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EDUCATOR PERSPECTIVES ON GENERATIVE AI IN HIGHER EDUCATION: TEACHING PRACTICES AND INSTITUTIONAL READINESS

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Abstract
The use of generative AI in higher education is becoming more apparent, but adoption is uneven and shaped by issues of usefulness, readiness, and responsible use. It is also of significance to comprehend how teachers see these tools in order to interpret their impact in pedagogy and institutional preparedness. This study examined educator perspectives on generative AI in higher education, with attention to patterns of use, perceived impact across key academic domains, and differences between AI users and non-users. A quantitative secondary analysis was conducted using cross-sectional survey data from 139 university educators. Descriptive statistics were used to summarize respondent characteristics and perception patterns, while Mann–Whitney U tests and chi-square analyses were applied to examine group differences and associations. More than half of the respondents reported using AI tools, and overall perceptions were moderately positive. The strongest agreement was observed for training needs and administrative efficiency. Educators with prior AI use reported significantly more favorable views regarding teaching processes, administrative tasks, student understanding, and career-related guidance, while concerns related to training, data use, and student dependency were evident across groups. Generative AI is therefore viewed primarily as a practical support tool rather than a substitute for educators, and its effective integration appears to depend on institutional guidance, professional development, and responsible use frameworks.

Keywords: *generative AI, higher education, educator perceptions, teaching practices, institutional readiness*.

1. Introduction

The fast development of generative artificial intelligence (AI) has radically changed the world of technology, and its impact on numerous industries is vast, with education being one of them. Generative AI systems, which make up human-like text, images, and solutions, are being increasingly integrated in the academic context, and this is a shift towards more adaptive and autonomous technologies instead of the traditional digital tools (Kaviyaraj, 2024). These are ChatGPT, Gemini and Copilot that are remaking the modes of accessing, generating and sharing knowledge within the higher education environment. Generative AI in the education environment can bring a lot of opportunities to teaching and learning. A case in point is that AI-based systems can be applied in the process of creating instructional materials, curriculum development, and providing students with real-time feedback (Leite, 2024). In addition, however, today there is also new technology, including Google Gemini, which indicates greater maturity of AI applications and has functions that go beyond content generation and also offer contextual reasoning and interactive learning (Imran and Almusharraf, 2024). These trends indicate the shift towards smarter and more interactive learning environments.

Besides the pedagogical applications, generative AI can also be applied to improve efficiency in the administration and operations within the institution. Optimization of working processes, reduction in the number of tasks that educators perform, and the opportunity to access educational resources are the aspects associated with the introduction of AI tools and are consistent with the overall goals of sustainable and technology-enhanced education systems (Sandhu et al., 2024). Furthermore, one can say that generative AI can support knowledge-building and reasoning processes and enhance the quality of the overall academic interactions (Zhao et al., 2024). But, together with such opportunities, there are also serious issues that the implementation of generative AI is causing. The most popular issues of concern are academic integrity, ethical use, and privacy, in particular, in academic settings where originality and critical thinking are the main priority (Perkins et al., 2024). Ethical issues, including the issue of prejudice, openness, and prudent application, are also complex to introduce AI into learning activities (Al-Kfairy et al., 2024). All these problems contribute to the notion of a moderate and knowledgeable approach to using AI.

The accumulating evidence on the use of generative AI in education is a sign of optimism and caution about its effect. The initial discourses highlight the transformative nature of AI in improving the results of teaching and learning. It has also been demonstrated that generative AI systems can enable a more personalized learning experience, enhance access, and allow for obtaining knowledge more efficiently (Baidoo-Anu and Ansah, 2023). On the same note, the growing prominence of AI in academia and research highlights the importance of AI as an essential factor in modern education environments (Borger et al., 2023). On the institutional level, generative AI is transforming the education process by adding new ways of interaction between instructors and students. The changing nature of education under the influence of AI development necessitates institutions to change their policies, curricula, and pedagogical approaches to stay up to date and efficient (García-Peñalvo et al., 2023). Specifically, higher education institutions are starting to devise systems and principles to control the application of AI-based tools, which signifies an increased awareness of their opportunities and risks (Wang et al., 2024).

Along with these developments, concerns about the implications of the use of AI still exist. Research has noted the dangers of the misuse, such as overdependence on AI-generated content and difficulties in academic honesty (Williams, 2024). Also, the two-sidedness of generative AI, which provides advantages and threats, has been highlighted, especially when it comes to its effects on educational institutions and education outcomes (Göçen and Asan, 2023). The empirical studies of the user perceptions also suggest that there is variation in the understanding and adoption of AI tools. As an illustration, the evaluations of student attitudes demonstrate that acceptance, awareness, and concern of generative AI vary, and assuming that attitudes toward such tools depend on the experience and context (Hasan et al., 2024). Although these studies have some useful information, they usually target the student population, which leaves a relative gap in the perception of the educators.

Despite the literature showing the increased significance of generative AI in education, a scant idea of how educators view its role in various aspects of academic practice is available. The existing literature is either technical in its approach, meaning it covers the potential of AI tools, or it is more student-centered, and the role of educators as stakeholders in the adoption and implementation of the specified technologies is comparatively little covered. Additionally, the empirical studies of the differences in perceptions of educators actively using AI tools and those not using them are lacking. Knowledge of these differences is important in determining factors that can affect adoption and in enlightening the institutional approach to training, policy-formulation, and responsible use. Moreover, the existing studies tend to cover one or two elements of AI integration, instead of offering a wholesome analysis of the topic, including teaching practices, administrative roles, inclusivity, and ethical issues in one framework.

This paper will analyze the views of educators regarding the use of generative AI in higher education, and specifically the usage patterns and perceived effects. The discussion centers on the perceptions of the educators concerning the role of AI in the teaching practice, administration and learning process, as well as the differences between the users and non-users of AI tools. Moreover, the research examines areas of concern and how the educators see a necessity for institutional support and preparedness. In such a way, the research will help to gain a better idea of the current perception of generative AI in academic settings.

2. Methodology

2.1 Research Design

The research design used in this study is the quantitative research design, which involves secondary data analysis. This is

a cross-sectional method of approach since the data is a set of responses taken at a point in time. A non-experimental design was used to study the perception of educators towards generative AI in higher education. The design allows recognition of patterns, differences and associations among variables without being manipulated or interfered with.

2.2 Data Source

The information in this research was taken from an existing survey dataset that studied the views of teachers on the application of generative AI tools in the classroom (Omiros, 2025). The data set consisted of the answers of the educators of universities to their experiences, perceptions, and attitudes toward AI applications like ChatGPT, Gemini, and Bing AI. It contains questions associated with teaching practices, administration, inclusivity, student conduct and training requirements. Demographic data (gender and age) are included in the dataset and allow subgroup analysis.

2.3 Participants

Learning outcomes are the dependent variable, which is assessed by such indicators as literacy levels and the level of proficiency. Some of the independent variables are curriculum alignment (enrollment and completion rates), assessment systems (learning performance indicators), and inclusive education (gender parity and access measures). GDP per capita and education expenditure are some of the control variables used to explain the contextual variations.

2.4 Variables and Measures

There are categorical and ordinal variables in the research. The use of AI was considered the main grouping variable, and it was divided into the categories of either user or non-user depending on the respondents who indicated either using AI tools in academic or educational activities.

The variables of perception were measured on the Likert type response scales that represented the level of agreement. These variables represent educators' perception of how AI influences the teaching processes, inclusivity, administrative efficiency, training requirements, student comprehension, data-related issues, student dependency and guidance related to careers. To be analyzed, Likert answers were considered ordinal data and coded numerically to compare statistically.

2.5 Data Preparation

The data was cleaned and standardized before analysis. Any personal information, like names and email addresses, that was not necessary was eliminated to guarantee anonymity. Labeling in the columns was simplified to allow analysis, and the text responses were normalized to ensure consistency.

2.6 Data Analysis

The statistical methods of data analysis were descriptive and inferential. The general demographic features and the general pattern of perception were summarized with descriptive statistics, frequencies, percentages, and means, as well as standard deviations. The Mann-Whitney U test was used to test the difference between the users and non-users of AI. This is a non-parametric test which is used when there is a need to compare ordinal data in independent groups. Moreover, Chi-square tests of independence were used to compare the relationships between AI utilization and categorical perception variables. All statistical tests were done with a significance level of $p < 0.05$.

3. Results and Analysis

3.1 Sample Characteristics

One hundred and thirty-nine teachers at the universities were involved in the research. Out of them, 56.1% stated that they used AI tools in their academic activities, and 43.9% stated that they never used them. The sample was mainly male (71.9%) and then female (26.6%), and a few (1.4%) did not state their gender. In terms of age, the highest proportion of respondents was 50 -59 years old (45.3%), 40 -49 years old (23.7) and 60 years or older (23.7%). A lower percentage (7.2%) was between the age groups of 30 and 39. Table 1 summarizes these characteristics.

Table 1. Sample Characteristics of Respondents

Variable	Category	Count	Percentage (%)
AI usage	Yes	78	56.1
	No	61	43.9
Gender	Man	100	71.9
	Woman	37	26.6
	Prefer not to say	2	1.4
Age group	50–59	63	45.3
	40–49	33	23.7
	60 or older	33	23.7
	30–39	10	7.2

3.2 Distribution of AI Usage

To demonstrate the visual interpretation of the adoption of AI among teachers, Figure 1 shows the percentage of users and non-users of AI. There was a small majority of participants who reported using AI tools, which means that generative AI has already made a significant mark in the context of higher education.

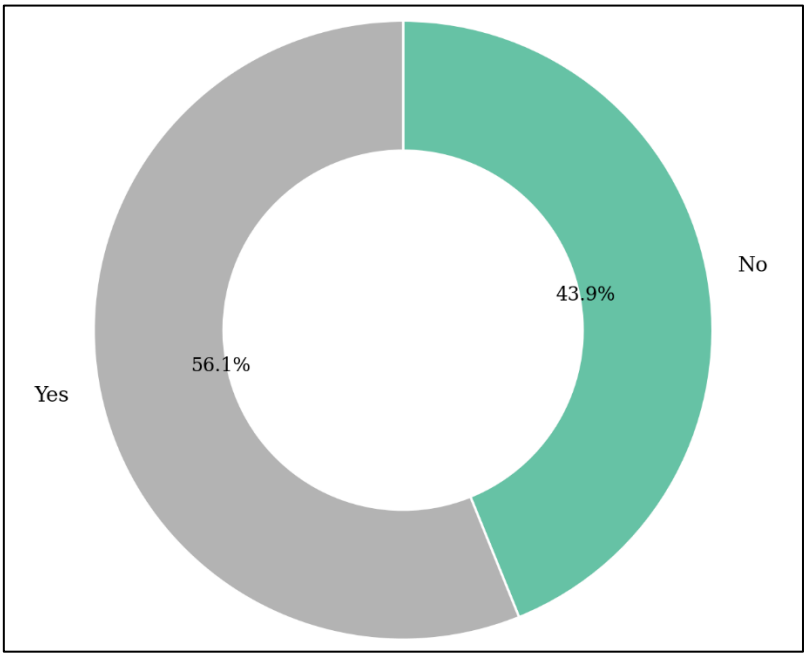

Figure 1. Distribution of AI Tool Usage Among Educators

3.3 Overall Perceptions of AI in Education

Table 2 presents descriptive statistics of key perception variables. On the whole, teachers expressed relatively positive views about AI on most of the dimensions. The need for training received the highest mean score (M = 5.55, SD = 0.96), which means that the educators agree that they need more support to be able to use AI tools efficiently and responsibly. This was then followed by the perceptions of administrative activities (M = 5.05, SD = 1.23) and student dependency (M = 4.96, SD = 1.06). Data concern (M = 4.65, SD = 1.15) and career understanding (M = 4.65, SD = 1.21) had moderate levels of agreement. Lower mean scores were reported for student understanding (M = 4.48, SD = 1.13), teaching processes (M = 4.35, SD = 1.28), and inclusivity in learning outcomes (M = 4.24, SD = 1.31). These trends are also depicted in Figure 2, which gives a visual comparison of the mean perception scores of all the dimensions.

Table 2. Descriptive Statistics of Key Variables

Variable	Mean	SD	Min	Max
Teaching processes	4.35	1.28	2.0	6.0
Inclusivity in learning	4.24	1.31	2.0	6.0
Administrative tasks	5.05	1.23	2.0	6.0
Need for training	5.55	0.96	2.0	6.0
Student understanding	4.48	1.13	2.0	6.0
Data concern	4.65	1.15	2.0	6.0
Student dependency	4.96	1.06	2.0	6.0
Career understanding	4.65	1.21	2.0	6.0

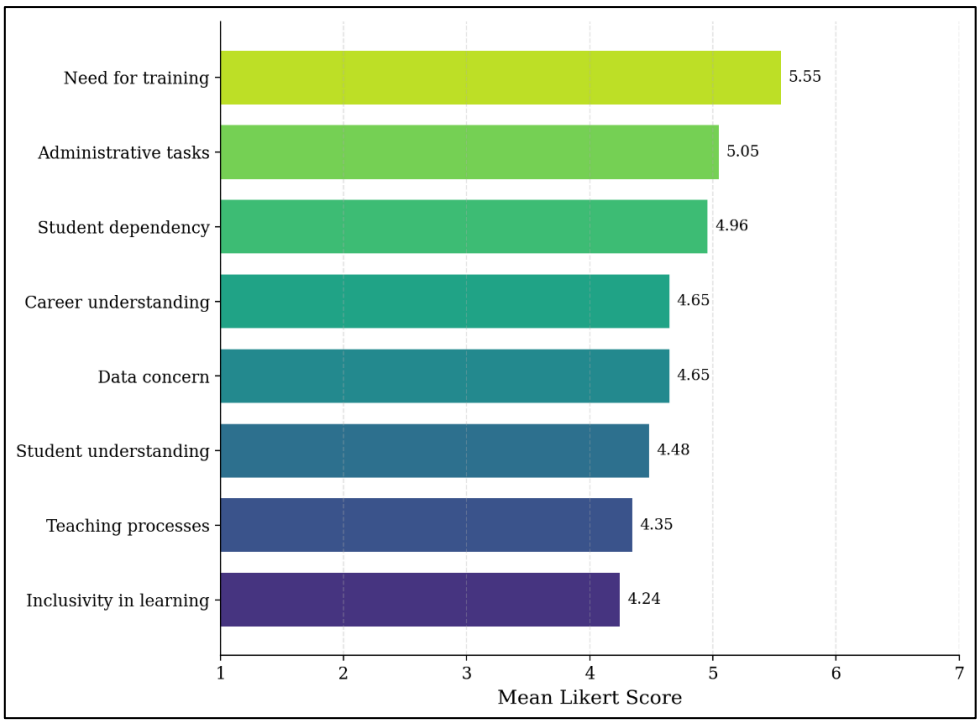

Figure 2. Mean Perception Scores Across Study Dimensions

3.4 Differences Between AI Users and Non-Users

Mann-Whitney U tests were used to assess the perceptions of the educators on the issue of whether their previous experience of using AI tools is a factor. The results are presented in Table 3. There were statistically significant differences in four domains. The users of AI rated much more in agreement with the effect of AI on administrative work ($p = 0.0007$), career knowledge ($p = 0.0026$), teaching practice ($p = 0.0113$), and student knowledge ($p = 0.0114$). There were no notable differences in the perceptions regarding training needs, inclusivity, data concern, or student dependency. These results imply that even though the use of AI is linked to better perceptions in pragmatic and results-oriented realms, wider issues and perceptions are similarly uniform among groups.

Table 3. Comparison of Perceptions Between AI Users and Non-Users

Variable	Mean (Users)	Mean (Non-users)	p (MW)	χ^2	p (Chi)
Administrative tasks	5.29	4.74	0.0007	16.28	0.0003
Career understanding	4.91	4.31	0.0026	8.48	0.0144
Teaching processes	4.55	4.08	0.0113	16.26	0.0003
Student understanding	4.68	4.23	0.0114	9.32	0.0094
Need for training	5.68	5.39	0.1086	6.48	0.0391
Inclusivity in learning	4.36	4.10	0.1376	9.05	0.0108
Data concern	4.71	4.57	0.3725	4.06	0.1315
Student dependency	4.96	4.95	0.5431	7.20	0.0273

3.5 Group-Based Differences in Agreement Levels

Figure 3 provides a visual representation of the level of agreement between AI users and non-users based on important variables of perception. In areas like efficiency in administration, teaching processes, and student understanding, AI users report more agreement.

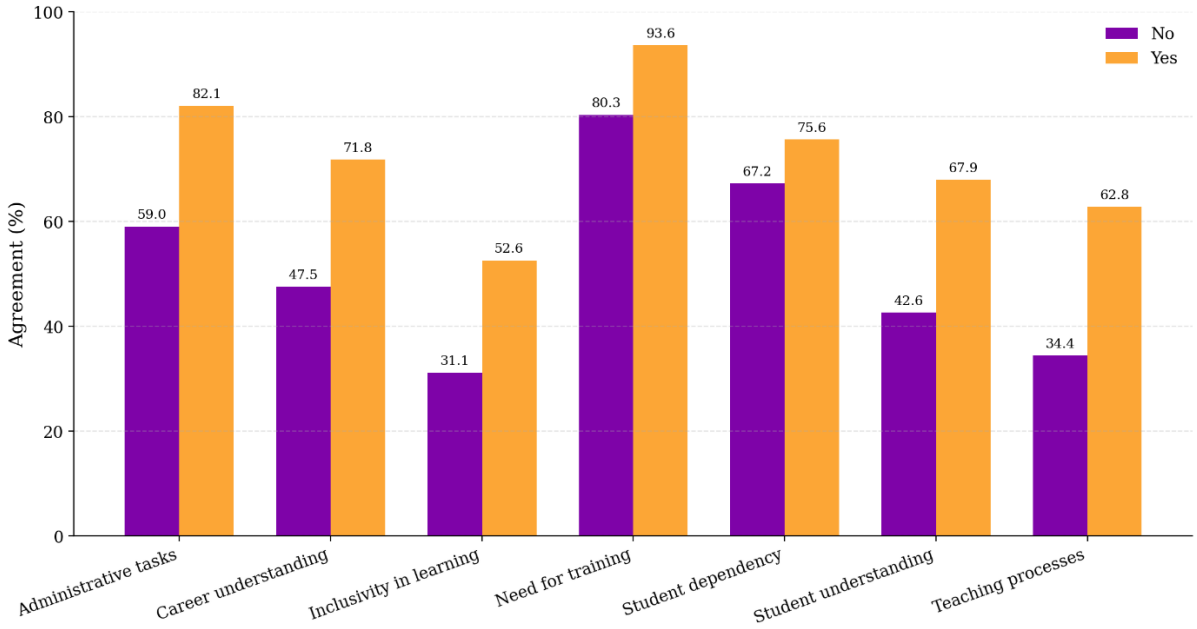

Figure 3. Agreement with Key Perceptions by AI Usage Group

The results show that teachers have moderately positive attitudes toward AI, especially regarding the efficiency of the administration and the necessity of training. The perceived value of previous AI use lies in a range of practice-related spheres, and the perception of the problem of data privacy and the consequences of AI, in general, appears to be just as widespread in both categories of users.

4. Discussion

The tendencies identified in the course of the analysis refer to the fact that higher education professionals perceive generative AI as a helpful support system, rather than a radical replacement of academic work. The scores that were the most positive were associated with administrative effectiveness and the need to train, and comparatively lower scores were associated with teaching processes and inclusiveness. This distribution indicates that AI has been discovered to have short-term advantages in terms of its use in operations, but it has not been well known for its role in the overall pedagogical processes. Activities that involve contextual knowledge, critical analysis and those that involve human interaction seem to be where AI confidence is still growing. The existence of differences between AI users and non-users also emphasizes the role of experience in forming perceptions. The teachers who claimed to utilize AI tools were more positive about their teaching experiences, administrative work, student knowledge, and career-related support. Face-to-face interaction with AI can thus help to decrease the level of uncertainty and allow educators to understand its usefulness better. Nevertheless, there were no significant differences in perceptions pertaining to training requirements, data issues, and student reliance among groups, which implies that some of the reservations are common. Knowledge of AI seems to improve the perceived usefulness, although it does not remove anxieties regarding responsible use, limits and implications of education in the long-term. The presence of training needs in the highest responses indicates a more general problem of readiness. Teachers seem to see the introduction of AI not as a natural continuation of the current digital activities, but as a separate field that should be supported in a systematic manner. It is supported by the moderate scores regarding concerns associated with student dependency and data utilization, which means that teachers are not just thinking about the way AI can be employed, but they are also thinking about how it must be controlled in educational institutions. Here, the use of AI is directly associated with career growth and organizational mentoring.

These trends align with the more recent research highlighting the skeptical but practical approach that educators have taken towards generative AI. As an example, Lee et al. (2024) note that teachers frequently acknowledge the educational capabilities of AI and are still aware of problems in implementation. The same focus on preparedness is observed by Akanzire et al. (2023), who note the role of preparedness in meaningful integration of AI in education settings. The current analysis contributes to this view by demonstrating that perceived benefits are most effective in operational areas, especially those pertaining to administrative effectiveness. The involvement of educators as key participants in AI integration is also present in the literature at large. According to Chan and Tsi (2024), there is no general expectation that AI will replace teachers, but instead acts as a complement to the resource. This difference is useful to understand why the attitudes of teaching-related benefits are not highly positive but moderate. Teaching involves interpretative, relationship, and evaluation, and these features are outside the reach of existing AI tools. The same views are also documented by Pantazatos et al. (2024), who note that the views of the teachers towards the adoption of AI are influenced by the realities of the classroom setting rather than the imaginary expectations.

These observations are further put into context by attention to responsible use. According to Dotan et al. (2024), faculty views play a crucial role in the development of effective ways of AI implementation, especially concerning fairness, accountability, and transparency. The persistent training, dependency, and data use issues only support the significance of

the institutional systems addressing not only the access to AI tools but also their proper usage. This is consistent with the research of Owoseni et al. (2024), who are convinced that responsible use strategies should be employed to guide both educators and students in using the new technologies. The broader adoption can also be regarded as the reason behind the observed dynamics. Lemke et al. (2023) demonstrate that the notions of readiness and acceptance are highly interconnected in the context of higher education, particularly in those cases when it comes to the use of fast-evolving technology. The relationship observed in the present analysis is not different: more positive perceptions are reported by more experienced educators, but institutional conditions still play a central role in determining whether these perceptions will be converted into confident and effective use.

A number of implications arise out of these observations. One, generative AI must not be viewed as a replacement but as a support mechanism to be implemented in the current education practice. Second, the programs of professional development need to go beyond the use of basic tools to pedagogical integration, design of assessment, and ethics. Third, the institutional policies must mirror the experience of the educators, as to the perceived benefits among the users and as to the common concerns of the academic community in general. These reasons explain why technological adoption should be matched with learning values and practices.

There are some weaknesses that must be mentioned when reading these results. The sample is quite small and based on one dataset, which is a limitation to generalization. The cross-sectional data limit understanding of the potential changing perception over time and that the self-reported answers are used implies that the real classroom practices cannot be directly evaluated. Besides, the contextual variables such as disciplinary background or institutional type do not define the dataset, and may impact attitudes towards AI.

These weaknesses can be addressed in future research through longitudinal studies that investigate the change in perceptions over time as the use of AI becomes more widespread. It would also be a more holistic examination of the perceptions of the instructors to broaden the examination to other educational institutions and academic backgrounds. A better understanding of how AI is implemented into the teaching process and how teachers might negotiate the opportunities and challenges of AI in practice can also be achieved with the help of qualitative methods, e.g., interviews or case studies.

5. Conclusion

Generative AI is entering the field of higher education as a technology that has a unique practical value, especially in administrative functions and certain segments of teaching support. The perceptions that have been employed in this study suggest that the teachers are not unanimously opposed or uninformed about it, but rather appear to be both conscious of its usefulness and its weaknesses. The less negative attitudes among users towards AI refer to the reality of experience that can affect the acceptance, with references to such areas as efficiency, teaching practices and support of students. At the same time, the continuation of the problem of training, the utilization of data and the reliance of students on it, suggests that the utilization of the tools is not as much of an access issue, but rather a question of institutional support and professional trust. The availability of technology is not the only factor that defines the institutional preparedness, but also the level of assisting the teachers to use AI responsibly and effectively. Generative AI can therefore be referred as an extension of academic practice and not a substitute for professional judgment. Tougher policies, context-sensitive training, and more cross-disciplinary and institutional studies will play a role in its meaningful inclusion in higher education.

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