



## Core Teaching Functions and University Faculty's Intention to Use Generative Artificial Intelligence

**Maria Mitre Rios**

University of Monterrey, Mexico, [maria.mitre@udem.edu](mailto:maria.mitre@udem.edu)

**Fernanda Burnes Garza**

University of Monterrey, Mexico, [fernanda.burnes@udem.edu](mailto:fernanda.burnes@udem.edu)

**Erin Garza Alanis**

University of Monterrey, Mexico, [erin.garza@udem.edu](mailto:erin.garza@udem.edu)

**Fernanda Cavazos Camacho**

University of Monterrey, Mexico, [maria.cavazosc@udem.edu](mailto:maria.cavazosc@udem.edu)

**Julián Nevárez-Montes**

University of Monterrey, Mexico, [julian.nevarez@udem.edu](mailto:julian.nevarez@udem.edu)

**Josemaria Elizondo-Garcia**

Tecnológico de Monterrey, Mexico, [josemariaelizondo@tec.mx](mailto:josemariaelizondo@tec.mx)

This study investigates the relationship between the importance that university faculty assign to the pedagogical functions of planning, assessment, and feedback, and their intention to use Generative Artificial Intelligence (GenAI) as a support tool in their teaching practice. Using a non-experimental cross-sectional design, data were collected through a questionnaire administered to 56 faculty members from a School of Education and Humanities at a private university located in the metropolitan area of Monterrey, Mexico. Results showed significant positive correlations between the importance assigned to planning and feedback and the intention to employ GenAI for these tasks, as well as an overall correlation between perceived importance and intention to use GenAI. ANOVA analyses revealed significant differences in intention to use GenAI between departments, with the strongest association found in the Film and Communication department for planning. Additionally, years of teaching experience correlated positively with intention to use GenAI for assessment. These findings highlight the role of disciplinary and experiential factors in shaping faculty adoption of GenAI. The study underscores the need for ongoing professional development and tailored implementation strategies that consider disciplinary contexts to optimize the integration of GenAI in higher education.

**Keywords:** generative artificial intelligence, instructional planning, assessment, feedback, higher education, educational technology, teaching

**Citation:** Rios, M. M., Garza, F. B., Alanis, E. G., Camacho, F. C., Nevárez-Montes, j., & Elizondo-Garcia, J. (2026). Core teaching functions and university faculty's intention to use generative artificial intelligence *International Journal of Instruction*, 19(2), 183-204.

## INTRODUCTION

The integration of artificial intelligence (AI) into the educational sphere is currently a transformative reality that is reshaping how teaching and learning take place. This transformation entails the development of innovative teaching and learning processes that incorporate AI-based technologies to enhance students' educational experiences. Moreover, it fosters new expectations regarding the potential of emerging technologies to reduce barriers to learning and accessibility, support educational management, and strengthen teaching and learning processes (OECD, 2016; UNESCO, 2021). Within this broad landscape, a particularly relevant development is Generative Artificial Intelligence (GenAI), a subset of AI capable of producing original content, such as text, images, or code, based on prompts provided by users, which introduces new possibilities and challenges for teaching practices in higher education.

The use of GenAI in higher education presents both opportunities and challenges. These are particularly evident in how faculty members perceive their professional roles and adapt such technologies to their pedagogical practices, which often depends on disciplinary background and instructional approach (Benek, 2025). Technological competence and readiness to use GenAI vary across academic departments and fields of knowledge (Zhang & Villanueva, 2023). Understanding these differences enables a more tailored response to the specific needs of faculty members in both their teaching practices and professional development.

## Literature Review

### Acceptance and Use of GenAI Among University Faculty

Studies have shown that university faculty generally hold a positive attitude toward the adoption and use of artificial intelligence (AI) for content creation and assessment in higher education contexts. Faculty acceptance of generative AI (GenAI) is influenced by factors such as performance expectancy, effort expectancy, and facilitating conditions (Ghimire & Edwards, 2024; Yilmaz et al., 2023; Zhang & Wareewanich, 2024). Nonetheless, concerns persist regarding the potential replacement of human creativity and the presence of biases in AI-generated materials (Shakib Kotamjani et al., 2023).

To better understand these variations in acceptance, it is essential to situate GenAI adoption within broader theoretical models of technology use. The Technology Acceptance Model (TAM) (Davis, 1989) highlights the central role of perceived usefulness and perceived ease of use in shaping adoption decisions, while the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) extends this framework by incorporating social influence and facilitating conditions.

Acceptance of GenAI tools among faculty is not uniform, particularly in terms of perceived usefulness. This underscores the need for targeted strategies to address faculty members' specific needs and concerns (Ghimire & Edwards, 2024). In addition, educators emphasize the importance of institutional support and professional development to effectively integrate GenAI tools into their teaching practices (Kohnke et al., 2023). This concern is further underscored by recent findings indicating that pre-

service science teachers exhibit low levels of awareness regarding the use of AI in science education (AlKanaan, 2022).

#### *Acceptance and Use of GenAI Across Academic Disciplines and Departments*

In the context of educational technology use, differences have been observed among university faculty regarding individual characteristics, adoption patterns, and perceptions of barriers (Zayim et al., 2006). Furthermore, significant disciplinary differences have been reported in the use of technology among professors from various academic fields (Cubeles & Riu, 2016; Eckhaus & Davidovitch, 2019). In general, however, faculty members tend to hold positive beliefs about the benefits of using technology in teaching, regardless of their level of technological competence (Messina & Tabone, 2014).

Regarding the use of GenAI, Zhang and Villanueva (2023) found that faculty in disciplines such as Chemistry, Engineering, and Business demonstrated higher levels of technological competence in GenAI use compared to those in fields like Physical Education. Similarly, Cabero-Almenara et al. (2024) reported noticeable differences in faculty acceptance of AI in education depending on their academic discipline. Specifically, their study found that faculty in the Social Sciences and Law fields exhibited higher levels of acceptance and intention to use AI for educational purposes. Few studies have examined the role of such technologies in non-STEM fields within higher education. Wu and Zhang (2024) emphasize that applications of GenAI in these areas remain underexplored and often lack empirical validation, creating a gap that the present study addresses by focusing on faculty in education and humanities disciplines in a Latin American context.

#### **Use of GenAI in Core Teaching Functions**

Planning, assessment, and feedback are essential components of the teaching and learning process. Several pedagogical approaches emphasize aligning technological tools with these core functions to design student-centered courses that effectively integrate technology (Kandakatla & Streveler, 2015). Planning ensures the proper organization of educational content and learning activities; assessment allows for the measurement of student progress and the attainment of learning objectives; and feedback provides valuable information to improve both teaching and learning practices.

##### *Use of GenAI for Instructional Planning*

GenAI has shown potential in supporting teachers with lesson planning by offering efficient methods for generating instructional outlines (Powell & Courchesne, 2024; van den Berg & du Plessis, 2023). Studies have demonstrated that GenAI tools such as ChatGPT can provide targeted materials and planning support mechanisms (van den Berg & du Plessis, 2023). Additionally, GenAI has been found to significantly reduce lesson planning time and enhance the learning experience by adapting to the diverse needs of students (Karpouzis et al., 2024).

GenAI is also recognized as a valuable partner for educators in the co-design of instruction and in providing students with enhanced learning opportunities (Krushinskaia et al., 2024; Kuka & Sabitzer, 2024). The use of GenAI in education underscores the importance of ethical considerations, human oversight, and continuous adaptation to effectively meet students' needs (Morgan, 2024; van den Berg, 2024). However, it is essential to approach these models with caution and critically assess their limitations and potential biases, acknowledging that they are tools designed to support, not replace, educators in the teaching and learning process (van den Berg & du Plessis, 2023).

#### *Use of GenAI for Learning Assessment*

GenAI has been explored for its potential to transform learning assessment in higher education, particularly for its ability to support the work of both students and instructors across disciplines (Doyle, 2023; Gupta, 2024; Wu & Zhang, 2024). GenAI tools also offer the possibility of enhancing personalized learning experiences and generating customized learning resources for students (Amado-Salvatierra et al., 2024; Gupta, 2024). While GenAI promises to revolutionize assessment in higher education, it also poses challenges that must be addressed carefully to ensure responsible and effective integration into educational practices.

GenAI has the potential to influence assessment practices by enhancing academic evaluation methods, enabling authentic assessments, and offering opportunities for personalized evaluations (Boscardin et al., 2024; Hao et al., 2024). Despite its benefits, challenges remain, including adaptability, privacy concerns, and ethical issues. This highlights the importance of responsible use and oversight of emerging technologies (Boscardin et al., 2024; Gupta, 2024). Scholars have emphasized the need to consider ethical and moral implications, to use AI as a tool to augment human intelligence, and to critically examine the outcomes produced by GenAI systems (Wu & Zhang, 2024).

#### *Use of GenAI for Learning Feedback*

GenAI has been explored as a solution for delivering feedback in educational settings. For instance, GenAI-based formative feedback has been shown to improve students' mathematical motivation by increasing confidence, fostering socio-emotional interaction, and stimulating interest and effort (Zheng et al., 2023). In business education, the use of GenAI enhanced students' self-efficacy and interest, contributing to increased entrepreneurial career intentions (Park & Sung, 2023).

GenAI tools have the potential to improve engagement and comprehension in large-scale online courses by providing personalized and timely feedback to students (Hu et al., 2024). Additionally, GenAI can offer nearly unbiased assessments and shows high correlation with human evaluations, making it suitable for automated feedback on complex assignments (Jürgensmeier & Skiera, 2024). While GenAI-generated feedback is generally rated as helpful for revision across most types of writing, expert-generated feedback remains the preferred option (Jansen et al., 2024).

A human-centered teaching and learning framework incorporating GenAI aims to transform educational practices by emphasizing the evolving role of educators and the

development of individualized student learning (Kong & Yang, 2024). Although GenAI enables personalized and efficient learning experiences, concerns have been raised regarding bias, data privacy, and ethical implications (Qadir, 2023). As such, its integration requires a reflective, ethical, and inclusive approach (Alasadi et al., 2023).

### **Rationale for the Study**

The effective application of planning, assessment, and feedback can be significantly enhanced through the use of GenAI as a supportive tool in educational contexts. As these functions are widely recognized as foundational elements in numerous instructional design models, their relevance becomes evident in the development and implementation of successful pedagogical strategies. Accordingly, the present study aims to deepen our understanding of how these core functions relate to the use of GenAI, with the goal of optimizing teaching practices and enriching the teaching and learning process in contemporary educational environments.

The contribution of this research lies in its potential to inform educational institutions and policymakers about the factors associated with faculty attitudes toward the adoption of GenAI in their instructional practices. By examining how the perceived importance of core teaching functions influences instructors' intentions to use GenAI, institutions can design professional development programs tailored to address specific needs and concerns.

Additionally, our findings may guide the development of guidelines and best practices for the implementation of GenAI in educational settings. By identifying which teaching functions are perceived as most important and how they relate to the intention to use GenAI, institutions can prioritize resources and efforts toward areas most likely to benefit from GenAI integration. Additionally, understanding potential differences in attitudes across departments can help ensure that implementation strategies are appropriately adapted to the unique needs and contexts of various disciplines.

Despite the rapid proliferation of studies on GenAI acceptance in higher education, an empirical gap remains regarding how the perceived pedagogical relevance of specific functions (planning, assessment, and feedback) is associated with the willingness to adopt GenAI, particularly within non-STEM disciplines and among Latin American faculty samples. Addressing this gap will support the development of evidence-based faculty development programs and the design of technology adoption policies that are sensitive to disciplinary and regional contexts.

### **Study Objectives**

The general objective of this study was to analyze the relationship between the importance that university faculty assign to the functions of planning, assessment, and feedback, and their intention to incorporate GenAI into these functions. Specifically, the study aimed to: (a) examine whether such intention is associated with personal variables (age, years of teaching experience) and organizational variables (academic department); and (b) describe disciplinary differences in the identified relationship patterns.

## METHOD

### Design

This quantitative study employed a non-experimental, cross-sectional design with a descriptive-correlational scope. The analysis was based on a questionnaire designed to identify the importance university faculty assign to core teaching functions and to assess their intention to use GenAI as a support tool in carrying out these functions. The instrument was administered to a representative sample of faculty members from the School of Education and Humanities at a private university in northeastern Mexico.

### Sample

The study was conducted at a private university located in the metropolitan area of Monterrey, Mexico. The target population comprised 116 faculty members from the School of Education and Humanities, which includes four departments: Film and Communication, Education, Humanities, and Modern Languages. A total of 56 faculty members participated in the study, representing 48% of the population.

The sample reflected gender parity, with 50% of participants identifying as women. The average age of participants was 49 years ( $SD = 11.31$ ), ranging from 30 to 79 years, and participants reported an average of 14.57 years of teaching experience ( $SD = 7.84$ ). The distribution of participants across departments was as follows: Film and Communication (16.4%), Education (13.8%), Humanities (14.7%), and Modern Languages (3.4%).

This proportion was considered adequate to capture variability across departments while ensuring representativeness of faculty perceptions. In correlational and exploratory designs, such a sample is sufficient to identify significant associations without aiming for broad generalizability, and it aligns with recommended practices for studies involving relatively bounded populations.

### Instruments

Data collection was carried out using a questionnaire designed to identify the importance faculty members assign to the functions of planning, assessment, and feedback, as well as their intention to use GenAI as a support tool in these teaching functions. The instrument was divided into three sections (see Appendix A):

*Sociodemographic Data:* This section collected information on participants' age, gender, years of teaching experience, and departmental affiliation.

*Importance Assigned to Teaching Functions in the Teaching–Learning Process:* This section addressed the three core teaching functions: planning, assessment, and feedback. The importance participants assigned to each action within these functions was measured using a 5-point Likert scale, where 1 indicated “Not very important” and 5 indicated “Very important.”

*Intention to Use GenAI as a Support Tool in Teaching Functions:* This section focused on participants' behavioral intention to adopt GenAI in the performance of the same three functions: planning, assessment, and feedback. Intention to use refers to an

individual's predisposition to adopt a technology and is a central concept in both the Technology Acceptance Model and the Theory of Reasoned Action, which seek to predict user behavior in the face of new technologies (Buabeng-Andoh, 2018). This dimension was also measured using a 5-point Likert scale, where 1 corresponded to "Strongly disagree" and 5 to "Strongly agree."

### **Internal Validation**

The questionnaire was designed based on specific actions corresponding to each of the teaching functions. It underwent internal content validation using the Content Validity Ratio (CVR), in which three expert educators were asked to assess the relevance of each proposed item within its respective function.

Expert validation was conducted through a questionnaire using a 5-point Likert scale, in which each item was rated from "Not very relevant" to "Highly relevant." Items with a CVR value below 0.6 were classified as irrelevant and excluded from the final version of the questionnaire. After this process, the final version included only those items deemed relevant from the experts' perspective. Before full deployment, the questionnaire was piloted with six faculty members from the same school to ensure clarity of wording, comprehensibility, and response time. Minor adjustments were made based on this pilot, strengthening the instrument's reliability and usability.

To assess internal consistency, reliability coefficients were calculated for each dimension of the questionnaire. Cronbach's alpha values indicated high reliability: Importance–Planning ( $\alpha = .91$ ), Importance–Evaluation ( $\alpha = .74$ ), Importance–Feedback ( $\alpha = .77$ ), Use–Planning ( $\alpha = .95$ ), Use–Evaluation ( $\alpha = .92$ ), and Use–Feedback ( $\alpha = .86$ ). These results demonstrate that all subscales reached acceptable to excellent levels of internal consistency. The complete set of questionnaire items is provided in Appendix A to enhance replicability and transparency.

### **Procedure**

The questionnaire was distributed electronically to all faculty members affiliated with the School of Education and Humanities. The invitation included a brief explanation of the study's purpose, clear instructions for completing the questionnaire, and a unique link to access the online form. Participants were given a two-week period to respond, during which periodic reminders were sent to encourage participation. The confidentiality of responses was ensured through a secure and anonymous data storage system. The study aimed to obtain a representative sample of the faculty population to strengthen the validity of the findings. In line with the institution's policies for educational research, the study complied with ethical standards for research involving human participants. Participation was voluntary, and informed consent was obtained electronically from all faculty members.

### **Data Analysis**

Descriptive analyses were conducted to identify university faculty members' perceptions regarding the importance they assign to the functions of planning, assessment, and feedback, as well as their intention to use GenAI in each of these

functions. These analyses were disaggregated by department within the School of Education and Humanities. To examine differences between departments, one-way ANOVA tests were conducted, followed by Tukey post-hoc analyses when appropriate. Pearson product-moment correlation coefficients were calculated to assess the strength and direction of relationships between the perceived importance of each teaching function (planning, assessment, feedback) and the intention to use GenAI. Significance levels were set at  $p < .05$ .

## FINDINGS

The following section presents the descriptive results and correlations of the study.

### Descriptive Results

The descriptive findings presented here reflect the perceptions of university faculty regarding the importance they assign to their core teaching functions and their intention to use GenAI in their professional practice. This information is also disaggregated by department within the School of Education and Humanities to identify disciplinary trends among faculty members.

With respect to the importance assigned to pedagogical functions, faculty from the Education department reported the highest levels of importance across all three functions analyzed (see Table 1). ANOVA testing confirmed this difference ( $F = 3.004$ ,  $p = 0.039$ ). A subsequent Tukey post-hoc analysis revealed that the only statistically significant difference was between the Education and the Film & Communication departments ( $p = 0.037$ ).

Table 1  
Importance of teaching functions by department

		Modern Languages	Film & Communication	Education	Humanities	Total
Planning	Mean	4.575	4.463	4.856	4.818	4.691
	SD	0.350	0.373	0.141	0.309	0.342
Assessment	Mean	4.400	4.263	4.675	4.518	4.468
	SD	0.416	0.633	0.334	0.656	0.569
Feedback	Mean	4.625	4.570	4.844	4.804	4.723
	SD	0.534	0.653	0.223	0.329	0.464
Overall Mean	Mean	4.533	4.432	4.792	4.713	4.627
	SD	0.415	0.463	0.181	0.412	0.402

*Note.* Means and standard deviations (SD) reflect faculty perceptions of the importance of planning, assessment, and feedback functions in their teaching practice, disaggregated by academic department.

A repeated measures ANOVA confirmed that there are significant differences in the importance university faculty assign to the functions of Planning, Assessment, and Feedback ( $F = 12.695$ ,  $p < 0.001$ ). A subsequent Tukey post-hoc analysis indicated that Assessment was rated significantly higher than both Planning ( $p = 0.033$ ) and Feedback ( $p = 0.012$ ), whereas no significant difference was found between Planning and Feedback ( $p = 0.930$ ) (see Figure 1).



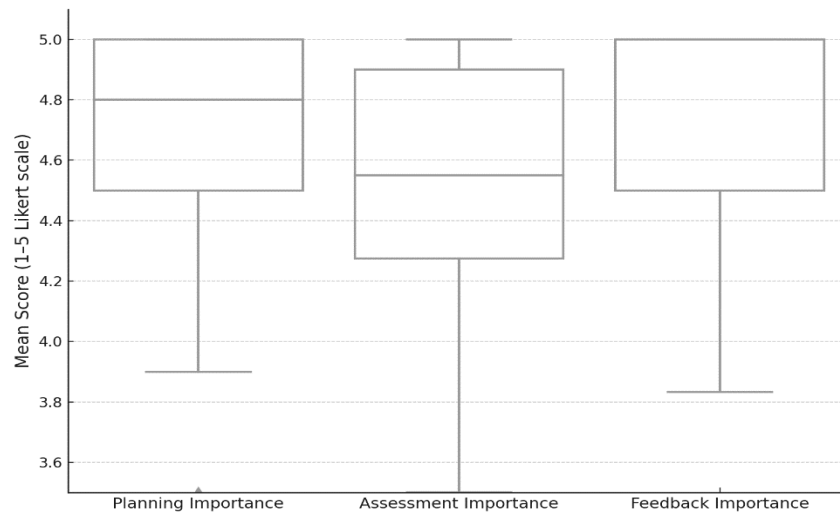


Figure 1

Comparison of the importance assigned by university faculty to planning, assessment, and feedback

With regard to intention of use, significant differences were also found between departments ( $F = 2.815$ ,  $p = 0.048$ ). Faculty members from the Modern Languages and Education departments reported a higher overall intention to use GenAI compared to those from the Film & Communication and Humanities departments (see Table 2). However, a subsequent Tukey post-hoc analysis did not reveal statistically significant pairwise differences, although the comparison between the Film & Communication and Education departments approached significance ( $p = 0.052$ ). On the other hand, no significant differences were observed in faculty members' intention to use GenAI across the three teaching functions: Planning, Assessment, and Feedback ( $F = 0.42$ ,  $p = 0.66$ ) (see Figure 2).

Table 2

Intention to use GenAI by department

		Modern Languages	Film & Communication	Education	Humanities	Total
Planning	Mean	3.150	2.821	3.612	2.953	3.111
	SD	1.085	1.209	0.770	1.297	1.142
Assessment	Mean	3.700	2.547	3.506	2.806	2.982
	SD	0.808	1.156	0.753	1.403	1.180
Feedback	Mean	3.792	2.421	3.510	2.755	2.932
	SD	0.937	1.346	0.853	1.378	1.282
Overall Mean	Mean	3.547	2.596	3.543	2.838	3.008
	SD	0.900	1.076	0.690	1.319	1.109

*Note.* Means and standard deviations (SD) reflect faculty members' reported intention to use GenAI for each of the three core teaching functions, disaggregated by academic department.

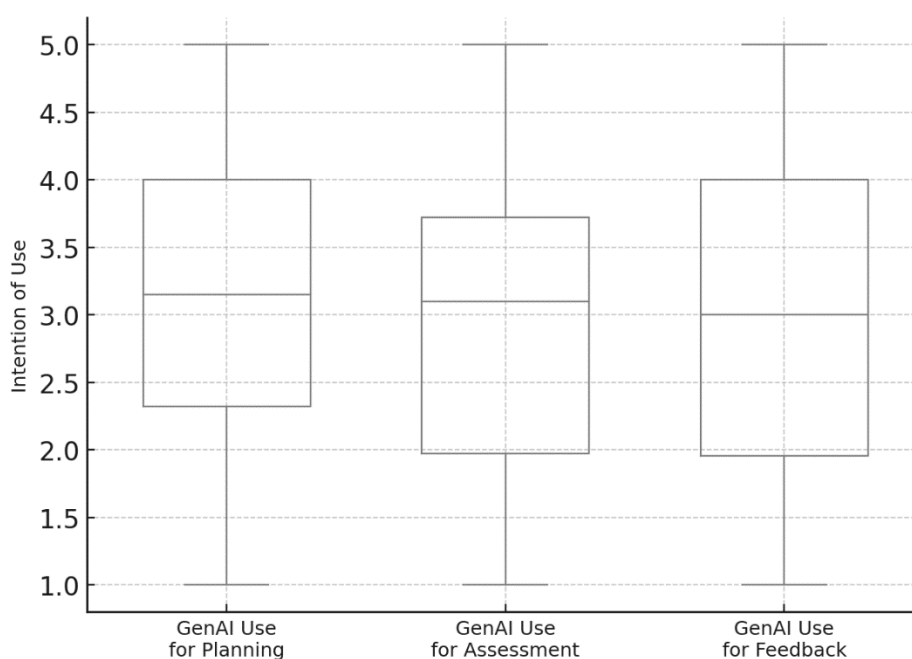


Figure 2

Comparison of university faculty's intention to use GenAI for planning, assessment, and feedback

### Correlational Results

The correlational results first describe the relationships between the importance that university faculty assign to their teaching functions and their intention to use GenAI for those functions. These relationships are also examined by academic department. Finally, the analysis includes correlations between the importance of the teaching functions and intention to use GenAI in relation to faculty members' years of teaching experience.

#### *Importance of Teaching Functions and Intention to Use GenAI*

Regarding the correlation between the importance assigned to teaching functions and the intention to use GenAI for those same functions, a significant positive correlation was found between overall importance and overall intention to use GenAI ( $r = .310$ ,  $p = .020$ ). Specifically, significant correlations emerged for Planning ( $r = .313$ ,  $p = .019$ ) and Feedback ( $r = .267$ ,  $p = .046$ ), indicating that faculty who placed higher importance on these functions were more likely to express intention to use GenAI to support them (see Figure 3).

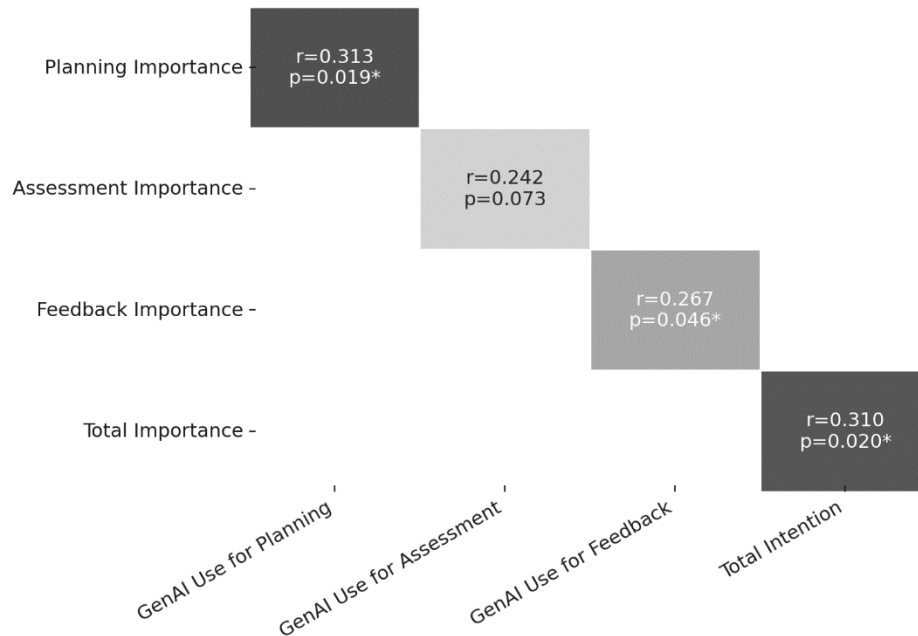


Figure 3

Correlation heatmap between the importance assigned to pedagogical functions and the intention to use GenAI

Note. Asterisks indicate statistically significant correlations (\*  $p < .05$ ).

#### *Importance of Teaching Functions and Intention to Use GenAI by Department*

When the previous analysis was conducted by department, it was found that the Film and Communication department was the only one in which a significant positive correlation emerged between the importance faculty assign to teaching functions and their intention to use GenAI for those same functions. In addition to the overall correlation, a significant positive correlation was also observed specifically for the Planning function (see Figure 4).

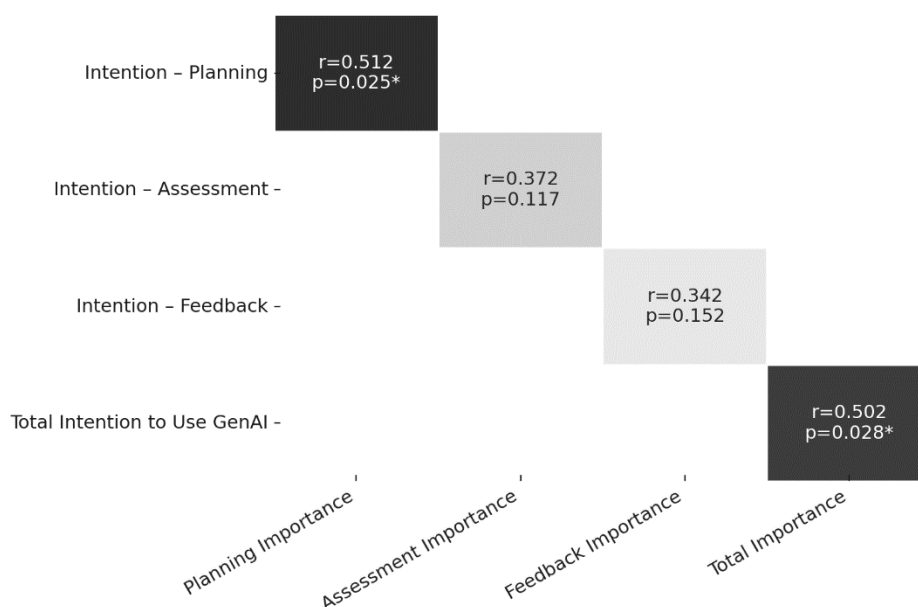


Figure 4

Correlation heatmap between importance of teaching functions and intention to use GenAI in the film and communication department

Note. Asterisks indicate statistically significant correlations (\*  $p < .05$ ).

#### *Intention to Use GenAI and Years of Experience*

The final results revealed a significant positive correlation between university faculty members' years of teaching experience and their intention to use GenAI for the function of Assessment ( $r = 0.275$ ,  $p = 0.040$ ). This suggests that the more experienced the faculty, the greater their willingness to adopt GenAI for student evaluation purposes (see Table 3). On the other hand, no significant correlations were found between the importance faculty assign to teaching functions and their age.

Table 3

Relationship between importance of teaching functions and intention to Use GenAI by years of experience

Importance & Intention of Use	Years of experience
Planning Importance	$r = -0.005$ $p = 0.972$
Assessment Importance	$r = 0.158$ $p = 0.243$
Feedback Importance	$r = 0.189$ $p = 0.163$
Total Importance	$r = 0.146$ $p = 0.283$
GenAI Use for Planning	$r = 0.130$ $p = 0.341$
GenAI Use for Assessment	$r = 0.275$ $p = 0.040^*$
GenAI Use for Feedback	$r = 0.136$ $p = 0.317$
Total Intention to Use GenAI	$r = 0.195$ $p = 0.151$

## DISCUSSION

### Relationship Between the Perceived Importance of Teaching Functions and the Intention to Use GenAI

One of the key findings of this study is the significant positive correlation between the importance that faculty members assign to their pedagogical functions and their intention to use GenAI in their teaching practice. In particular, significant positive correlations were found between the importance attributed to planning and feedback, and the intention to use GenAI to support these functions. Faculty who placed greater importance on planning and feedback reported stronger intentions to use GenAI for those functions, aligning with studies on the usefulness of GenAI for lesson planning (Powell & Courchesne, 2024; van den Berg & du Plessis, 2023) and AI-supported feedback in authentic learning tasks (Jansen et al., 2024; Jürgensmeier & Skiera, 2024; Zheng & Cheung Tse, 2023; Hu et al., 2024).

### Disciplinary Differences in the Intention to Use GenAI

Faculty members from the Department of Education assign greater importance to pedagogical functions. However, this does not necessarily translate into a higher intention to use GenAI. When disaggregating the data by department, significant positive correlations between the importance of teaching functions and the intention to use GenAI were found only within the Film and Communication department. This suggests that the intention to use GenAI for various teaching functions is influenced by faculty members' disciplinary backgrounds and fields of knowledge. Such variation may also be linked to ethical concerns and fears of replacing human creativity, as noted by Shakib Kotamjani et al. (2023) and Kohnke et al. (2023).

In fields such as Film and Communication, where media production, creativity, and digital tools are already integral to teaching practices, faculty may perceive GenAI as a natural extension of their existing pedagogical methods. Conversely, disciplines with more text-based, theoretical, or humanistic traditions might exhibit greater caution, either due to concerns about undermining critical interpretation or due to stronger ethical debates surrounding authorship and originality. Exploring these disciplinary cultures in greater depth could provide valuable insights into why correlations emerged only in certain departments.

The identified differences in GenAI usage intentions across departments reinforce patterns previously reported in the literature regarding disciplinary variation in the adoption of educational technologies. It is worth noting that Cabero-Almenara et al. (2024) found greater acceptance and intention to use AI for educational purposes among faculty in the social sciences. This indicates that fields not traditionally associated with STEM disciplines also recognize the value of AI as a tool to enrich pedagogical practices. These findings align with those of Wu and Zhang (2024), who highlighted the growing exploration of GenAI applications in non-STEM disciplines.

### **Teaching Experience and Intention to Use GenAI**

A statistically significant positive correlation was also identified between years of teaching experience and the intention to use GenAI for assessment. This pattern suggests that more experienced faculty may view GenAI as a tool to optimize assessment workload while maintaining timely feedback. It also challenges the common assumption that younger faculty are the only ones open to adopting disruptive technologies. The absence of significant relationships between teaching experience and the other functions indicates that this trend is not uniform. It warrants further investigation with larger samples.

### **CONCLUSION**

This study set out to examine whether the importance faculty assign to planning, assessment, and feedback relates to their intention to use GenAI, and to consider how personal and organizational factors shape that relationship. The findings show that stronger intentions to use GenAI align with higher value placed on planning and feedback, and that departmental context differentiates adoption patterns. Taken together, these results address the study objectives by clarifying how function-specific priorities and institutional context relate to intentions to integrate GenAI in university teaching.

To translate these patterns into practice, institutions can move beyond generic training and invest in targeted faculty development that is aligned with disciplinary needs. Priority actions include workshops on pedagogically grounded GenAI integration, modules that address ethical issues such as authorship and fairness in assessment, clear policies that promote secure and transparent use, and communities of practice that enable cross-departmental exchange. Such supports can help integrate GenAI into planning, assessment, and feedback in ways that are context-sensitive and educationally sound.

Finally, future research could strengthen this line of inquiry by extending disciplinary comparisons, following cohorts over time to observe changes in adoption, and using mixed-methods designs that pair survey data with interviews or classroom observations. Cross-institutional and international samples would also help test the robustness of these patterns across diverse higher education settings.

### LIMITATIONS

The sample in this study was limited to faculty members from the School of Education and Humanities at a private university in the metropolitan area of Monterrey, Mexico, which restricts the generalizability of the findings to other faculties or institutions. Contextual and disciplinary differences in other fields may influence perceptions and attitudes toward GenAI in ways not captured in this study. Furthermore, the data collection instrument relied on self-administered questionnaires, which may introduce social desirability bias, where respondents provide answers they believe are more acceptable or favorable, rather than accurately reflecting their true views. Another limitation concerns the relatively small subsamples by department. Although the overall sample was nearly half of the school's faculty, the number of participants within each department was limited, reducing statistical power and the robustness of disciplinary comparisons.

### REFERENCES

- Alasadi, E. A., & Baiz, C. R. (2023). Generative AI in education and research: opportunities, concerns, and solutions. *Journal of Chemical Education*, 100(8), 2965-2971. <https://doi.org/10.1021/acs.jchemed.3c00323>
- AlKanaan, H. M. N. (2022). Awareness regarding the implication of Artificial Intelligence in Science Education among pre-service science teachers. *International Journal of Instruction*, 15(3), 895-912. <https://doi.org/10.29333/iji.2022.15348a>
- Amado-Salvatierra, H. R., Morales-Chan, M., Hernandez-Rizzardini, R., & Rosales, M. (2024). Exploring educators' perceptions: Artificial Intelligence integration in Higher Education. In *Edunine 2024 - 8th Ieee World Engineering Education Conference: Empowering Engineering Education: Breaking Barriers Through Research And Innovation, Proceedings*. <https://doi.org/10.1109/EDUNINE60625.2024.10500578>
- Benek, K. (2025). EFL learners' and teachers' perceptions of AI-powered language learning technologies: benefits and challenges. *International Journal of Instruction*, 18(2), 103-120. <https://doi.org/10.29333/iji.2025.1827a>
- Boscardin, C. K., Gin, B., Golde, P. B., & Hauer, K. E. (2024). ChatGPT and Generative Artificial Intelligence for Medical Education: potential impact and opportunity. *Academic Medicine*, 99(1), 22-27. <https://doi.org/10.1097/ACM.0000000000005439>
- Buabeng-Andoh, C. (2018). Predicting students' intention to adopt Mobile Learning: A combination of Theory of Reasoned Action and Technology Acceptance Model. *Journal of Research in Innovative Teaching & Learning*, 11(2), 178-191. <https://doi.org/10.1108/JRIT-03-2017-0004>

- Cabero-Almenara, J., Palacios-Rodríguez, A., Loaiza-Aguirre, M. I., Rivas-Manzano, M. R. (2024). Acceptance of Educational Artificial Intelligence by teachers and its relationship with some variables and pedagogical beliefs. *Educational Sciences*, 14(7), 740. <https://doi.org/10.3390/educsci14070740>
- Cubeles, A., & Riu, D. (2016). Teachers' use of technology in the university classroom. In *Proceedings of the Fourth International Conference on Technological Ecosystems for Enhancing Multiculturality* (pp. 671-676). <https://doi.org/10.1145/3012430.3012591>
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Doyle, S. (2023). Augmenting intelligence with generative AI: A guide for teaching talented students. In *Practices That Promote Innovation for Talented Students* (pp. 125-144). <https://doi.org/10.4018/978-1-6684-5806-8.ch006>
- Eckhaus, E., & Davidovitch, N. (2019). Technology-Supported Teaching: Technological progress or a sham?. *European Journal of Educational Research*, 8(3), 697-702. <https://doi.org/10.12973/eu-jer.8.3.697>
- Ghimire, A., & Edwards, J. (2024). Generative AI adoption in the classroom: A contextual exploration using the Technology Acceptance Model (TAM) and the Innovation Diffusion Theory (IDT). In *2024 Intermountain Engineering, Technology and Computing (IETC)* (pp. 129-134). IEEE. <https://doi.org/10.1109/IETC61393.2024.10564292>
- Gupta, A. (2024). Impact of generative AI in transforming higher education pedagogy. In *Leveraging ChatGPT and Artificial Intelligence for Effective Customer Engagement* (pp. 285-300). <https://doi.org/10.4018/979-8-3693-0815-8.ch017>
- Hao, J., von Davier, A. A., Yaneva, V., Lottridge, S., von Davier, M., & Harris, D. J. (2024). Transforming assessment: The impacts and implications of Large Language Models and Generative AI. *Educational Measurement: Issues and Practice*, 43(2), 16-29. <https://doi.org/10.1111/emip.12602>
- Hu, Y., Giacaman, N., & Donald, C. (2024). Enhancing trust in Generative AI: Investigating explainability of LLMs to analyse confusion in MOOC discussions. In *LAK Workshops* (pp. 195-204). <https://ceur-ws.org/Vol-3667/GenAILA-paper3.pdf>
- Jansen, T., Höft, L., Bahr, L., Fleckenstein, J., Möller, J., Köller, O., & Meyer, J. (2024). Comparing Generative AI and expert feedback to students' writing: Insights from student teachers. *Psychologie in Erziehung und Unterricht*, 1, 80-92. <https://doi.org/10.2378/peu2024.art08d>
- Jürgensmeier, L., & Skiera, B. (2024). Generative AI for scalable feedback to multimodal exercises. *International Journal of Research in Marketing*, 41(3), 468-488. <https://doi.org/10.1016/j.ijresmar.2024.05.005>
- Kandakatla, R., & Streveler, R. A. (2015). T-CAP: Framework to design student-centric courses using educational technology tools. In *Proceedings of the 49th Annual SEFI*



Conference (pp. 951-959). <https://www.sefi.be/wp-content/uploads/2021/12/SEFI49th-Proceedings-final.pdf>

Karpouzis, K., Pantazatos, D., Taouki, J., & Meli, K. (2024). Tailoring education with GenAI: A new horizon in lesson planning. *arXiv preprint*. <https://doi.org/10.48550/arXiv.2403.12071>

Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). Exploring generative artificial intelligence preparedness among university language instructors: A case study. *Computers and Education: Artificial Intelligence*, 5. <https://doi.org/10.1016/j.caeai.2023.100156>

Kong, S., & Yang, Y. (2024). A human-centered learning and teaching framework using Generative Artificial Intelligence for Self-Regulated Learning development through domain knowledge learning in K-12 settings. *IEEE Transactions on Learning Technologies*, 17, 1588-1599. <https://doi.org/10.1109/TLT.2024.3392830>

Krushinskaia, K., Elen, J., & Raes, A. (2024). Effects of Generative Artificial Intelligence on Instructional Design outcomes and the mediating role of pre-service teachers' prior knowledge of different types of Instructional Design tasks. In *International Conference on Artificial Intelligence in Education* (pp. 395-400). Cham: Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-64312-5\\_49](https://doi.org/10.1007/978-3-031-64312-5_49)

Kuka, L., & Sabitzer, B. (2024). Navigating educational frontiers in the AI era: A Teacher's autoethnography on AI-infused education. In *CSEDU*, 1, 355-362. <https://doi.org/10.5220/0012616500003693>

Messina, L., & Tabone, S. (2014). Technology in university teaching: An exploratory research into TPACK, proficiency, and beliefs of Education faculty. *Cadmo*, (2014/1). <https://doi.org/10.3280/CAD2014-001009>

Morgan, A. (2024). Leveraging Generative Artificial Intelligence to expedite UDL implementation in Online Courses. In *Unlocking Learning Potential With Universal Design in Online Learning Environments* (pp. 171-195). IGI Global. <https://www.igi-global.com/chapter/leveraging-generative-artificial-intelligence-to-expedite-udl-implementation-in-online-courses/342194>

OECD (2016). Skills for a digital world. Policy brief on the future of work. OECD Publishing, Paris. <https://www.oecd.org/els/emp/Skills-for-a-Digital-World.pdf>

Park, J. Y., & Sung, C. S. (2023). The impact of generative AI tools on the development of entrepreneurial career intentions. In *ACIS 2023 Proceedings*, 72. <https://aisel.aisnet.org/acis2023/72/>

Powell, W., & Courchesne, S. (2024). Opportunities and risks involved in using ChatGPT to create first grade science lesson plans. *PloS one*, 19(6), e0305337. <https://doi.org/10.1371/journal.pone.0305337>

Qadir, J. (2023). Engineering Education in the era of ChatGPT: Promise and pitfalls of Generative AI for Education. In *IEEE Global Engineering Education Conference (EDUCON)*, Kuwait. <https://doi.org/10.1109/EDUCON54358.2023.10125121>

- Shakib Kotamjani, S., Shirinova, S., & Fahimirad, M. (2023). Lecturers perceptions of using Artificial Intelligence in Tertiary Education in Uzbekistan. En *Proceedings of the 7th International Conference on Future Networks and Distributed Systems* (pp. 570-578). <https://doi.org/10.1145/3644713.3644797>
- UNESCO (2021). *La Inteligencia artificial en la educación*. UNESCO. <https://es.unesco.org/themes/tic-educacion/inteligencia-artificial>
- Van den Berg, G. (2024). Generative AI and educators: Partnering in using open digital content for transforming education. *Open Praxis*, 16(2), 130-141. <https://search.informit.org/doi/10.3316/informit.T2024041000014202036614415>
- van den Berg, G., & du Plessis, E. (2023). ChatGPT and generative AI: Possibilities for its contribution to lesson planning, critical thinking and openness in teacher education. *Education Sciences*, 13(10), 998. <https://doi.org/10.3390/educsci13100998>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Wu, T., & Zhang, S. H. (2024). Applications and implication of Generative AI in non-STEM disciplines in Higher Education. In *International Conference on AI-generated Content* (pp. 341-349). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-7587-7\\_29](https://doi.org/10.1007/978-981-99-7587-7_29)
- Yilmaz, F. G. K., Yilmaz, R., & Ceylan, M. (2023). Generative Artificial Intelligence Acceptance Scale: A validity and reliability study. *International Journal of Human-Computer Interaction*, 1-13. <https://doi.org/10.1080/10447318.2023.2288730>
- Zayim, N., Yildirim, S., & Saka, O. (2006). Technology adoption of medical faculty in teaching: Differentiating factors in adopter categories. *Journal of Educational Technology & Society*, 9(2), 213-222. <https://www.jstor.org/stable/jeductechsoci.9.2.213>
- Zhang, C., & Villanueva, L. E. (2023). Generative Artificial Intelligence preparedness and Technological Competence: Towards a Digital Education Teacher Training Program. *International Journal of Education and Humanities*, 11(2), 164-170. <https://doi.org/10.54097/ijeh.v11i2.13753>
- Zhang, X., & Wareewanich, T. (2024). A study of the factors influencing teachers' willingness to Use Generative Artificial Intelligence based on the UTAUT Model. *International Journal of Interactive Mobile Technologies*, 18(6), 126-142. <https://doi.org/10.3991/ijim.v18i06.47991>
- Zheng, W., & Cheung Tse, A. W. (2023). The impact of Generative Artificial Intelligence-based Formative Feedback on the Mathematical Motivation of chinese grade 4 students: A case study. In *2023 IEEE International Conference on Teaching, Assessment and Learning for Engineering, TALE 2023 - Conference Proceedings*. <https://doi.org/10.1109/TALE56641.2023.10398319>

## APPENDIX

### A. Teacher Functions Questionnaire

Dear teachers,

This questionnaire is anonymous and aims to gather information about the perceived importance of the teaching functions of evaluation, feedback, and planning.

With the information obtained, we seek to understand the relationship between these functions and the use of generative artificial intelligence within the School of Education and Humanities.

We kindly ask you to pay close attention to the detailed instructions in order to complete the questionnaire effectively. We thank you in advance for your collaboration.

#### Demographic Data

- Gender
- Age
- Department of affiliation
- Years of teaching experience

### FIRST PART

Based on the functions of planning, evaluation, and feedback, please indicate the level of importance you assign to each action within each teaching function.

#### Rating Scale:

1 (Not very important): indicates that the statement has minimal importance and is considered an action of little relevance for the teaching function.

5 (Very important): indicates that the statement has maximum importance and is considered an action of great relevance for the teaching function.

#### Importance of Planning

Planning in the teaching and learning process is crucial for efficiently organizing, structuring, and sequencing course content. It ensures the achievement of objectives, adaptability to students' needs, and thereby fosters effective learning.

- Define the learning objectives for my courses.
- Design learning strategies to achieve the objectives.
- Select the learning content for my courses.
- Select educational resources and suitable materials for learning.
- Organize class material in a sequential manner to increase understanding.
- Adapt content to the individual needs of students.
- Adapt planning to different learning styles.
- Distribute time effectively, ensuring there is enough time to cover the planned topics.
- Reflect on the effectiveness of planning and make adjustments.

- Have a flexible attitude and adapt to the needs and dynamics of the student group.

**Importance of Assessment**

Evaluation is a fundamental function of teachers, as it allows them to measure students' progress and understanding, as well as to guide the adaptation and continuous improvement of teaching methods, with the aim of maximizing student learning.

- Measure the level of knowledge, skills, and competencies achieved by students in relation to the established objectives.
- Identify the effectiveness of the methods used for teaching.
- Adapt teaching strategies to address problem areas and reinforce key concepts.
- Identify possible inequalities in student performance.
- Decide whether students have met the criteria to continue with the curriculum.
- Promote active participation so that assessment goes beyond knowledge to include knowledge application.
- Address the development of socio-emotional skills such as collaboration, effective communication, empathy, and conflict resolution.
- Carry out diagnostic assessment, as it provides information about the initial level of students.
- Conduct formative assessment that provides ongoing feedback, facilitating adjustments to improve learning during the educational process.
- Implement summative assessment to measure students' final performance at the end of a period, providing an overall view of their learning.

**Importance of Feedback**

- Provide students with clear and specific information about their academic performance.
- Highlight the positive aspects of the student's work, reinforcing strengths and pointing out areas for improvement, offering suggestions for academic growth.
- Recognize effort and commitment to encourage students to continue striving and participating in the learning process.
- Stimulate critical reflection in students by providing feedback that allows them to analyze their own learning, understand their mistakes, and think of strategies for improvement.
- Collaborate with students to set specific and realistic goals based on the feedback received.
- Foster an environment where students feel comfortable sharing concerns and questions, contributing to a more effective educational process.

**SECOND PART**

Generative Artificial Intelligence (hereafter GenAI): refers to the use of artificial intelligence systems to generate educational content, such as teaching materials,

exercises, and assessments. These systems can create personalized resources adapted to students' needs, thus facilitating the teaching and learning process.

In this section, your knowledge of GenAI is not being assessed. Instead, the focus is on your intention to use it in relation to specific actions within each teaching function.

**Rating Scale:**

1 (Strongly disagree): if you are completely against using GenAI as support for carrying out that action.

5 (Strongly agree): if you are completely in favor of using GenAI as support for carrying out that action.

**Use of GenAI in Planning**

- Define the learning objectives for my courses with generative AI.
- Design learning strategies to achieve the objectives with generative AI.
- Select the learning content for my courses with generative AI.
- Select educational resources and suitable materials for learning with generative AI.
- Organize class material in a sequential manner to increase understanding with generative AI.
- Adapt content to the individual needs of students with generative AI.
- Adapt planning to different learning styles with generative AI.
- Distribute time effectively, ensuring there is enough time to cover the planned topics with generative AI.
- Reflect on the effectiveness of planning and make adjustments with generative AI.
- Use generative AI as a complementary resource to have a flexible attitude and adapt to the needs and dynamics of the student group.

**Use of GenAI in Assessment**

- Use generative AI to measure the level of knowledge, skills, and competencies achieved by students in relation to the established objectives.
- Identify the effectiveness of the methods used for teaching with generative AI.
- Adapt teaching strategies to address problem areas and reinforce key concepts with generative AI.
- Use generative AI to identify possible inequalities in student performance.
- Use generative AI to decide whether students have met the criteria to continue with the curriculum.
- Use generative AI to promote active participation so that assessment goes beyond knowledge to include knowledge application.
- Use generative AI to address the development of socio-emotional skills such as collaboration, effective communication, empathy, and conflict resolution.
- Carry out diagnostic assessment using generative AI, as it provides information about the initial level of students.

- Conduct formative assessment using generative AI that provides ongoing feedback, facilitating adjustments to improve learning during the educational process.
- Implement summative assessment to measure students' final performance using generative AI at the end of a period, providing an overall view of their learning.

**Use of GenAI in Feedback**

- Provide students with clear and specific information about their academic performance using generative AI.
- Use generative AI to highlight the positive aspects of the student's work, reinforcing strengths and pointing out areas for improvement, offering suggestions for academic growth.
- Implement generative AI to recognize effort and commitment to encourage students to continue striving and participating in the learning process.
- Use generative AI to stimulate critical reflection in students by providing feedback that allows them to analyze their own learning, understand their mistakes, and think of strategies for improvement.
- Collaborate with students to set specific and realistic goals based on the feedback received with generative AI.
- Use generative AI to foster an environment where students feel comfortable sharing concerns and questions, contributing to a more effective educational process.