thinking. This study seeks to map these differences and explore how students perceive AI's impact on their learning process, with the aim of developing suitable teaching approaches for different student groups.

Keywords: Artificial Intelligence, Students, Attitudes, Innovation, Higher Education, Learning

1. Introduction

Artificial intelligence (AI) is a field within computer science aimed at solving various cognitive problems, such as problem-solving and learning. It also includes models for the development of computer systems that mimic human traits (Chassignol et al., 2018; Chen et al., 2020). ChatGPT and other large language models are based on generative artificial intelligence. These tools generate new content by analyzing patterns from diverse training data (Ooi et al., 2023). In AI-powered chatbots like ChatGPT, this occurs through interaction with the user, where responses are generated based on user input. The rapid development and lack of knowledge makes it challenging for the higher education sector to implement adequate measures to address the development and use of such tools (Korseberg & Drange, 2024). AI plays an important role in fields such as technology, economics, and politics. It is likely that the fourth industrial revolution will be defined by the relationship between humans and AI (Suh & Ahn, 2022).

The use of AI in education has thus gained increased importance (Suh & Ahn, 2022), and many researchers are concerned with what should be taught related to AI (e.g.Touretzky et al., 2019; Yoo, 2019). Xu and Ouyang (2022) note that AI can serve multiple functions in higher education: from replacing or supporting instructors to acting as a fellow student. AI can also be used to streamline tasks related to teaching and learning. Alternatively, AI tools may be regarded as unnecessary for teaching and learning purposes but can supplement the understanding of learning behaviors.

Yoo (2019) shows that openness to learning about AI is the most important precondition for developing AI-related competencies in education. If students do not have a positive attitude towards learning these skills, it is unlikely that they will master them, regardless of the quality of the training they receive (Ajzen, 1991; Fredrickson, 2001). Therefore, measuring attitudes toward AI can be an important factor in determining the success of educational efforts (Suh & Ahn, 2022). There remains a need to explore whether students embrace these technological advances and what their attitudes toward AI are - ideally in relation to different academic disciplines (Katsantonis & Katsantonis, 2024).

In Norway, 59% of higher education students report using AI in their studies either frequently or occasionally. Among the top-ranking disciplines are economics and business administration, where 79% of students report using AI. At the lower end of the scale are health-, social-, and sports sciences, where only 48% of students report using (NOKUT, 2025).

2. Theoretical Framework

The concept of attitudes is central and debated in the literature, with a range of definitions. How the attitude object is defined influences whether attitudes can be used to predict behavior.

Attitudes can be defined as favorable or unfavorable evaluations of a specific object, person, or behavior (Ajzen, 1991; Ajzen & Schmidt, 2020; Kemp et al., 2019).They often comprise three dimensions: affective, behavioral,

and cognitive (Metsärinne & Kallio, 2016; Suh & Ahn, 2022). According to Metsärinne and Kallio (2016), attitudes can be understood as a person's characteristic way of thinking, feeling, and acting.

Despite the growing importance of AI in higher education, there are still few comprehensive empirical studies that systematically examine students' attitudes toward AI. Some notable exceptions include Almaraz-López Almaraz-López et al. (2023), Ghotbi et al. (2022), Hajam and Gahir (2024) , Katsantonis and Katsantonis (2024), Lien et al. (2025), Pellas (2023) and Yüzbaşıoğlu (2021). Few of these studies, however, offer a holistic assessment of students' attitudes toward AI, and only Katsantonis and Katsantonis (2024) explicitly differentiate between cognitive, affective, and behavioral dimensions. These researchers recommend further studies and development of measurement instruments and suggest that future research should include students from a broader range of disciplines to provide a more comprehensive picture of students' attitudes toward AI. The present study responds to that recommendation by comparing students from two different faculties.

3. Research Questions

Building on the considerations outlined above, this study aims to examine the attitudes of university students in economics and administrative sciences, as well as in health and social sciences, regarding the role of AI in their education and future professions. The overall aims of the study can be divided into three research questions:

How do cognitive, affective, and behavioral aspects of attitudes towards AI vary between students in economic and administration disciplines and students in health and social sciences?

How do students in the different subject areas perceive AI's impact on their learning process?

4. Method

4.1 Survey Development

Several previous studies on students' attitudes toward AI use a survey-based research design, which is considered suitable for measuring attitudes (Cohen et al., 2002). This study adopts the same approach.

To capture a broad range of student attitudes toward AI, we employed the recently developed "Student Attitude Toward Artificial Intelligence" (SATAI) instrument. This tool measures cognitive, affective, and behavioral attitudes toward AI (Suh & Ahn, 2022) and has been used with university students (Katsantonis & Katsantonis, 2024). In this study, the scale includes a total of thirty items: 10 items measuring behavioural attitudes, 7 measuring cognitive attitudes, and 13 measuring affective attitudes. The survey was translated and adapted to the Norwegian context for higher education and supplemented with an open-ended exploratory question regarding students' views on how AI affects their learning process. The questionnaire was piloted with both faculty members and students with varying levels of experience using AI in educational contexts. The testing showed that the items were relevant, and only minor linguistic adjustments were made.

4.2 Sample and Data Collection

In spring 2025, a digital survey was distributed to students (n = 104) at two faculties at the University of Inland Norway: the Faculty of Health and Social Sciences and the Inland School of Business and Social Sciences. The selection of faculties was based on data from the national student survey (Studiebarometeret), which showed contrasting levels of reported AI use between these disciplines (NOKUT, 2025). Data were collected using Nettskjema.no, a secure and institutionally recommended tool for research data collection in Norwegian higher education. The survey was distributed through the digital learning platform Canvas and during selected teaching sessions. Participation in the survey was voluntary and anonymous. Information about the purpose of the study was provided at the beginning of the questionnaire and in the accompanying text during distribution.

4.3 Analysis

Quantitative data will be analyzed in SPSS using descriptive statistics to provide an overview of background variables and map students' attitudes toward AI. To validate the Norwegian version of the SATAI scale, an exploratory factor analysis will be conducted. Correlation analyses will be used to identify relationships between the attitude dimensions and various background variables. Qualitative responses will be analyzed thematically to identify patterns in how students perceive AI's impact on their learning.

5. Aims

The study aims to contribute insights into how higher education institutions can adapt their teaching approaches to meet the needs and attitudes of various student groups regarding AI. The study will provide a basis for developing relevant teaching programs.

Ethical Declaration

The study was conducted in accordance with ethical research guidelines. Participation was voluntary and based on informed consent. Data collection was anonymous to protect participants' privacy and autonomy. No sensitive personal data were collected, and the data are considered to have low identifiability. No follow-up contacts were made with participants. The ethical considerations align with the principles described by Johannessen et al. (2010).

AI Declaration

Use of AI was used as a support tool to improve language and phrasing in the article draft. No AI tools were used to generate content or perform analyses. However, selected sections of the text were revised and translated with assistance from ChatGPT. The authors have reviewed and verified all content to ensure academic integrity.

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