

Integrating Generative AI Tools in Higher Education

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ABSTRACT

This study focuses on the reflections from an academic perspective, integrating generative AI tools into teaching and research. In this regard examples of how these tools are integrated and used, practical benefits, ethical concerns are mentioned in the study. Drawing on personal experiences, the study explores topics such as academic integrity, AI literacy, and the challenges of adapting AI tools in an educational environment. A broader discussion of the future in an AI-driven world is presented, along with practical examples of AI adoption in higher education.

Keywords: AI adoption, AI tools, artificial intelligence, integrating AI, teaching

INTRODUCTION

Artificial intelligence (AI) is not only transforming technical fields such as engineering and robotics but also is becoming more and more challenging for fields of social sciences as well. One such field that will be particularly affected is education (Temper et al., 2025; Vieriu & Petrea, 2025). The growing popularity of AI in academic settings requires a reevaluation of long-standing or traditional practices and raises ethical, practical, and legal concerns. AI is transforming the landscape of education by offering innovative ways to enhance teaching, learning, and assessment. Comparing traditional teaching practices with those emerging from the adaptation of AI in education is one of the key issues to be discussed.

The rapid advancement of AI has significant implications for education. AI-powered tools, such as ChatGPT, Gemini, or similar tools, have the potential

to personalize learning, optimize assessments, and support educators in various ways. These tools can also be leveraged to reduce the amount of time required for academic purposes. Despite these benefits, integrating AI into education requires a strategic approach that aligns with learning objectives, addresses ethical concerns, and ensures practical solutions. Moreover, it is highlighted that AI tools offer significant opportunities for personalized learning and efficient while introducing new challenges (Cui & Alias, 2024). This study is an exploration of how AI-driven resources can be effectively integrated into education, with practical examples.

AI tools can revolutionize course design by providing data-driven insights into student learning behaviors, enabling personalized learning paths, and automating content recommendations. Assessment is a crucial component of education, and AI has the potential to enhance its effectiveness and efficiency. AI can support and enhance various instructional methods, making education more interactive and engaging. These changes can be described as disruptive changes in teaching and learning (Temper et al., 2025).

The integration of AI-driven tools and resources into education, holds a huge potential for improving educational outcomes across disciplines. One of the most recent studies suggests that AI tools can positively impact students' academic performance by enhancing learning efficiency (Vieriu & Petrea, 2025). However, a careful and ethical approach is necessary to address challenges related to fairness, privacy, and the role of human educators. By balancing technological innovation with educational purposes, AI can enhance the learning experience while retaining the essential human elements of education. For academics who are interested in unlocking the power of AI in education, this study attempts to provide a brief, exemplary guide.

This study explores the integration of AI-driven tools and resources into higher education for purposes such as curriculum design, assessments, and instructional methods. In this regard, the practical examples through the perspective of a faculty member's experience in incorporating AI tools into higher education are shown. The aim is to provide a framework for educators working in the higher education sector who wish to make effective use of AI in their professional lives.

The study highlights practical solutions, challenges, and future discussions in AI integration within academic programs in higher education. In various parts of the study, prompt and outcome examples obtained by using ChatGPT are given. In the examples ChatGPT Plus was used with GPT 4o model. Other given examples are obtained using the free versions of the tools. The examples in this study are expected to guide educators on how to integrate AI, and ChatGPT in particular, into their practice.

METHODOLOGICAL APPROACH

This study adopts a reflective-practice-based approach, drawing from the author's personal experience as a higher education faculty member. The structure aligns with principles of autoethnographic and practitioner-based inquiry, emphasizing real-world integration of AI tools into teaching and research contexts. Although not based on empirical data collection, the narrative offers insights grounded in action-based reflections and practical adaptation.

Integrating AI tools in education has become more and more important. Since the new generation of students is prepared for using AI tools in many aspects of life, education is one of these areas where both students and educators could adapt themselves to these technologies or tools. Wu (2023) raised a question “...whether we should view this product as a tool for cheating and prohibit its use altogether, or should we embrace its potential to enhance the quality and efficiency of education?”. This is a subject that must be addressed at many levels, in different fields of education, and from various perspectives.

The usage of the tools can be examined from two perspectives. The first perspective is that of the student and the second, obviously, is that of the educator. In general the usage of AI, could improve learning outcomes, productivity, and the engagement of the students by providing individualized education, feedback, and assistance (Adiguzel et al., 2023). Adapting AI in education could have many benefits for students. This highlights that AI integration is not limited to academic performance, but also extends to inclusion and emotional support. AI could play an important role for students with disabilities or anxiety by assisting them in their learning activities (Adiguzel et al., 2023). In a complementary approach, (Uğraş et al., 2024) draw attention to the potential of ChatGPT in classroom applications which can reveal its contribution to long-term education goals. Although they have conducted the study for elementary schools, these contributions could be applied to different levels of education. These technologies could contribute to both students' and educators' sides of education. However, educators a more critical role in facilitating students' interactions with AI by guiding them (Aravantinos et al., 2024) so that these could support student's educational processes.

In addition, Lavidas et al. (2024) mentioned the need to examine factors that influence the intention and actual use of these technologies by the users. It is feasible to better understand how these tools can be usefully integrated into higher education by measuring student and faculty intentions and actual use.

AI tools such as ChatGPT can be useful for developing new content, while AI-assisted tools such as Turnitin or Canva can be used for checking assignments or creating presentations on a specific content or topic. There are several tools available that can be used in education, particularly in higher education. Some of these tools are widely knows generative artificial intelligence

(GenAI) tools whereas some of them are AI assisted tools which provide solutions for specific purposes like preparing presentations or grammar checking. ChatGPT (ChatGPT, 2025), Gemini (Gemini, 2025), Copilot (Copilot, 2025), NotebookLM (NotebookLM, 2025), Consensus (Consensus, 2025), Elicit (Elicit, 2025) are some the examples for AI tools that can be used for educational purposes. Furthermore, some tools provide AI assisted feature for different purposes like Turnitin (Turnitin, 2025), Grammarly (Grammarly, 2025), Canva (Canva, 2025), and Gamma (Gamma, 2025).

INTEGRATING AI IN TEACHING: PRACTICAL REFLECTIONS

Usage of ChatGPT can be applied in various ways for the educators and for the students as well. In this section various practical examples are presented for students and educators.

Students can use AI tools, for completing tasks, writing essays, creating projects, coding, revising, editing, translating and other purposes for learning or education-based activities. Assignments given in the lectures can be completed with the help of these technologies. Exam preparation and study can be also supported by AI tools. It is stated that AI applications offer personalized learning and advice for the students whereas these tools offer game elements, interactive learning environments which could make learning fun and engaging (Lavidas et al., 2024).

For the educators ChatGPT as a generative AI tool, can be used to create content in general. By typing prompts, one can identify the content to be generated or tasks to be held. ChatGPT can give good results for the educators for education related tasks. In practice, AI could be valuable in easing the workload of educators who can benefit from it properly. Also the transformation of educators by using tools like ChatGPT in order to promote quality, inclusive, and equitable educational practices is seen necessary (Uğraş et al., 2024). For the educators AI tools in general can be used in different ways like pre-class, in-class, post-class activities and also for conducting research.

Pre-Class Use Cases

For pre-class activities like preparing for a specific lecture an AI tool can be used. Educators need to generate a syllabus and integrate their own ways of teaching with a specific topic or research area. When creating syllabi for lectures, presentations can be prepared in cooperation with AI tools. The creation of content syllabi for each course is a time-consuming process for educators. Therefore, AI tools such as ChatGPT offer great potential. Figure 1 demonstrates a relevant exemplary prompt and outcome. An example is provided where a faculty member attempts to generate a syllabus for a course called “Introduction

Figure 1

ChatGPT Prompt and Output for Creating Syllabus Example

Create a syllabus for 14 weeks for the course entitled "Introduction to Algorithms and Programming" in a bachelor program.

Here's a 14-week syllabus for a **bachelor-level course** titled "**Introduction to Algorithms and Programming**". The course assumes no prior programming experience and aims to introduce students to foundational programming concepts using a high-level language (e.g., Python or Java).

Table 1

ChatGPT Output for Creating a Syllabus

Course Title: Introduction to Algorithms and Programming		
Course Level: Undergraduate (Bachelor)		
Course Duration: 14 Weeks		
Prerequisites: None		
Credit Hours: 3		
Course Format: 2 hours lecture + 2 hours lab per week		
Course Description:		
This course introduces students to the fundamental principles of computer programming and algorithmic thinking. Students will learn to design, implement, and debug programs using a high-level programming language. Emphasis will be placed on problem-solving strategies, control structures, data types, and basic algorithm design.		
Course Objectives:		
By the end of the course, students will be able to:		
<ul style="list-style-type: none">• Understand basic programming concepts and data structures• Develop algorithmic solutions for simple problems• Write, debug, and test programs• Use programming tools and environments effectively• Understand foundational algorithmic techniques such as sorting and searching		
Weekly Breakdown:		
Week	Topics	Lab / Assignment
1	Introduction to Programming and Algorithms	Setting up development environment
	What is a program?	Basic I/O practice
	Flowcharts and Pseudocode	

2	Data Types, Variables, and Expressions Arithmetic and Logical Operators	Simple calculator program
3	Control Structures I: Conditional Statements (if, if-else, nested if)	Decision-making problems
4	Control Structures II: Loops (while, for) Loop control statements	Loop-based problem sets (e.g., multiplication table)
5	Functions and Modular Programming	Writing and calling functions
6	Parameters, Return Values, and Variable Scope	Practice with function design
7	Lists/Arrays: Declaration, Indexing, Iteration	Array processing lab (e.g., max/min, sum, average)
8	Midterm Exam	No lab
9	Strings and String Manipulation	String functions and operations
10	Introduction to Algorithms: Searching (Linear, Binary)	Implement search algorithms
11	Introduction to Sorting Algorithms (Selection, Bubble)	Implement sorting algorithms
12	Introduction to Recursion	Recursive vs iterative examples
13	File Input/Output	Reading from and writing to text files
14	Final Project Presentations & Review	Final project demonstration

Assessment and Evaluation:

- **Lab Assignments** – 25%
- **Midterm Exam** – 25%
- **Final Project** – 30%
- **Participation & Quizzes** – 20%

Recommended Textbooks:

- Introduction to Computing and Programming in Python, by Mark Guzdial & Barbara Ericson
- Problem Solving with Algorithms and Data Structures, by Brad Miller & David Ranum

to Algorithms and Programming” for a bachelor’s program. By using a simple prompt, explaining the purpose of the use, educators can benefit from ChatGPT or similar tools to generate such content. After typing a simple introduction about the outcome, ChatGPT gives the required outcome with self-generated sections

like “Course Description” or “Course Objectives”. In Table 1 whole output is given. The output demonstrates that even though it is not asked, ChatGPT has given the desired output in a structured way. It is remarkable that the result is in a proper academic format that an educator could easily adopt.

Canva and Gamma also provides AI assisted features to generate presentations about a specific topic. Students can also especially benefit from the graphical interface of the Canva and Gamma and their AI-assisted features to prepare presentations.

In-Class Use Cases

For the in-class activities, educators can use AI tools in order to generate exercises, examples ranging from basic ones to the more complex ones in order to use during lectures. If the educator is working in a field such as computer engineering or management information systems, coding examples, can be generated with the help of the tools. Codes written in different languages can be simply transferred to one another, and these tools can also perform dataset analysis. If required, datasets can be created by the user and used as an example in the classroom. Examples of in-class activities for “Introduction to Algorithms and Programming” course are shown in Figure 2 and Table 2. ChatGPT is asked to generate pseudocode examples about conditional statements, which is one of the topics given in the syllabus.

Figure 2

ChatGPT Prompt and Output for Generating Examples

Can you give pseudo code examples for conditional statements?

Absolutely! Here are a few **pseudocode examples** to illustrate how **conditional statements** work. These examples are written in a simple, readable format that's easy to translate into any programming language later (like Python, Java, or C++).

Table 2

ChatGPT Output for Generating Examples

```
Example 1: Simple If Statement
IF temperature > 30 THEN
  PRINT "It's hot outside!"
END IF
Example 2: If-Else Statement
IF grade >= 50 THEN
  PRINT "You passed the exam."
ELSE
  PRINT "You failed the exam."
END IF
```

Subsequently, as the user asks for the examples to be written in Python language it converts the given examples in this programming language in Figure 3 and Table 3. If it is asked, these codes can be converted in any other language easily. For further examples, datasets can be created with the help of ChatGPT.

Figure 3

ChatGPT Prompt and Output for Creating Coding Examples in Python

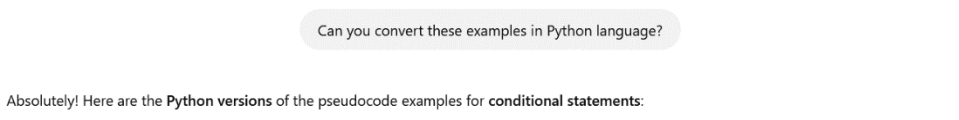


Table 3

ChatGPT Output for Generating Examples in Python

```
Example 1: Simple If Statement
temperature = 35
if temperature > 30:
  print("It's hot outside!")
Example 2: If-Else Statement
grade = 45
if grade >= 50:
  print("You passed the exam.")
else:
  print("You failed the exam.")
```

For further examples of in-class activities datasets can be created using AI tools. For a database course an example dataset is generated and SQL queries are asked to be generated by ChatGPT. The prompt and output are shown in Figure 4 and Table 4. Such examples may support educators working in this field.

Figure 4

ChatGPT Prompt and Output for Creating Example Dataset and SQL Examples

Can you create a university dataset and write SQL queries about this table?

Sure! Let's start by creating a **simple university dataset** with one main table: `Students` . Then I'll provide some **SQL queries** you can run on it.

Table 4

ChatGPT Output for Creating Example Dataset and SQL Examples

Sample Table: Students						
student_id	first_name	last_name	department	gpa	enrollment_year	graduated
1	Alice	Smith	Computer Sci.	3.8	2020	No
2	Bob	Johnson	Business	2.9	2019	Yes
3	Clara	Lee	Computer Sci.	3.5	2021	No
4	David	Kim	Psychology	3.2	2018	Yes
5	Eva	Brown	Computer Sci.	3.9	2020	No
6	Frank	White	Business	2.5	2019	Yes
7	Grace	Lopez	Psychology	3.6	2021	No

SQL Table Creation Script
CREATE TABLE Students (
 student_id INT PRIMARY KEY,
 first_name VARCHAR(50),
 last_name VARCHAR(50),
 department VARCHAR(50),
 gpa DECIMAL(3,2),
 enrollment_year INT,
 graduated VARCHAR(3));

Sample Data Insertion

```
INSERT INTO Students VALUES
```

```
(1, 'Alice', 'Smith', 'Computer Sci.', 3.8, 2020, 'No'),  
(2, 'Bob', 'Johnson', 'Business', 2.9, 2019, 'Yes'),  
(3, 'Clara', 'Lee', 'Computer Sci.', 3.5, 2021, 'No'),  
(4, 'David', 'Kim', 'Psychology', 3.2, 2018, 'Yes'),  
(5, 'Eva', 'Brown', 'Computer Sci.', 3.9, 2020, 'No'),  
(6, 'Frank', 'White', 'Business', 2.5, 2019, 'Yes'),  
(7, 'Grace', 'Lopez', 'Psychology', 3.6, 2021, 'No');
```

```
Example SQL Queries
```

```
1. List all students in the Computer Science department
```

```
SELECT * FROM Students
```

```
WHERE department = 'Computer Sci.';
```

```
2. Find students with GPA greater than 3.5
```

```
SELECT first_name, last_name, gpa
```

```
FROM Students
```

```
WHERE gpa > 3.5;
```

On the other hand, Copilot like ChatGPT can be used for general purposes, however it is more focused on generating codes for the user who is programming. It can be integrated with Visual Studio IDE which makes its use effective. For the educators who works in technology related fields, this tool can generate code examples or help users to check the correctness of code samples.

Post-Class Use Cases

For post-class activities, AI tools can be utilized for checking assignments or preparing exams and answer keys. Review or feedback reports for the students' assignments can be written with the help of AI tools. For these tasks ChatGPT can be used. Examples of prompts and outputs are provided in Figure 5 and Table 5. As it can be seen, ChatGPT has provided the output of exam questions with their expected answer. For more complex exams, an answer key can be prepared separately. In this example it is given with the question.

Such prompts could be written in a more complex language to prepare harder or more advanced exam questions to match educators' expectations. Thereby, time spent on preparing exams and answer keys can be reduced. One of the most important issues that educators should pay attention to is that the answers to open-ended questions, in particular, should be checked. This may not be as crucial for definition questions, but when a question requests a comment or evaluation, it is critical to examine the response. As a result, the teacher must compare the obtained outcomes with the initial answer's requirements.

Figure 5

ChatGPT Prompt and Output for Creating Exam Questions

Can you write an open-ended and a multiple-choice question for an exam about "Introduction to Algorithms and Programming" course?

Sure! Here's one open-ended and one multiple-choice question suitable for an *Introduction to Algorithms and Programming* course:

Table 5

ChatGPT Output for Creating Exam Questions

Open-Ended Question

Question:

Explain the difference between a while loop and a for loop in programming. Provide an example of a situation where a while loop would be more appropriate than a for loop.

Expected Answer (example):

A for loop is typically used when the number of iterations is known in advance, whereas a while loop is preferred when the number of iterations is not known and depends on a condition being met. Example: A while loop is more appropriate when reading user input until they type "exit", since we don't know in advance how many inputs will be entered.

Multiple-Choice Question

Question:

Which of the following best describes the purpose of an algorithm in programming?

- A) To create a visual interface for the program
- B) To store large amounts of data
- C) To define a step-by-step solution to a problem
- D) To compile the program into machine code

Correct Answer:

- C) To define a step-by-step solution to a problem
-

In addition, Turnitin provides features for checking AI-generated content. Turnitin creates a straight-forward environment to identify the similarity

report to detect plagiarism, but at the same time, AI-generated content can be identified. It has become almost impossible for educators assigning assignments to their students to verify whether the content created is the work of the student or an AI. Turnitin's AI Detection feature provides educators with the capability to automate the detection process. Instructors can easily use this feature to detect AI-generated content. The grade for an assignment can be assessed by the instructor according to the percentage of AI-generated content. This type of inappropriate use, such as plagiarism, should be addressed by the practitioner (Lavidas et al., 2024).

AI IN RESEARCH: ACADEMIC SUPPORT

For research purposes, AI- tools can be beneficial. They could help the researcher to spend less time on planning a research process. Literature review, grammar check, editing papers, creating template or the framework for a specific research idea are the tasks that can be achieved by using AI as an assistant by educators. Elicit and Consensus create an environment for the educators who publish scientific papers or conduct research. These tools provide an easy way to find and summarize the relevant literature. By using keywords related to a research topic, educators can see the results from different sources from literature in a summarized form. NotebookLM provides researchers an environment to work on selected papers by the user. The papers can be summarized and stored in an organized manner like a library for the researcher to work on them easily. Consensus is one of the AI based tools which can be useful for the researchers while conducting a literature review for a study. By simply identifying the keywords, relevant studies from the literature are identified and displayed. In addition, summary of each study is given with a structured form. Example of Consensus is shown in Figure 6. As keywords “machine learning” and “health informatics” are chosen, relevant studies are displayed in an academically structured format so that the researcher can use these outputs for an academic paper or research. In this regard, one of the significant points to be observed is that researchers should be able to verify these results from the original sources, rather than directly copying and pasting them into their own research.

Grammarly can also be used for grammar checking in scientific papers. Canva and its AI-assisted features can be used for scientific presentations. Gamma is another AI-based tool that could save time when preparing presentations.

ETHICAL ISSUES AND ACADEMIC INTEGRITY

Despite its numerous benefits, the integration of AI into education raises significant ethical concerns. A key issue is the over-reliance of students on AI

tools and AI-generated content. One study notes that beyond the benefits for students, there are also challenges such as over-reliance and over-dependence on technology, and the potential erosion of critical thinking skills (Vieriu & Petrea, 2025). Under such circumstances, learning outcomes could be undermined and possibly lead to academic dishonesty. To emphasize this, policies limiting AI-generated content in assignments and tools like Turnitin's AI detection could be implemented at faculty level. It is further emphasized that academic staff should be the advocate of critical integration of AI into educational processes as over-reliance might be problematic (Lavidas et al., 2024). Although some educators may be able to adapt more easily and quickly to the use of AI tools, others may not be able to integrate the tools' capacities into their professional lives. Educators are encouraged to promote critical evaluation of AI outputs among students and to underline responsible use, so that academic integrity is upheld. There are six fundamental values of academic integrity defined by (International Center for Academic Integrity (ICAI), 2021): honesty, trust, fairness, respect, responsibility, and courage. As mentioned by Eke (2023), breach of fundamental academic integrity occurs the moment a user produces a text or article using ChatGPT by misrepresenting and plagiarizing the original work. Therefore, it represents one of the issues that should be addressed in the implementation of AI in education. Another concern should be the intellectual property of the generated work. This concern relates to the discussion of whether or not AI-generated content can be considered an individual's intellectual creation (Spindler, 2019).

AI-generated content is not supposed to be used directly by the users, such as students and educators. Depending on the context and scope, the obtained results should be subjected to critical review. Biased or incorrect answers provided by the AI tools could impair the quality of education and scientific processes. Therefore, responsible use, awareness, literacy of AI are important issues to be considered.

AI LITERACY AND AWARENESS

To integrate AI in education in a responsive and an accountable fashion, both students and educators have to acquire basic knowledge and awareness about AI. In this scope, AI literacy is one of the important terms that should be considered when talking about adopting AI in different fields. Also, awareness is another aspect that should be considered. Understanding the limitations, biases that may emerge as outcome, and potential misuse of AI tools is critical. Developing these competencies is especially important for those in technology-related fields, but a foundational awareness is becoming across all disciplines. Critical thinking, ethical awareness, and literacy should be cornerstones of adapting AI in education. For example an AI literacy scale is developed in order

to measure AI literacy of ordinary users (Wang et al., 2023). In this study, AI literacy is assessed using four dimensions: awareness, use, evaluation, and ethics.

In another study (Stolpe & Hallström, 2024) it is argued that researchers and educators need a framework for integrating AI literacy into technological literacy. This study discusses that AI literacy frameworks relate to three traditions of technological knowledge: technical skills, technological scientific knowledge, and socio-ethical technological understanding. In this scope, it is stated that AI literacy for technology education emphasises technological scientific knowledge (e.g., knowledge about what AI is, how to recognise AI, and systems thinking) and socio-ethical technical understanding (e.g., AI ethics and the role of humans in AI). Based on these findings, it can be asserted that AI literacy is also one of the most important issues that users should consider. Awareness and experience with technology may vary among regular users and experts, yet as AI technologies improve, a baseline level of AI literacy could be adapted by different types of users. Another scale is developed for non-experts (Laupichler et al., 2023). In this study, AI-literacy was found to include “Technical Understanding”, “Critical Appraisal”, and “Practical Application” as factors. Lintner (2024) conducted a study to review different scales in the literature. Such studies can be considered for the adoption and integration of AI technologies across various sectors. In higher education, although the background and field of research of educators may be varied, a baseline level of literacy should be adopted by all stages of education.

DISCUSSION AND CONCLUSIONS

It would not be far-fetched to suggest that the integration of AI in various scientific fields and education is projected to grow in the future. There will be more challenges to be faced, especially in the field of social sciences. There will be a mounting need for standard frameworks and guidelines to ensure the accountable and effective use of these technologies in education. As new tools emerge, educators will continue to explore ways to enhance learning and integrating their ways of researching and teaching with new tools.

Banning students from using AI tools in lecture assignments will not be the solution to controlling their use, but rather finding ways to integrate these tools in an appropriate way for both ends of education. Using Turnitin and setting limits on AI-generated content could be one method of integrating it into education. It is also possible to observe the integration of AI courses and AI curricula in departments, as in the example of Zhao et al. (2024). Temper et al. (2025) proposed a framework for the AI usage in academia.

AI is transforming education by offering significant opportunities for efficiency and innovation. However, this transformational process must be guided by a firm critical foundation and appropriate use. To manage and organize

their professional lives, educators can conceptualize AI tools as personal assistants or 24/7 tutors (Wu, 2023). One study revealed that students also expect AI to take on multiple roles, including that of a multi-tasking writing assistant, virtual tutor, and digital peer to support versatile writing processes and performance (Kim et al., 2024). Such tasks could be performed by both educators and students with the help of AI tools.

The use of these technologies or tools could boost productivity, and significantly reduce the workload and time required for some tasks. At the same time, educators are taking on a central role in shaping how AI is used and fostering a culture of AI literacy and accountability. The term AI literacy refers to the extent of user awareness and ability to adapt to AI. Educators should take it upon themselves to educate their students by teaching them to adapt AI in a responsible, ethical and also in practical terms. Students need to develop a critical awareness of the outcomes and also the biases that can be generated by AI tools, as ChatGPT has begun to replace Google for “searching” for new generations. By adopting best practices and staying informed and updated on technological advances, students, educators and institutions can leverage AI to create a more inclusive, efficient and effective learning process and environment. Critical thinking about outcomes should also be a concern.

In this study, practical applications of AI usage are demonstrated with examples generated using ChatGPT. This study pursues a reflective practical approach, based on an academician's usage experience and specific use cases of AI tools in undergraduate education. Some practical examples are demonstrated from an academician's perspective. There is a need for better adoption and integration of AI technologies in education. The vast opportunities offered by AI should be harnessed in an intelligent manner (Verma, 2025). Therefore, AI literacy, awareness, ethics, and intellectual property are some of the issues that should be discussed. By embracing AI literacy and ethical awareness, educators, and researchers can guide their students towards critical and responsible use of emerging AI technologies. The future of education and AI integration in education will depend on how thoughtfully and cautiously institutions, educators, and learners adapt themselves to the evolving landscape. The educator's role may need to be refined as a mediator between human judgment and machine-generated content. Wu (2023) raised a question “...*whether we should view this product as a tool for cheating and prohibit its use altogether, or should we embrace its potential to enhance the quality and efficiency of education?*”. This question requires a broad discussion at multiple levels and in different fields of education.

Based on the practical real-life experiences presented and reviewed in the literature, it is evident that effective AI integration in higher education requires more than just access to these tools. It requires a thoughtful framework aligned with educational principles. In this regard, four guiding principles could be

proposed: (1) pedagogical alignment, (2) ethical responsibility & integrity, (3) AI literacy and critical evaluation, and (4) balanced human AI-collaboration. These principles can help educators and institutions while designing strategies that enhance learning while maintaining academic integrity and ethical values. (1) AI tools should be used in a way that directly support learning outcomes and experience not just for efficiency. (2) Educators must guide students about responsible use of AI, emphasizing the meanings of plagiarism, originality, academic honesty. (3) A fundamental level of AI literacy should be a qualification for the students and educators, so they could understand and interpret how AI tools work, their biases, and limitations. (4) AI in education should be considered as a supplement, not a replacement. Educators will remain in focus in shaping, adaptive and ethical learning experiences.

AI has the potential to transform higher education. This transformation will not replace educators, but synthesize their ability to provide meaningful, efficient, and adaptive learning environments. Further studies will show how successfully AI can be integrated in education. It is conceivable that AI will not replace educators, but educators who use AI are likely to benefit from it in more efficient manner.

Ethical Statement: This study does not involve any human subjects or data collected from human participants thus no ethical approval was required.

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If authors used ChatGPT:

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