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AI Chatbots in Education: A Case Study at University Mohammed First

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ABSTRACT

Artificial intelligence is reshaping higher education, encouraging institutions to explore new tools that can enrich learning and respond to emerging needs. Among these tools, AI-powered chatbots are often seen as promising supports for students, offering accessible, personalized, and interactive forms of assistance. This study examines how students perceive the potential role of chatbots in their learning experience, with a focus on three dimensions: expected adoption, anticipated pedagogical value, and concerns related to technical and ethical issues. Drawing on the Technology Acceptance Model, the Uses and Gratifications Theory, and socio-constructivist perspectives, the research provides a framework for understanding these perceptions. Based on a quantitative survey at University Mohammed First, the findings highlight both the opportunities students associate with chatbots such as guidance, resource access, and engagement and the reservations they express regarding accuracy, data protection, and fairness. The study aims to inform reflections on the responsible and meaningful integration of AI in higher education.

RÉSUMÉ

L'intelligence artificielle transforme progressivement l'enseignement supérieur et pousse les établissements à envisager de nouveaux outils pour enrichir les expériences d'apprentissage. Parmi eux, les chatbots éducatifs suscitent un intérêt croissant car ils offrent des formes d'assistance accessibles, personnalisées et interactives. Cette étude examine la manière dont les étudiants perçoivent le rôle potentiel de ces agents conversationnels dans leur parcours académique, en s'intéressant à trois dimensions : les conditions d'adoption, la valeur pédagogique anticipée et les préoccupations techniques et éthiques. En s'appuyant sur le Modèle d'Acceptation de la Technologie, la théorie des Usages et Gratifications et les perspectives socio-constructivistes, la recherche propose un cadre pour analyser ces perceptions. À partir d'une enquête quantitative menée auprès d'étudiants de l'Université Mohammed Premier, les résultats mettent en lumière les opportunités associées aux chatbots, soutien, accès aux ressources, engagement ainsi que les réserves exprimées concernant l'exactitude, la protection des données et l'équité. Cette étude nourrit la réflexion sur une intégration responsable de l'IA dans l'enseignement supérieur.

MOTS-CLÉS : IA éducative ; Chatbots ; Adoption technologique ; Apprentissage socio-constructiviste ; Éthique du numérique

KEYWORDS : Educational AI; Chatbots; Technology Adoption; Socio-Constructivist Learning; Digital Ethics

1 Introduction

Artificial intelligence has begun to take a significant place in higher education, not as an abstract concept but as a set of tools that increasingly shape the daily experience of students and teachers. Universities are progressively moving toward hybrid and digitally enriched environments, where online platforms, flexible learning paths, and interactive technologies accompany more traditional forms of instruction. In this changing landscape, AI-powered chatbots are frequently mentioned as potential learning companions capable of offering immediate assistance, clarifying concepts, and guiding learners through complex tasks.

At University Mohammed First, these questions have gained importance as students navigate an academic environment that relies more and more on digital resources. Many learners already turn instinctively to technological tools when they face difficulties, whether to seek explanations, organize their study routines, or explore alternative ways of understanding course material. Chatbots, by simulating dialogue and providing rapid feedback, embody a form of support that feels both accessible and adaptable to different learning needs.

This study takes an exploratory approach and seeks to understand how students imagine the contribution of AI chatbots to their learning experience. Instead of examining the impact of a tool already embedded in their academic routines, it focuses on expectations, perceived advantages, and the concerns that students anticipate when considering the presence of such systems in their studies. The aim is to understand how learners think these technologies might assist them—whether by simplifying access to information, offering clearer explanations, or encouraging more active engagement with their coursework. At the same time, the research pays attention to the reservations students express regarding accuracy, data protection, transparency, and the possibility of depending too heavily on automated support.

To interpret these perceptions, the study draws on established theoretical perspectives. The Technology Acceptance Model (TAM) provides insight into the factors that shape openness toward new technologies, particularly perceived usefulness and ease of use. The Uses and Gratifications Theory (U&G) highlights the motivations and needs that lead learners to choose certain tools over others, including practical, cognitive, and emotional gratifications. Socio-constructivist approaches shed light on the potential of chatbots to support engagement, scaffold reasoning, and accompany learners within their zone of proximal development.

By combining these theoretical lenses with the results of a quantitative survey conducted among students at University Mohammed First, this research aims to offer a clear and nuanced understanding of how chatbots are perceived as possible educational tools. It contributes to broader reflections on the place that AI might occupy in the future of higher education, while acknowledging both the opportunities and the questions that accompany its integration.

2 Literature Review and Conceptual Framework

The integration of AI chatbots into education draws on several strands of research that explore how learners interact with technology, what motivates them to adopt new tools, and how digital systems can support knowledge construction. Although the presence of chatbots in higher education is relatively recent, the theoretical foundations that help us understand their potential roles are well established. This section presents the main frameworks that guide the interpretation of students' perceptions in this study: the Technology Acceptance Model (TAM), the Uses and Gratifications Theory (U&G), socio-constructivist approaches to learning, and the perspectives associated with technical and ethical challenges.

2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (Davis, 1989) remains one of the most influential frameworks for predicting user acceptance of new technologies. It proposes that two perceptual constructs *perceived usefulness* and *perceived ease of use* determine attitudes, intentions, and ultimately the willingness to adopt a technological system.

Perceived usefulness refers to the extent to which individuals believe that using a tool will enhance their performance or help them reach specific goals. In an academic context, this may include clearer explanations, better organization of information, or quicker access to clarifications that allow students to advance in their coursework. Chatbots, by offering immediate responses and adaptive guidance, are often viewed as potentially useful companions for independent study.

Perceived ease of use, on the other hand, represents the degree of effort associated with the interaction. A system that feels intuitive, natural, and effortless is more likely to be accepted than one that seems confusing or requires repeated trial-and-error. For conversational agents, this includes the clarity of the interface, the ability of the system to interpret student queries, and the perceived “smoothness” of the interaction.

TAM is particularly relevant in exploratory research because it captures early attitudes even before students have prolonged, real-world contact with a technology. When students imagine how a chatbot might support them, their mental representations are guided by these two core factors, which in turn shape openness or hesitation toward future adoption.

2.2 Uses and Gratifications Theory (U&G)

The Uses and Gratifications Theory (Katz et al., 1973) emphasizes that users do not passively receive information; instead, they actively choose media that meet their personal needs. This perspective has been applied to a variety of digital tools and helps explain why students might prefer one learning resource over another.

Several categories of gratifications are relevant here:

Cognitive needs: obtaining explanations, learning new concepts, clarifying doubts.

- Practical needs: saving time, reducing effort, accessing resources quickly.
- Affective needs: feeling supported, reassured or guided when tasks become difficult.
- Social and interactive needs: participating in discussions, preparing group work or using a tool that facilitates collaboration.

AI chatbots may respond to many of these motivations. Students often imagine them as accessible assistants that can simplify complex ideas, open alternative paths to learning, or relieve the pressure associated with studying alone. U&G therefore helps interpret not only how students perceive the tool's potential benefits but also why they might seek such benefits in the first place. Importantly, this framework recognizes that expectations vary widely from one learner to another. Some students may value immediate access to explanations, while others may be more attracted by the idea of receiving personalized suggestions or structured help during assignments. Understanding these diverse motivations provides a richer picture of how chatbots might be positioned in future learning ecosystems.

2.3 Socio-Constructivist Approaches to Learning

Socio-constructivist perspectives, drawing on Vygotsky (1978) and Piaget (1969), view learning as an active and collaborative process. Knowledge is constructed through interactions, dialogue, reflection, and engagement with meaningful tasks. In this view, tools and mediators play an essential role in supporting the learner's journey within the *zone of proximal development* (ZPD) the space where guidance allows learners to perform tasks they could not achieve independently. AI chatbots, when designed to provide adaptive feedback or scaffold students' reasoning, can serve as mediating tools that help sustain cognitive engagement. They can:

- ask prompting questions,
- guide students step-by-step,
- help them articulate their reasoning,
- encourage exploration of alternatives,
- and support the development of autonomy.

Although they cannot replace human teachers, their availability at any moment may complement traditional instruction and help learners remain active participants in their own progress. Socio-

constructivism also emphasizes the importance of dialogue, and chatbots by simulating conversational exchanges offer a new form of pedagogical interaction that differs from static resources such as textbooks or lecture slides.

Within an exploratory study, socio-constructivist principles help assess whether students imagine chatbots as simple information providers or as partners capable of stimulating deeper engagement with learning tasks.

2.4 Technical Considerations and the ISO/IEC 25010 Model

Any discussion about AI chatbots must consider their technical reliability. The ISO/IEC 25010 model provides a structured way to evaluate software quality across dimensions such as functionality, performance, usability, security and compatibility. These criteria matter for students because technical flaws slow responses, inconsistent behavior, misleading output, or limited linguistic accuracy can undermine trust and discourage use.

Anticipated technical challenges often influence how learners picture the role of chatbots in their studies. Concerns about system errors, platform integration, or the stability of responses are not merely technical they directly affect students' confidence in the tool and their sense of safety when interacting with automated systems.

2.5 Ethical and Legal Considerations

Ethical and legal questions have become inseparable from discussions about AI in education. Students increasingly express concerns about data privacy, transparency, intellectual property, and fairness. Questions such as “Who has access to my data?”, “How does the system store and process information?”, or “Could automated responses reinforce biases?” are now central to the discourse surrounding AI technologies.

In addition to privacy and bias, there is the question of responsible use. Some learners worry about the possibility of excessive dependence on automated tools, which may undermine critical thinking or reduce active engagement. Others are concerned about the boundaries between support and substitution when assistance becomes a shortcut rather than a learning opportunity.

These ethical considerations shape not only attitudes toward future adoption but also the broader reflection on the place AI should occupy in academic life. Understanding students' positions on these matters is essential for designing trustworthy, equitable and pedagogically meaningful learning environments.

To provide an integrated view of the theoretical perspectives mobilized in this study, Figure 1 presents the conceptual framework that links the adoption process, the expected pedagogical contribution of chatbots and the technical and ethical considerations associated with their use.

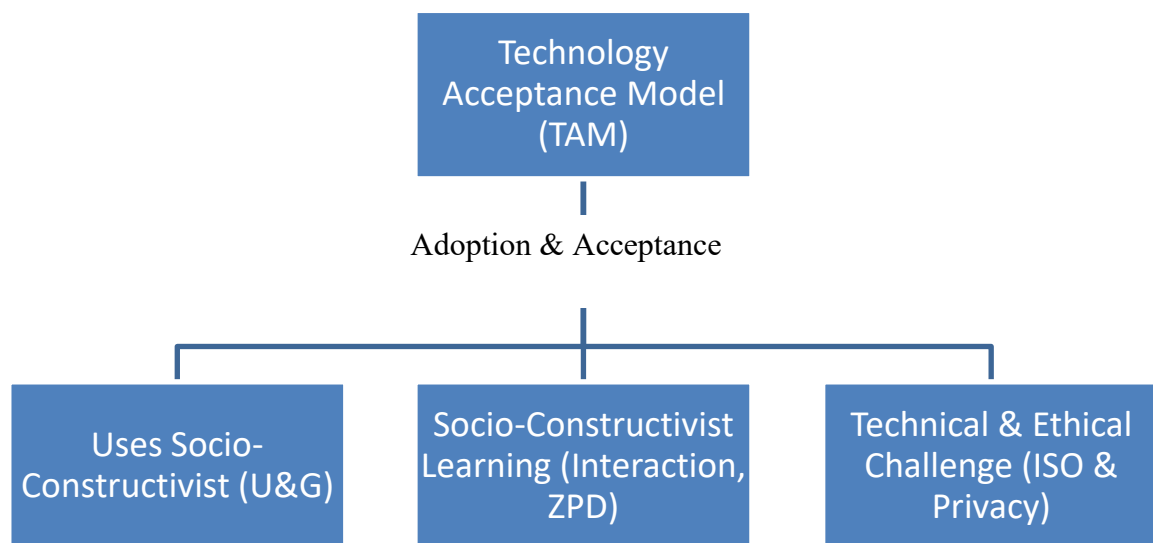


Figure 1 : Conceptual framework of the study.

As illustrated in Figure 1, the integration of these frameworks offers a coherent approach for interpreting how students perceive the potential role of AI chatbots in higher education.

3 Methodology

This study adopts a quantitative exploratory methodology designed to understand how students imagine the potential integration of AI chatbots into their learning environment. Since chatbots are not yet widely embedded in academic practices at University Mohammed First, examining projected perceptions rather than actual usage becomes essential for anticipating future technological orientations. The methodology is therefore structured to capture attitudes, expectations and concerns before the arrival of the technology, allowing a clearer view of the conditions under which students might accept or reject such tools.

3.1 Research Orientation and Rationale

The choice of an exploratory design is grounded in the nature of the research questions. When technologies are in early stages of awareness or not yet institutionalized, exploratory studies provide a reliable means to map emerging attitudes. Rather than testing hypotheses through experimental manipulation, the present design seeks to identify patterns in students' expectations and to situate these perceptions within theoretical models.

A quantitative approach was preferred over a purely qualitative one for several reasons. First, the study aimed to reach a large population of students from varied academic backgrounds, ensuring that the results reflect broader tendencies rather than isolated individual experiences. Second, quantitative instruments enable precise comparisons between different dimensions such as

perceived usefulness, anticipated challenges and ethical concerns. Finally, statistical trends offer a solid foundation on which institutions can later build implementation strategies or pilot programs.

3.2 Target Population and Sampling

The population targeted consists of students enrolled at University Mohammed First (UMP), spanning multiple departments and academic levels. UMP's diverse student body ranging from humanities and social sciences to sciences, economics, and technical programs provides a rich context for examining differing attitudes toward technological innovation.

A total of 387 students participated in the study. Although participation was based on voluntary response sampling, the sample size remains substantial for an exploratory analysis and ensures acceptable representativity of student diversity. The demographic distribution includes undergraduate, master's, and doctoral students, offering insight into how expectations vary according to academic maturity and awareness of digital tools.

No personal identifying information was collected. Instead, demographic questions focused on age group, field of study and level of familiarity with digital technologies. This ensured participant anonymity while still allowing relevant comparisons between subgroups.

3.3 Research Instrument

The instrument used was a structured, self-administered questionnaire developed specifically for this study. Its construction followed a multi-step process:

3.3.1 Alignment with Theoretical Frameworks

To ensure conceptual coherence, items were mapped to the theoretical models guiding the study:

- TAM (Technology Acceptance Model) contributed questions related to perceived usefulness, perceived ease of use, intention to adopt and general attitudes toward digital innovation.
- Uses and Gratifications Theory (U&G) guided the design of items assessing expected benefits, desired forms of assistance, motivations behind using chatbots and emotional or cognitive gratifications students associate with such tools.
- Socio-constructivist principles informed questions on interaction, engagement, support for reasoning and potential for collaborative work.
- Ethical and technical models, including quality criteria inspired by ISO/IEC 25010, framed questions on reliability, data protection, transparency and trust.

3.3.2 Structure of the Questionnaire

The questionnaire consisted of four main sections:

- Demographic information (age group, field of study, academic level, familiarity with digital technologies).
- Projected adoption and acceptance (Likert-scale items based on TAM).
- Anticipated pedagogical contribution (items inspired by socio-constructivism and U&G).
- Perceived technical and ethical challenges (items addressing reliability, privacy, fairness, and dependency risks).

Most items used a 5-point Likert scale ranging from “strongly disagree” to “strongly agree,” allowing nuanced responses. A small number of open-ended questions invited participants to express additional thoughts, helping to complement the quantitative trends with qualitative insights.

3.3.3 Instrument Validation

Before dissemination, the questionnaire underwent content validation through consultation with three experts in educational technologies and AI in education. Their feedback helped refine item clarity, eliminate overly technical wording, and ensure that all questions aligned with the study's objectives. A pilot test with a small group of students ($n = 20$) was conducted to verify readability and estimate average completion time. Feedback from the pilot phase confirmed that the questionnaire was clear and accessible.

To provide a clear overview of how the questionnaire aligns with the theoretical foundations of the study, Table 1 summarizes the structure of the instrument and its correspondence with each framework.

Dimension	Associated Theoretical Framework	Examples of Questionnaire Items
Expected adoption & acceptance	Technology Acceptance Model (TAM)	Perceived usefulness; perceived ease of use; intention to adopt
Motivations & expected benefits	Uses and Gratifications Theory (U&G)	Need for support; time-saving; cognitive assistance
Anticipated pedagogical contribution	Socio-Constructivist Learning	Interaction; scaffolding; feedback; engagement
Technical & ethical concerns	ISO/IEC 25010 & Digital Ethics	Reliability; data privacy; transparency; fairness

Table 1 : Structure of the questionnaire according to theoretical frameworks.

As shown in Table 1, the questionnaire was structured to reflect the main theoretical perspectives mobilized in this study.

3.4 Data Collection Procedure

Data were collected online using a secure digital form accessible through commonly used platforms. Dissemination took place via university mailing lists, official student groups, and internal communication channels. The online format offered several advantages:

- it allowed rapid participation without geographical constraints;
- it encouraged honest responses due to perceived anonymity;
- it facilitated high participation rates by making the survey available at all times;
- it reduced administrative overhead and enabled efficient consolidation.

A brief introduction at the beginning of the form explained the study's purpose, reassured students about confidentiality, and emphasized voluntary participation. No incentives were offered, ensuring that responses were not influenced by external motivations.

The data collection period lasted two weeks, during which reminders were posted to encourage participation across departments. The final dataset was automatically compiled and exported in spreadsheet format for analysis.

3.5 Ethical Considerations

Ethical principles guided every step of the research process. Participation was entirely voluntary, and students could withdraw at any moment without penalty. The survey collected no personal identifiers, and all responses remained anonymous. Clear information was provided regarding the research objectives, the intended academic use of the data, and assurance that responses would not be shared with faculty in a way that could affect academic evaluation.

The study complied with general ethical standards for non-interventional educational research. Since the survey focused exclusively on perceptions and did not involve sensitive data or manipulations, it did not require institutional ethics board approval.

3.6 Data Processing and Analysis

Data were analyzed using descriptive statistics to identify trends, frequencies, and overall tendencies across the three main dimensions. Specific analytical steps included:

- calculating means and standard deviations for scaled items,
- examining distribution patterns to identify dominant perceptions,
- comparing subgroups (e.g., field of study, academic level),
- mapping results to theoretical constructs (TAM, U&G, socio-constructivist dimensions).

Although the analysis remains primarily descriptive consistent with the exploratory nature of the

study it provides a robust foundation for identifying areas where student expectations converge or diverge. The results are interpreted not only numerically but also theoretically, offering a multidimensional view of how students conceptualize the future integration of chatbots in higher education.

4. Results and Discussion

The results of the survey conducted with 387 students provide valuable insights into how learners envision the possible integration of AI chatbots in their academic experience. Although the study remains exploratory, the trends observed help clarify perceived opportunities, expectations and concerns. These results are presented according to the three analytical axes guiding the research.

4.1 Expected Adoption and Acceptance (TAM)

Students expressed generally positive attitudes toward the idea of interacting with AI chatbots in a future academic setting. A majority indicated that they would be willing to consider using such tools if they proved helpful, clear and easy to handle. This tendency aligns with the Technology Acceptance Model (TAM), where *perceived usefulness* and *perceived ease of use* strongly influence intention to adopt.

A large proportion of respondents agreed that chatbots could help them work more efficiently, clarify course content, or obtain quick guidance when facing difficulties. These perceptions suggest that many students already imagine chatbots as potentially supportive tools capable of simplifying access to information or reducing the time needed to search for explanations.

At the same time, a smaller group of students remained cautious, expressing uncertainty about whether such tools would be intuitive enough or whether they would fit naturally into their learning routines. This nuance underscores the importance of designing systems that match students' expectations of clarity, accuracy and simplicity.

These trends are illustrated in Table 3, which summarizes the main indicators related to perceived usefulness.

Item	Agree (%)	Neutral (%)	Disagree (%)
Chatbots would improve learning efficiency	74%	18%	8%
Chatbots would help me understand course content	69%	22%	9%
Chatbots would provide useful guidance	65%	25%	10%

Table 2 : Descriptive Results: Perceived usefulness (TAM)

4.2 Anticipated Pedagogical Contribution (Socio-Constructivism & U&G)

Beyond basic acceptance, students shared a range of expectations regarding how AI chatbots might contribute to their learning. Many respondents imagined chatbots as interactive companions able to answer questions, explain complex concepts, or guide them step by step through an assignment. These expectations align closely with **socio-constructivist principles**, particularly the idea that learning is shaped by interaction and scaffolded support.

Students indicated that they believed chatbots could:

- provide clarification when instructors are unavailable;
- foster engagement by offering immediate responses;
- assist with understanding difficult materials;
- support group work by helping coordinate tasks or offering reminders;
- generate personalized suggestions for additional resources.

These anticipated benefits also resonate with the Uses and Gratifications Theory (U&G), which explains technology choice as driven by personal needs. Students seem motivated by the promise of emotional reassurance, efficient access to help and the possibility of learning more independently.

It is noteworthy that some respondents imagined chatbots not merely as information providers, but as tools capable of stimulating deeper engagement and organizing learning activities. This suggests a vision of AI assistance that extends beyond simple Q&A interactions and moves toward more structured, pedagogical guidance.

4.3 Technical and Ethical Challenges (ISO Model & Digital Ethics)

While the results show considerable interest in the potential benefits of AI chatbots, students also expressed important concerns. These concerns highlight the need for careful planning, particularly regarding technical reliability and ethical responsibility.

4.3.1 Technical Concerns

Students identified several challenges that could limit their willingness to use chatbots. These include:

- accuracy and reliability of responses;
- the ability of the chatbot to understand natural language;
- integration with existing university platforms;
- stability and speed of the system.

These observations align with ISO/IEC 25010 quality criteria, which emphasize functionality, reliability, usability, and security. Students appear keenly aware that inconsistent or incorrect responses could undermine their trust in the tool and negatively affect their learning experience.

4.3.2 Ethical and Privacy Concerns

Ethical considerations were equally prominent. Students expressed worries about:

- personal data protection;
- transparency of algorithms;
- potential misuse or unauthorized access to data;
- fairness and neutrality of responses.

These concerns highlight the importance of designing AI systems that respect ethical standards and ensure that learners feel safe and protected when interacting with them. For some students, the risk of over-reliance on automated assistance also emerged as a potential drawback, suggesting that chatbots should be framed as complementary tools, not replacements for human guidance.

To better illustrate the range of concerns expressed by participants, Table 4 presents the key technical and ethical challenges they anticipate.

Challenge	Perceived Importance
Accuracy of responses	High
Data confidentiality	High
Algorithmic transparency	Medium
Risk of over-reliance on AI	Medium
Equity and accessibility	Medium to Low

Table 4 : Anticipated Challenges Identified by Students

4.4 Synthesis of Findings

Taken together, the results portray a student population that is generally open to the idea of AI-enhanced learning but attentive to the conditions under which such tools might be implemented. The anticipated benefits, efficiency, accessibility, engagement coexist with legitimate technical and ethical concerns.

These findings reinforce the value of a balanced approach to AI integration in education, one that acknowledges both the pedagogical opportunities and the responsibilities associated with digital innovation. They also demonstrate the relevance of the theoretical frameworks mobilized in this

study: TAM helps explain adoption tendencies, U&G clarifies motivational drivers and socio-constructivism highlights the pedagogical contributions envisioned by learners.

5. Limitations of the Study

Although this study offers valuable insights into how students envision the potential integration of AI chatbots in higher education, several limitations must be acknowledged to contextualize the findings.

First, the research relies on a single data collection method a quantitative questionnaire. While this approach enabled the participation of a large number of students, it does not capture the depth of individual experiences, reasoning processes or personal narratives. Qualitative interviews or focus groups could have enriched the analysis by providing more nuanced interpretations of students' expectations and concerns.

Second, the study is exploratory and focuses on *projected perceptions* rather than actual use. Since AI chatbots are not yet formally implemented within the university context, participants responded based on imagined scenarios, prior exposure to similar technologies or general opinions about AI. These anticipations may evolve significantly once students interact with real systems, suggesting that future studies should include pilot implementations or controlled experiments.

Third, the sample, although substantial, was drawn from students who voluntarily chose to participate. This self-selection bias may have favored individuals who are more interested in technology or more comfortable with digital tools. As a result, the attitudes captured may not fully represent students who are less familiar with AI or less inclined to adopt new technologies.

Fourth, the study does not differentiate between specific academic disciplines in a systematic way. Differences in technological affinity, learning styles and expectations may vary between fields such as humanities, sciences, and engineering. A more detailed comparative analysis could reveal disciplinary patterns that were beyond the scope of the present work.

Finally, the questionnaire relied on self-reported data, which can be affected by social desirability, incomplete understanding of AI capabilities, or personal biases. Respondents may have overestimated potential benefits or underestimated technical and ethical challenges due to limited exposure to real AI systems.

Despite these limitations, the study provides a solid foundation for further investigation and offers a valuable first step toward understanding how students perceive the future role of AI chatbots in their learning environment.

6. Future Research Directions

The exploratory nature of this study opens several promising avenues for future research on the use of AI chatbots in higher education. Because the present work investigates perceptions prior to

actual implementation, subsequent studies should aim to examine how these expectations evolve when students interact with functional systems in real academic settings. Pilot programs or controlled classroom deployments could provide concrete evidence regarding the effectiveness of chatbots in supporting learning, engagement and autonomy.

Future research would also benefit from mixed-methods designs that combine quantitative surveys with qualitative approaches such as interviews, focus groups or think-aloud protocols. These methods would allow researchers to explore the reasoning behind students' perceptions, uncover subtle forms of resistance or enthusiasm and better understand how learners negotiate the presence of automated tools in their academic routines.

Another promising direction involves discipline-specific investigations. Different fields of study may require distinct forms of assistance: students in mathematics or computer science may expect problem-solving guidance, while learners in humanities may prioritize feedback on writing, argumentation or comprehension. Comparative studies across disciplines could therefore identify differentiated needs and inform the design of specialized chatbot features tailored to each academic domain.

In addition, future work should address the ethical and regulatory dimensions of AI adoption in higher education. As concerns about data governance, algorithmic transparency and fairness continue to grow, researchers should examine how institutions can build ethical frameworks that protect students while allowing innovation to thrive. Longitudinal studies could track how perceptions of trust, responsibility and digital safety evolve over time as AI tools become more embedded in university life.

Finally, it would be valuable to explore collaborative uses of chatbots, particularly in group work, peer evaluation, or online learning communities. Understanding whether AI can facilitate coordination, communication, or shared problem-solving may open new pathways for integrating conversational agents into broader pedagogical ecosystems.

Taken together, these future directions highlight the importance of ongoing research that moves beyond static perceptions and engages with the real, dynamic and multifaceted role AI chatbots may play in shaping the future of learning.

7. Conclusion

This study set out to explore how students at University Mohammed First perceive the potential integration of AI chatbots into their learning environment. At a moment when artificial intelligence is reshaping academic practices worldwide, understanding learners' expectations and concerns becomes essential for designing responsible and effective educational strategies. Rather than assessing the impact of an existing system, this research captured early attitudes toward a technology that students may soon encounter as part of their academic routines.

The findings reveal a student population that is generally open to the idea of AI-assisted

learning and sees chatbots as tools that could offer immediate explanations, facilitate access to resources, and provide structured guidance during difficult tasks. These expectations reflect broader principles identified in the Technology Acceptance Model and Uses and Gratifications Theory, including the importance of perceived usefulness, ease of use and the search for cognitive and emotional support. Students also expressed interest in the potential of chatbots to contribute to more interactive and engaged forms of learning, consistent with socio-constructivist perspectives.

At the same time, the results highlight several important reservations that must be acknowledged if chatbots are to be implemented responsibly. Concerns about accuracy, privacy, fairness, transparency and system reliability show that students are not uncritical consumers of digital tools. Their willingness to engage with AI depends not only on perceived advantages but also on their trust in the system, the institution and the ethical safeguards put in place. These insights underscore the need for universities to adopt careful design principles, transparent communication and robust data protection measures.

The study contributes to a growing body of research on AI in higher education by offering a nuanced, student-centered perspective on the opportunities and challenges surrounding AI chatbots. It suggests that successful integration requires more than technological deployment : it demands pedagogical reflection, ethical vigilance and continuous dialogue with learners. As higher education institutions move toward increasingly hybrid and digitally enhanced models, the voices of students captured in exploratory studies such as this one, remain essential for shaping innovation that is meaningful, equitable and aligned with real educational needs.

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