Volume 2 Issue 2 Year 2026 Pages 01-22
e–ISSN 3090-9406 | DOI: 10.70152
https://journal.akademimerdeka.com/ojs/index.php/duites

Constructing Learner Identity in the Age of Artificial Intelligence: A Phenomenological Study of University Students' Experiences in AI-Mediated Learning

Roy Venketsamy[1], Naelul Rohmah[2*]

[1] University of KwaZulu-Natal, South Africa
[2] Institut Prima Bangsa, Cirebon, Indonesia
[*]Corresponding author's email: naelulrohmah@gmail.com

DOI: https://doi.org/10.70152/duties.v2i2.362

The rapid integration of artificial intelligence (AI) into higher education has transformed how students access information, engage with learning tasks, and construct knowledge. While previous studies have primarily focused on the adoption, effectiveness, and ethical implications of AI-assisted learning, relatively little attention has been devoted to understanding how AI shapes students' learner identities and their evolving perceptions of themselves as learners. Addressing this gap, this study explores how university students construct their learner identities in the era of artificial intelligence. Employing a qualitative phenomenological design, the study involved six purposively selected university students whose rich experiences with generative AI were considered appropriate for in-depth phenomenological inquiry and who regularly used generative AI technologies to support their academic learning. Data were collected through semi-structured interviews and a focus group discussion and analysed using inductive thematic analysis. The findings revealed four interconnected themes: becoming an AI-enhanced learner, negotiating independence and dependence in learning, redefining competence and expertise, and envisioning future-ready learner identities. Participants perceived AI as a learning companion that enhanced their capabilities while simultaneously requiring them to negotiate issues of autonomy, responsibility, and authenticity. The findings further indicated that students increasingly defined competence in terms of critical evaluation and effective human-AI collaboration rather than information acquisition alone. Moreover, participants' engagement with AI was strongly connected to their aspirations for future academic and professional participation. By foregrounding learner identity as an analytical lens, this study extends current scholarship beyond functional and technological perspectives on AI-assisted learning, demonstrating how AI influences not only how students learn but also who they become as learners. The findings also provide practical insights for higher education institutions and educators seeking to foster AI literacy while promoting learner autonomy, critical judgment, and responsible human–AI collaboration in increasingly AI-mediated learning environments.

Keywords: Artificial Intelligence, Higher Education, Learner Identity, Phenomenology, Thematic Analysis

INTRODUCTION

Learning is not merely a process of acquiring knowledge and skills; it is also a process of becoming. Throughout their educational journeys, students continuously construct and reconstruct understandings of who they are as learners through their interactions with people, learning practices, and educational environments. This evolving sense of self, commonly referred to as learner identity, shapes how individuals perceive their abilities, exercise agency, respond to learning challenges, and envision their future academic and professional trajectories (Martín Ortega & Solari Maccabelli, 2024). Rather than being fixed or predetermined, learner identity is dynamic, socially situated, and continually negotiated through participation in learning experiences (Neupane, 2024). Consequently, understanding how learners construct their identities is essential because these identities influence not only what students learn but also how they engage with learning and who they aspire to become.

Historically, learner identity has been shaped through interactions with teachers, peers, textbooks, and other educational resources. Such interactions have traditionally provided opportunities for learners to develop confidence, independence, competence, and a sense of belonging within academic communities (Manosuthikit, 2025). However, contemporary learning environments are undergoing profound transformation as digital technologies increasingly participate in educational processes. The emergence of artificial intelligence (AI), particularly generative AI, introduces a fundamentally different educational context in which intelligent systems no longer function solely as repositories of information but actively generate ideas, provide explanations, offer feedback, and support complex cognitive tasks (Najmiah & Al-Anbari, 2025). This transformation raises important questions about whether learner identity itself is being reshaped as students increasingly learn alongside AI rather than exclusively through interactions with human teachers and peers.

Contemporary university students are experiencing a learning environment fundamentally different from that of previous generations. For centuries, learners relied primarily on teachers, textbooks, libraries, and peer interactions as sources of knowledge and guidance (Bhardwaj et al., 2025). Although educational technologies have evolved over time, learning remained largely a human-centred endeavour in which knowledge was acquired, interpreted, and constructed through interactions with teachers, learning materials, and fellow learners (Khong & Tanner, 2024). However, today's students are the first generation of learners who must navigate their educational journeys alongside increasingly sophisticated artificial intelligence (AI) systems (Chan & Lee, 2023) capable of generating information, offering explanations, providing feedback, and assisting with complex cognitive tasks. Unlike learners in the past, contemporary students are learning in an era where intelligent technologies actively participate in knowledge construction and learning processes (Yamada, 2025). This unprecedented educational context raises important questions not only about how students learn but also about how they perceive and understand themselves as learners.

The rapid advancement of artificial intelligence, particularly generative AI technologies such as ChatGPT, Gemini, Claude, and other large language models, has transformed the landscape of higher education. Unlike previous educational technologies that primarily facilitated access to information, contemporary AI systems actively engage in learning processes by generating content, supporting problem-solving, providing personalized feedback, and assisting students in completing academic tasks (Fan et al., 2025). As a result, AI has become increasingly integrated into students' daily learning practices. Students now consult AI to brainstorm ideas, summarize complex concepts, revise written work, prepare presentations, and support independent learning (Bećirović et al., 2025). Consequently, AI is no longer merely a technological tool but an influential presence that shapes how students approach learning and academic work.

The growing integration of AI in higher education has attracted substantial scholarly attention. Existing studies have primarily focused on students' acceptance of AI technologies (Sousa & Cardoso, 2025), perceptions of AI-assisted learning (Fošner, 2024), learning outcomes (Liu et al., 2025), academic performance (Sun & Zhou, 2024), ethical concerns (Williams, 2024), and AI literacy development (Tenberga & Daniela, 2024). Findings generally suggest that AI can improve learning efficiency, increase accessibility to information, and provide personalized support for learners. At the same time, scholars have raised concerns regarding academic integrity, overreliance on AI, diminished critical thinking, and the authenticity of students' work (Zhai et al., 2024). Collectively, these studies have generated valuable insights into the pedagogical and technological implications of AI. However, they have largely conceptualized students as users of AI technologies whose behaviours, perceptions, or learning outcomes can be measured, while giving comparatively limited attention to how AI influences students' evolving understandings of themselves as learners. As a result, the identity-related dimensions of AI-mediated learning remain insufficiently understood.

The concept of learner identity offers a useful lens for understanding this issue. Learning is not solely concerned with acquiring knowledge and skills; it is also a process of becoming. Learner identity refers to how individuals perceive, understand, and position themselves as learners within particular social, cultural, and educational contexts (Martín Ortega & Solari Maccabelli, 2024). Identity is neither fixed nor stable. Rather, it is continuously constructed and reconstructed through experiences, interactions, and participation in learning activities (Neupane, 2024). Through these processes, learners develop beliefs about their abilities, roles, responsibilities, and place within educational communities. Such perceptions influence how students engage with learning, exercise agency, and envision their future academic trajectories.

The emergence of AI introduces a new dimension to learner identity construction. Historically, learners developed their identities through interactions with teachers, peers, and educational resources (Manosuthikit, 2025). Today, however, AI has become an additional and increasingly influential participant in the learning process. Students can collaborate with AI to generate ideas, solve problems, obtain explanations, and receive feedback (Perifanou & Economides, 2025). In this context, traditional notions of independent learning, expertise, authorship, and academic competence may be redefined

(Johnston et al., 2024). Students may begin to question what it means to be knowledgeable when information is instantly available through AI, what it means to be an independent learner when AI assistance is readily accessible, and what it means to produce authentic work when human and machine contributions become intertwined. These experiences suggest that AI may play a significant role in shaping how students understand and negotiate their identities as learners.

The issue is particularly significant because AI-mediated learning environments can simultaneously empower and challenge learners. On one hand, AI may enhance students' confidence, productivity, and access to learning opportunities (Fitriati & Williyan, 2025). On the other hand, it may create tensions concerning dependence, authenticity, responsibility, and ownership of learning (Wang et al., 2024). Students may experience uncertainty regarding the extent to which their achievements reflect their own abilities or the capabilities of AI systems. Such tensions are likely to influence how students perceive themselves and their roles within the learning process. Understanding these experiences is therefore essential for comprehending the broader educational implications of AI integration in higher education.

Although learner identity has been widely examined across language education, higher education, and digital learning contexts, relatively little is known about how learner identities are constructed and negotiated within AI-mediated learning environments. Existing AI-related studies have largely emphasized technological adoption, educational effectiveness, ethical considerations, and AI literacy, while the subjective processes through which students make sense of themselves as learners remain underexplored. Moreover, current discussions frequently portray students as users of AI technologies (Jensen et al., 2025) rather than as individuals whose identities, beliefs, agency, and future aspirations may be reshaped through sustained interactions with intelligent technologies. This conceptual gap is particularly significant because AI increasingly functions not merely as a learning tool but as an active participant in students' everyday learning experiences.

To address this gap, the present study investigates how university students construct and negotiate their learner identities in the era of artificial intelligence through a phenomenological exploration of their lived experiences with generative AI. In doing so, the study contributes to the emerging literature by shifting attention from what AI enables students to do toward how AI influences who students become as learners. Specifically, it provides an identity-oriented perspective on AI-mediated learning by illuminating how students negotiate autonomy, competence, authenticity, and future aspirations while engaging with generative AI technologies. Specifically, the study is guided by the following research question:

- How do university students construct their identities as learners in the era of artificial intelligence?

The findings are expected to contribute both theoretically and practically. Theoretically, the study extends current discussions of learner identity by examining identity construction within educational contexts where AI has become an increasingly influential

participant in learning processes. Practically, it offers insights for educators, curriculum developers, and higher education institutions seeking to design pedagogical practices that foster AI literacy while simultaneously supporting learner autonomy, critical judgment, and responsible human–AI collaboration. Ultimately, the study seeks to deepen our understanding of what it means to be a learner in an era where human learning is increasingly intertwined with artificial intelligence.

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

Learner Identity Theory as an Analytical Lens

This study draws on Learner Identity Theory, particularly the work of Norton (2013), as the analytical lens for understanding how university students construct their identities as learners in the age of artificial intelligence (AI). Norton conceptualizes identity as dynamic, multiple, and continuously negotiated through individuals' interactions with their social and educational environments. From this perspective, learning is not merely a process of acquiring knowledge but also a process of becoming, through which learners develop and redefine their understandings of who they are and who they aspire to become (Canagarajah, 2023). Such a perspective is particularly relevant in AI-mediated learning environments, where students increasingly interact with intelligent technologies that may influence how they perceive themselves as learners.

Norton's framework informed the development of the interview and focus group protocols by sensitizing the study to issues of learner identity, investment, and future aspirations. Rather than serving as a predetermined coding framework, however, the theory functioned as a conceptual guide for exploring participants' lived experiences. Consistent with the phenomenological and inductive orientation of this study, themes were allowed to emerge from participants' accounts during thematic analysis. Norton's theoretical concepts were subsequently employed as an interpretive lens to deepen understanding of the meanings embedded within the emergent themes rather than to determine them a priori.

Two concepts from Norton's framework are especially relevant to this study: investment and imagined communities. Investment refers to learners' commitment to particular learning practices because these practices support desired identities and future aspirations (Norton, 2013). From this perspective, students' engagement with generative AI can be understood as more than a strategy for completing academic tasks; it also reflects their investment in becoming competent learners capable of participating effectively in AI-mediated educational environments. Consequently, the concept of investment provides a lens for interpreting how participants negotiated issues of autonomy, competence, and responsibility while integrating AI into their learning practices.

Imagined communities refer to the social worlds and future possibilities that learners envision for themselves (Norton, 2013). In the context of AI-mediated learning, students may engage with AI not only to enhance learning efficiency but also because they perceive AI competence as important for their future academic, professional, and social participation. This concept is particularly valuable for understanding participants' future-

oriented perspectives, illuminating how their present engagement with AI was closely connected to aspirations of becoming graduates and professionals capable of collaborating effectively with intelligent technologies.

Taken together, Norton's concepts of identity, investment, and imagined communities provide a coherent theoretical lens for interpreting the identity-related dimensions of AI-mediated learning. They enable the study to examine how students continuously negotiate who they are as learners through their interactions with AI, why they choose to engage with AI-assisted learning practices, and how these experiences shape the kinds of learners they aspire to become. Rather than treating learner identity as a stable personal characteristic, the framework conceptualizes identity as an ongoing process of negotiation situated within changing educational contexts. This perspective is particularly appropriate for understanding learner identity in an era where artificial intelligence has become an increasingly influential participant in knowledge construction and learning.

Previous Studies

The increasing integration of artificial intelligence (AI) into higher education has transformed the ways students access information, engage with learning tasks, and construct knowledge. Recent advances in generative AI have enabled students to interact with intelligent systems that can provide explanations, generate ideas, offer feedback, and support academic work. Consequently, learning is no longer solely mediated through teachers, peers, and traditional educational resources but increasingly involves interactions with AI technologies. This shift has prompted growing scholarly interest in understanding how AI influences students' learning experiences, academic practices, and educational outcomes.

Existing research has predominantly examined AI from technological, pedagogical, and behavioural perspectives. Much of this literature seeks to understand whether students adopt AI, how AI influences learning outcomes, and what opportunities and challenges accompany its educational use. Collectively, these studies portray AI as a tool that enhances learning efficiency, supports personalized learning, improves access to information, and contributes to academic performance (Msambwa et al., 2025; Vieriu & Petrea, 2025). At the same time, researchers have consistently highlighted concerns regarding academic integrity, overreliance on AI, diminished critical engagement, and questions of authorship and originality (Cotton et al., 2024; Yeo, 2023). This body of work has generated valuable insights into the educational affordances and risks of AI integration. However, its primary focus remains on what students do with AI and how AI influences learning processes, rather than on how these interactions shape students' understandings of themselves as learners.

This emphasis reflects a broader tendency within AI-in-education research to conceptualize students primarily as technology users whose perceptions, behaviours, or academic outcomes can be examined. Although such perspectives have substantially advanced knowledge regarding AI adoption and effectiveness, they provide only limited insight into the subjective and identity-related dimensions of AI-mediated learning.

Learning is not solely concerned with acquiring knowledge or improving performance; it also involves the continuous construction of learner identities through participation in educational practices. Consequently, understanding AI-mediated learning requires moving beyond questions of technological effectiveness to examine how students interpret, negotiate, and redefine who they are as learners while engaging with intelligent technologies.

Although a small but growing body of research has begun to explore the relationship between AI and identity (Barnes et al., 2024; Satvati et al., 2025), this emerging literature remains fragmented in both conceptualization and empirical scope**.** Existing studies suggest that AI may influence learners' perceptions of competence, agency, autonomy, and participation in learning (Alm, 2024; Delcker et al., 2024). The increasing presence of AI in educational contexts challenges traditional assumptions about expertise, independent learning, and knowledge construction, potentially reshaping how students position themselves within learning processes. Nevertheless, these studies have largely examined isolated aspects of identity, such as autonomy or AI competence, rather than learner identity as a holistic and evolving process of meaning-making. Furthermore, much of the existing evidence has been generated through survey-based approaches that capture attitudes, intentions, or usage patterns but provide relatively limited understanding of how students experience and negotiate identity transformation in their everyday interactions with AI. As a result, the lived experiences through which learner identities are constructed in AI-mediated learning environments remain insufficiently understood.

Viewed collectively, the existing literature reveals two important gaps. First, research has largely emphasized the functional consequences of AI use while giving comparatively little attention to its identity-related implications. Second, although learner identity has been widely recognized as dynamic, socially situated, and continuously negotiated, few studies have examined how these identity processes unfold in educational environments where AI has become an increasingly influential participant in learning. Addressing these gaps requires research that foregrounds students' voices and explores how they make sense of themselves as learners while interacting with generative AI technologies.

Accordingly, the present study adopts a phenomenological perspective to investigate how university students understand, negotiate, and construct their learner identities in the age of artificial intelligence. By focusing on students' lived experiences rather than patterns of technology adoption or educational outcomes, the study extends current scholarship beyond functional perspectives on AI and contributes an identity-oriented understanding of AI-mediated learning.

METHODS

Research Design

This study employed a qualitative phenomenological research design to explore how university students construct their identities as learners in the era of artificial intelligence (AI). Phenomenology is particularly suitable for investigating individuals' lived experiences and the meanings they attribute to those experiences (Dodgson, 2023). Since

the present study seeks to understand how students perceive, negotiate, and make sense of their learner identities within AI-mediated learning environments, a phenomenological approach provides an appropriate framework for capturing the subjective and nuanced dimensions of these experiences. Rather than examining the effectiveness or frequency of AI use, the study focuses on understanding how students experience learning with AI and how such experiences contribute to the construction of their identities as learners.

A phenomenological approach was considered particularly appropriate because learner identity is constructed through subjective interpretations of lived experience rather than directly observable behaviours. Accordingly, the study sought to capture participants' personal meanings, reflections, and interpretations of learning with AI, allowing a deeper understanding of how interactions with generative AI contributed to their evolving perceptions of themselves as learners.

Participants

The participants consisted of six university students who regularly used AI technologies, such as ChatGPT and other generative AI tools, to support their academic learning. A purposive sampling strategy was employed to recruit participants who could provide rich and relevant insights into the phenomenon under investigation (Stratton, 2024). The participants represented different academic disciplines and years of study, providing diverse perspectives on AI-mediated learning. Although their educational backgrounds varied, all participants reported frequent use of generative AI technologies for academic purposes, including brainstorming ideas, seeking explanations, revising written work, preparing assignments, and supporting independent learning.

To be eligible for participation, students were required to

1. be enrolled in a higher education institution,
2. have experience using AI tools for academic purposes, and
3. be willing to reflect on and discuss their learning experiences.

The relatively small number of participants is consistent with phenomenological inquiry, which prioritizes depth of understanding and detailed exploration of lived experiences rather than statistical generalization. Rather than seeking representativeness, participant selection focused on identifying information-rich cases capable of providing detailed accounts of learner identity construction in AI-mediated learning environments. The sample size is therefore consistent with phenomenological research, which emphasizes depth, richness, and meaning rather than breadth or statistical inference (Dodgson, 2023).

Data Collection

Data were collected through semi-structured individual interviews and a Focus Group Discussion (FGD). The combination of these methods enabled the researcher to obtain both individual and collective perspectives regarding students' experiences with AI-mediated learning (Geampana & Perrotta, 2025). Semi-structured interviews served as

the primary data source because they enabled participants to describe their lived experiences, personal reflections, and evolving understandings of themselves as learners in considerable depth. The interviews followed a flexible protocol that allowed participants to elaborate on issues they considered meaningful while ensuring consistency across interviews. Questions explored participants' experiences of learning with AI, their perceptions of independence and competence, their understanding of authentic learning, and their aspirations as future learners and professionals. Individual interviews provided opportunities for participants to share personal reflections on how AI influenced their learning practices, self-perceptions, and future aspirations.

Following the interviews, a Focus Group Discussion (FGD) was conducted to complement the individual narratives. The FGD provided opportunities for participants to compare experiences, respond to one another's perspectives, and collectively negotiate meanings regarding learner identity in AI-mediated learning. This interaction enriched the phenomenological inquiry by revealing shared understandings, contrasting viewpoints, and collective reflections that might not have emerged through individual interviews alone (Geampana & Perrotta, 2025).

The interview and FGD protocols were developed and adapted from the conceptual framework proposed by Norton (2013), particularly the concepts of identity, investment, and imagined communities. Although Norton's framework informed the development of the interview questions, participants were encouraged to discuss their experiences freely, allowing unexpected issues and meanings to emerge naturally during the conversations. Questions explored participants' perceptions of themselves as learners, their engagement with AI technologies, the meanings they attached to AI-assisted learning practices, and their aspirations for future academic and professional participation. All participants provided informed consent prior to data collection and were assured that their identities would remain confidential. Pseudonyms (P1–P6) were used throughout the study to protect participants' anonymity. All interviews and discussions were audio-recorded with participants' consent and subsequently transcribed verbatim for analysis.

Data Analysis

The collected data were analysed using Thematic Analysis following the framework proposed by Clarke and Braun (2017). An inductive approach was employed to ensure that themes emerged from participants' accounts rather than being predetermined by existing theoretical categories. The analysis involved several iterative stages:

- familiarization with the data through repeated reading of transcripts,
- generation of initial codes,
- identification of potential themes,
- review and refinement of themes,
- definition and naming of themes, and
- production of the final report.

Throughout the analysis, coding was driven by participants' narratives rather than by predefined theoretical constructs. This inductive process enabled the researcher to remain attentive to the meanings embedded within participants' lived experiences and to develop themes grounded in the data. Although the analysis was conducted inductively, Norton's (2013) Learner Identity Theory served as an interpretive lens during the discussion of findings. Specifically, Norton's concepts of learner identity, investment, and imagined communities were employed only after the themes had been generated to facilitate theoretical interpretation of the findings. This approach ensured methodological consistency by maintaining an inductive analytical process while allowing the emergent themes to be interpreted within an established theoretical framework. This approach allowed the study to remain grounded in participants' lived experiences while also providing theoretical insights into how learner identities were constructed, negotiated, and reimagined within AI-mediated learning environments.

Trustworthiness

To enhance the trustworthiness of the findings, methodological triangulation was employed by combining semi-structured interviews and a focus group discussion. Data were analyzed iteratively through repeated reading and refinement of emerging themes to ensure that the interpretations remained grounded in participants' accounts. Throughout the analytical process, close attention was given to preserving participants' meanings by repeatedly comparing the developing themes with the original transcripts. The use of verbatim quotations in the findings further enhances the credibility and transparency of the interpretations by allowing readers to evaluate the relationship between the data and the reported themes.

FINDINGS

This study explored how higher education students constructed their identities as learners in the era of artificial intelligence. Analysis of the interview and focus group discussion data revealed that participants experienced AI not merely as a technological tool but as an increasingly meaningful presence in their everyday learning. As they described their experiences of using AI to understand concepts, complete assignments, solve problems, and prepare for future careers, participants also reflected on how these experiences influenced the ways they perceived themselves as learners. Their accounts illustrated an ongoing process of making sense of learning with AI, during which they continually reconsidered their capabilities, responsibilities, and aspirations within AI-mediated learning environments. Four interconnected themes emerged from the analysis: (1) becoming an AI-enhanced learner, (2) negotiating independence and dependence in learning, (3) redefining competence and expertise, and (4) envisioning future-ready learner identities. Rather than representing separate dimensions of experience, these themes collectively illustrate how participants understood and negotiated their identities while learning alongside generative AI technologies.

Becoming an AI-Enhanced Learner

A prominent theme emerging from the data was students' perception of themselves as AI-enhanced learners. Participants consistently described AI as a valuable learning companion that expanded their ability to access information, understand difficult concepts, and complete academic tasks. Rather than replacing their role as learners, AI was perceived as augmenting their learning capabilities. Students reported that AI enabled them to learn more efficiently, overcome learning obstacles, and engage with academic content more confidently. Through these experiences, participants began to see themselves as learners who could accomplish more when supported by AI technologies. The following excerpts illustrate participants' experiences.

Table 1.
Representative Excerpts Illustrating Students' Experiences of Becoming AI-Enhanced Learners

Participant	Excerpt
P1	"AI helps me learn faster because when I do not understand something, I can ask immediately and get an explanation that is easier for me to understand."
P2	"When I use ChatGPT, it feels like having a tutor available anytime. It makes me more confident because I do not get stuck for too long."
P5	"AI gives me ideas when I cannot think of anything. After that, I continue developing the ideas myself."
FGD Participant	"I think AI makes me a better learner because I can explore more topics than before."

P1's account illustrates how AI became integrated into the learning process by reducing barriers to understanding. Rather than emphasizing speed alone, the participant highlighted the importance of receiving explanations that were easier to comprehend, suggesting that AI supported learning by making difficult concepts more accessible. Similarly, P2 described AI as "a tutor available anytime," emphasizing the reassurance of having immediate academic support whenever needed. This experience was associated with increased confidence because learning interruptions could be addressed without relying solely on conventional sources of assistance. Participants also emphasized that AI supported, rather than replaced, their own thinking. P5 explained that AI provided initial ideas when creativity became difficult, yet the participant remained responsible for developing those ideas further. This account reflects an experience in which AI functioned as a catalyst for learning rather than as a substitute for individual effort.

These experiences were echoed during the focus group discussion. Participants collectively reflected that AI enabled them to explore a wider range of topics and engage with learning materials more extensively than before. As one participant commented, "I think AI makes me a better learner because I can explore more topics than before." This shared reflection illustrates that the perceived value of AI extended beyond completing individual academic tasks to supporting broader opportunities for exploration and learning. Although participants described AI in highly positive terms, their accounts consistently positioned themselves, not the technology, as active learners. They portrayed

AI as a learning companion that expanded their opportunities to understand, explore, and develop ideas while maintaining their own involvement in the learning process. Collectively, these narratives demonstrate that participants experienced AI as an important source of academic support that enhanced confidence, facilitated learning, and became an increasingly integrated part of their everyday educational experiences.

Negotiating Independence and Dependence in Learning

The second theme captures participants' experiences of negotiating the balance between benefiting from AI and maintaining their independence as learners. Although all participants acknowledged the practical advantages of AI, they also expressed an awareness that excessive reliance on the technology could undermine meaningful learning. Rather than describing AI as either entirely beneficial or entirely problematic, participants portrayed their experiences as involving continuous reflection and decision-making regarding when, why, and how AI should be used. Their narratives reveal that learning with AI was accompanied by an ongoing effort to preserve a sense of ownership, responsibility, and intellectual engagement. Across the interviews, participants described moments in which AI made learning easier while simultaneously prompting concerns about becoming too dependent on technological assistance. This tension emerged repeatedly as participants reflected on their everyday study practices. The following excerpts illustrate these experiences.

Table 2.
Representative Excerpts Illustrating Students' Negotiation of Independence and Dependence in AI-Mediated Learning

Participant	Excerpt
P3	"Sometimes I worry that I rely too much on AI. If I use it for everything, I feel like I am not really learning."
P4	"I try to use AI only after I attempt the task myself because I still want to think independently."
P6	"AI is useful, but I always check and compare the answers because I do not want to depend completely on it."
FGD Participant	"There is a difference between using AI as a guide and letting AI do everything for you."

For P3, learning with AI was accompanied by uncertainty about the boundaries between receiving support and genuinely learning. Although AI was recognized as a valuable resource, the participant questioned whether relying on it too frequently might reduce opportunities for independent thinking. This concern illustrates that the experience of learning with AI was not entirely comfortable or unproblematic; instead, it involved continual self-reflection regarding the role AI should play within the learning process. A similar perspective was expressed by P4, who deliberately attempted academic tasks before consulting AI. Rather than rejecting AI, the participant established a personal strategy for using it only after making an independent effort. This approach reflects an attempt to preserve personal engagement with learning while still benefiting from AI assistance when necessary. Likewise, P6 described regularly verifying AI-generated

responses before accepting them, explaining that comparing information from multiple sources helped prevent complete dependence on AI.

The focus group discussion further demonstrated that participants collectively distinguished between responsible and excessive AI use. Rather than advocating unrestricted reliance on AI, participants emphasized the importance of using AI as a learning guide instead of allowing it to complete learning on their behalf. As one participant remarked, "There is a difference between using AI as a guide and letting AI do everything for you." This statement prompted agreement among other participants, who similarly described the importance of remaining actively involved in thinking, evaluating, and completing academic tasks despite the availability of AI support. Although participants adopted different strategies for managing AI use, their narratives revealed a shared concern about maintaining their role as active learners. Some participants emphasized attempting tasks independently before consulting AI, whereas others focused on verifying AI-generated information or consciously limiting their dependence on the technology. These varying experiences illustrate that participants did not passively accept AI as an unquestioned educational resource. Instead, they continuously reflected on how AI could be integrated into their learning while preserving a sense of personal responsibility and engagement.

Taken together, these accounts show that participants experienced AI not only as a source of academic assistance but also as a catalyst for ongoing reflection about independent learning. Their experiences highlight the complexity of learning with AI, where the benefits of technological support were consistently accompanied by conscious efforts to maintain autonomy, critical engagement, and responsibility for their own learning processes.

Redefining Competence and Expertise

The third theme reflects participants' experiences of reconsidering what it means to be a competent learner in an educational environment where AI can generate information instantly. Rather than describing competence solely in terms of possessing knowledge or remembering information, participants spoke about changes in how they evaluated their own abilities and the qualities they believed were necessary for successful learning. Their accounts suggest that learning alongside AI prompted them to rethink traditional understandings of expertise and to place greater value on critical judgment, evaluation, and responsible use of AI-generated information.

Participants frequently explained that the widespread availability of AI-generated responses had changed their everyday learning experiences. Because information could be obtained almost immediately, they no longer viewed the simple acquisition of knowledge as the defining characteristic of an effective learner. Instead, they described competence as involving the ability to interpret, question, and evaluate information before using it. The following excerpts illustrate these experiences.

Table 3.
Representative Excerpts Illustrating Students' Redefinition of Competence and Expertise in the AI Era

Participant	Excerpt
P2	"Knowing information is not enough anymore because AI can provide information instantly."
P4	"I think being smart now means knowing how to use AI properly and how to evaluate the answers it gives."
P5	"The challenge is not finding information but deciding whether the information is correct."
FGD Participant	"Students who can critically assess AI responses are more prepared than students who simply copy whatever AI produces."

P2 described a noticeable shift in personal expectations regarding learning. Rather than emphasizing the accumulation of information, the participant suggested that the easy availability of AI-generated knowledge had changed the meaning of being knowledgeable. The participant's experience reflects an awareness that possessing information alone was no longer sufficient in learning environments where AI could generate answers almost instantly.

Similarly, P4 associated competence with the ability to use AI thoughtfully rather than simply using it frequently. For this participant, being "smart" involved understanding how to interact with AI effectively while also evaluating the quality of its responses. This perspective indicates that participants did not perceive AI competence merely as technical proficiency but as the capacity to make informed judgments about AI-generated content. P5 further illustrated this shift by explaining that the primary challenge was no longer locating information but determining whether the information produced by AI could be trusted. This experience highlights how participants increasingly encountered learning as a process of evaluating, verifying, and interpreting information rather than merely collecting it.

A similar perspective emerged during the focus group discussion. Participants agreed that students who accepted AI-generated responses without questioning them were less prepared than those who critically examined the information before using it. As one participant explained, "Students who can critically assess AI responses are more prepared than students who simply copy whatever AI produces." This observation generated discussion among the group, with several participants emphasizing that responsible AI use required continuous questioning and verification rather than unquestioning acceptance of AI-generated outputs.

Although participants described competence in different ways, their accounts consistently reflected a movement away from viewing expertise as simply possessing information. Instead, they emphasized the importance of exercising judgment, verifying information, asking effective questions, and remaining actively involved in the learning process despite the availability of AI support. For some participants, competence meant learning how to communicate effectively with AI through appropriate prompts, whereas for others

it involved recognizing the limitations of AI and accepting personal responsibility for evaluating its outputs. Collectively, these narratives demonstrate that participants experienced AI as prompting a reconsideration of what it meant to be knowledgeable and academically capable. Rather than replacing human competence, AI appeared to reshape participants' understandings of the skills and dispositions they considered essential for learning in AI-mediated educational environments.

Envisioning Future-Ready Learner Identities

The fourth theme reflects participants' future-oriented understandings of themselves as learners. Across the interviews and focus group discussion, participants frequently connected their present experiences of learning with AI to their expectations of future academic, professional, and social participation. Rather than viewing AI as merely a tool for completing current coursework, they described learning with AI as preparation for a future in which collaboration with intelligent technologies would become an increasingly common aspect of education and work. Their narratives illustrate how present learning experiences were closely intertwined with their aspirations for the future. Participants consistently expressed the belief that AI literacy would become an essential competency beyond university. As they reflected on future careers, they anticipated that the ability to work effectively with AI would be expected across many professional fields. The following excerpts illustrate these perspectives.

Table 4.
Representative Excerpts Illustrating Students' Future-Oriented Learner Identities in AI-Mediated Learning

Participant	Excerpt
P1	"I think future jobs will require people to work with AI, so I need to learn how to use it effectively."
P3	"Students who ignore AI may struggle in the future because technology is becoming part of everything."
P6	"Learning how to collaborate with AI is an important skill that I will need after graduation."
FGD Participant	"The future is not about humans competing with AI. It is about humans knowing how to work together with AI."

For P1, learning with AI extended beyond immediate academic needs. The participant viewed AI as an integral part of future professional life and therefore regarded developing AI-related competencies as an important investment in future career preparation. Learning to use AI effectively was described not simply as mastering a technological tool but as preparing for anticipated changes in workplace expectations. Similarly, P3 expressed concern that students who chose not to engage with AI might experience disadvantages in the future. This perspective reflects an awareness that technological developments were transforming not only current educational practices but also future opportunities. Rather than perceiving AI as an optional resource, the participant regarded engagement with AI as increasingly necessary for remaining relevant in rapidly changing educational and professional environments.

P6 likewise emphasized that collaboration with AI would become an important competency after graduation. Rather than imagining future success as depending solely on individual knowledge or technical expertise, the participant described future readiness in terms of learning how to work productively alongside AI technologies. These perspectives were further reinforced during the focus group discussion. Participants collectively emphasized that future success would not depend on competing with AI but on learning how to collaborate with it effectively. As one participant explained, "The future is not about humans competing with AI. It is about humans knowing how to work together with AI." This statement generated agreement among other participants, who similarly viewed AI as a permanent feature of future learning and professional practice rather than a temporary technological trend.

Although participants described different future aspirations, they shared a common belief that learning with AI represented preparation for participation in an increasingly AI-integrated world. Some participants emphasized employability and career readiness, whereas others highlighted adaptability, lifelong learning, and the importance of continuously developing new competencies as AI technologies continue to evolve. Collectively, these narratives illustrate that participants experienced learner identity not only through their present interactions with AI but also through their expectations of the futures for which they believed they were preparing. Their accounts demonstrate that learning with AI was experienced as an ongoing process of preparing for future educational and professional participation in environments where human-AI collaboration was expected to become increasingly commonplace.

DISCUSSION

This study explored how university students construct their identities as learners in the era of artificial intelligence (AI). The findings demonstrate that learner identity in AI-mediated environments is not static but continuously negotiated through students' interactions with AI technologies, learning practices, and future aspirations. Four interconnected themes emerged from the data: becoming an AI-enhanced learner, negotiating independence and dependence in learning, redefining competence and expertise, and envisioning future-ready learner identities. Taken together, these findings suggest that AI is no longer perceived merely as a technological tool but has become an influential participant in students' learning experiences, shaping how they understand themselves as learners. These findings support Norton's (2013) view that identity is dynamic, socially situated, and continually reconstructed through participation in learning activities.

The first theme, becoming an AI-enhanced learner, indicates that students perceived AI as a learning companion that expanded their capabilities rather than replacing their role as learners. Participants reported that AI increased their confidence, improved learning efficiency, and provided immediate support when encountering difficulties. This finding aligns with previous studies reporting that AI can enhance learning efficiency, facilitate access to information, and support academic performance (Msambwa et al., 2025; Vieriu & Petrea, 2025). Similarly, existing research has shown that students often perceive AI

as a valuable educational resource that supports personalized learning and academic success (Fošner, 2024; Liu et al., 2025; Sun & Zhou, 2024). However, while earlier studies primarily emphasized the functional benefits of AI, the present study extends this body of literature by demonstrating how these experiences contribute to learner identity construction. Rather than merely viewing AI as useful, participants incorporated AI into their self-understandings as learners, perceiving themselves as more capable, resourceful, and effective through AI-supported learning practices. This finding suggests that the influence of AI extends beyond learning outcomes to the formation of students' identities as learners.

The second theme, negotiating independence and dependence in learning, highlights the tensions students experienced when integrating AI into their learning processes. Although participants acknowledged the benefits of AI, they simultaneously expressed concerns about becoming overly dependent on it. Students actively reflected on the boundaries between appropriate assistance and excessive reliance, emphasizing the importance of maintaining critical thinking, personal effort, and ownership of learning. This finding resonates with previous studies that have raised concerns regarding overreliance on AI, diminished critical engagement, and challenges related to academic integrity (Cotton et al., 2024; Yeo, 2023; Zhai et al., 2024). Likewise, scholars have argued that AI-mediated learning environments may create tensions regarding responsibility, authenticity, and learner autonomy (Wang et al., 2024). However, while previous studies often portray dependence on AI as a potential risk or educational challenge, the present study reveals that students themselves are actively aware of and negotiating these tensions. Rather than passively accepting AI support, participants engaged in ongoing reflection about how AI should be used within their learning processes. This finding supports Norton's (2013) conceptualization of identity as a site of continuous negotiation, where learners actively position themselves in relation to the opportunities and constraints present in their educational environments.

Another important finding concerns the redefinition of competence and expertise in AI-mediated learning environments. Participants reported that the availability of AI-generated information had altered their understanding of what it means to be knowledgeable and academically competent. Instead of emphasizing information possession or memorization, students increasingly associated competence with the ability to critically evaluate information, formulate effective prompts, verify AI-generated outputs, and make informed judgments. This finding supports emerging research suggesting that AI is reshaping learners' perceptions of competence, agency, and participation in learning (Alm, 2024; Delcker et al., 2024). It also reflects broader discussions regarding the changing nature of expertise in educational contexts where intelligent technologies can rapidly provide information and solutions (Johnston et al., 2024). However, the present study contributes a more nuanced understanding by demonstrating that these shifts are not merely cognitive or behavioral but identity-related. Participants positioned themselves as critical evaluators and decision-makers rather than passive recipients of knowledge. This finding suggests that competence in the AI era is increasingly defined by effective human-AI collaboration and critical judgment rather

than information acquisition alone. Such a perspective expands existing discussions on AI literacy (Tenberga & Daniela, 2024) by highlighting its identity dimension and its role in shaping how learners understand their own capabilities.

The final theme, envisioning future-ready learner identities, reveals the strongly future-oriented nature of students' identity construction. Participants frequently connected their present engagement with AI to future academic and professional aspirations. They viewed AI literacy and the ability to collaborate effectively with AI as essential competencies for future participation in educational and workplace environments. This finding aligns closely with Norton's (2013) concept of imagined communities, which emphasizes that learners invest in learning practices because they envision themselves participating in desired future social worlds. Students' engagement with AI was motivated not only by immediate academic needs but also by their anticipation of future environments where AI competence would be increasingly valued. This finding is consistent with previous studies suggesting that AI is becoming an important component of future educational and professional participation (Tenberga & Daniela, 2024; Chan & Lee, 2023). However, the present study extends these discussions by demonstrating how future-oriented aspirations influence learner identity construction. Participants did not simply learn with AI; they perceived AI engagement as part of becoming the kind of learners and professionals they wished to be in the future.

Taken together, the findings demonstrate that learner identity in the age of artificial intelligence is characterized by a dynamic process of enhancement, negotiation, redefinition, and future-oriented adaptation. Consistent with Norton's (2013) theoretical perspective, participants continuously reconstructed their identities through interactions with AI technologies and through their investments in future possibilities. While previous studies have primarily focused on AI adoption, learning outcomes, ethical concerns, and technological effectiveness (Sousa & Cardoso, 2025; Fošner, 2024; Liu et al., 2025; Williams, 2024), the present study highlights the identity-related dimensions of AI-mediated learning. The findings suggest that understanding students' experiences with AI requires moving beyond questions of technological use to consider how AI shapes learners' perceptions of agency, competence, autonomy, and future participation. As AI becomes increasingly embedded in higher education, learner identity may become one of the most significant yet underexplored dimensions of AI-mediated learning. The present study therefore contributes to the growing literature by demonstrating that the integration of AI is not only transforming how students learn but also influencing who they understand themselves to be as learners.

CONCLUSION

This study explored how university students construct their identities as learners in the era of artificial intelligence. The findings revealed that learner identity in AI-mediated learning environments is shaped through four interconnected processes: becoming an AI-enhanced learner, negotiating independence and dependence in learning, redefining competence and expertise, and envisioning future-ready learner identities. Participants perceived AI not merely as a technological tool but as a learning companion that

expanded their learning capabilities while simultaneously prompting reflection on autonomy, responsibility, and authentic engagement in learning. The findings further suggest that students increasingly define competence in terms of critical evaluation, informed judgment, and effective human-AI collaboration rather than the acquisition of information alone. These experiences demonstrate that AI is influencing not only how students learn but also how they understand themselves as learners.

The study contributes to the growing literature on artificial intelligence in higher education by shifting attention from technological adoption and learning outcomes to the identity-related dimensions of AI-mediated learning. Drawing on Norton's (2013) Learner Identity Theory, the findings illustrate how students continuously negotiate their identities through interactions with AI technologies and through their aspirations for future participation in AI-integrated academic and professional communities. The study highlights the need for higher education institutions and educators to support students in developing not only AI literacy but also critical, reflective, and responsible approaches to AI use. Future research may extend this work by examining learner identity construction across different educational contexts, disciplines, and cultural settings, as well as by exploring how learner identities evolve over time as AI technologies become increasingly embedded in educational practice.

REFERENCES

Alm, A. (2024). Exploring autonomy in the AI wilderness: Learner challenges and choices. *Education Sciences*, *14*(12), 1369. https://doi.org/10.3390/educsci14121369

Barnes, A. J., Zhang, Y., & Valenzuela, A. (2024). AI and culture: Culturally dependent responses to AI systems. *Current Opinion in Psychology*, *58*, 101838. https://doi.org/10.1016/j.copsyc.2024.101838

Bećirović, S., Polz, E., & Tinkel, I. (2025). Exploring students' AI literacy and its effects on their AI output quality, self-efficacy, and academic performance. *Smart Learning Environments*, *12*(1), 29. https://doi.org/10.1186/s40561-025-00384-3

Bhardwaj, V., Zhang, S., Tan, Y. Q., & Pandey, V. (2025). Redefining learning: Student-centered strategies for academic and personal growth. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1518602

Canagarajah, S. (2023). Decolonization as pedagogy: A praxis of 'becoming' in ELT. *ELT Journal*, *77*(3), 283–293. https://doi.org/10.1093/elt/ccad017

Chan, C. K. Y., & Lee, K. K. W. (2023). The AI generation gap: Are Gen Z students more interested in adopting generative AI such as ChatGPT in teaching and learning than their Gen X and millennial generation teachers? *Smart Learning Environments*, *10*(1), 60. https://doi.org/10.1186/s40561-023-00269-3

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *April*, 1–2. https://doi.org/10.1080/17439760.2016.1262613

Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, *61*(2), 228–239. https://doi.org/10.1080/14703297.2023.2190148

Delcker, J., Heil, J., Ifenthaler, D., Seufert, S., & Spirgi, L. (2024). First-year students AI-competence as a predictor for intended and de facto use of AI-tools for supporting learning processes in higher education. *International Journal of Educational Technology in Higher Education*, *21*(1), 18. https://doi.org/10.1186/s41239-024-00452-7

Dodgson, J. E. (2023). Phenomenology: Researching the lived experience. *Journal of Human Lactation*, *39*(3), 385–396. https://doi.org/10.1177/08903344231176453

Fan, Y., Tang, L., Le, H., Shen, K., Tan, S., Zhao, Y., Shen, Y., Li, X., & Gašević, D. (2025). Beware of metacognitive laziness: Effects of generative artificial intelligence on learning motivation, processes, and performance. *British Journal of Educational Technology*, *56*(2), 489–530. https://doi.org/10.1111/bjet.13544

Fitriati, S. W., & Williyan, A. (2025). AI-enhanced self-regulated learning: EFL learners' prioritization and utilization in presentation skills development. *Journal of Pedagogical Research*, *9*(2), 22–37. https://doi.org/10.33902/JPR.202530647

Fošner, A. (2024). University students' attitudes and perceptions towards AI tools: Implications for sustainable educational practices. *Sustainability*, *16*(19), 8668. https://doi.org/10.3390/su16198668

Geampana, A., & Perrotta, M. (2025). Using interview excerpts to facilitate focus group discussion. *Qualitative Research*, *25*(1), 130–146. https://doi.org/10.1177/14687941241234283

Jensen, L. X., Buhl, A., Sharma, A., & Bearman, M. (2025). Generative AI and higher education: A review of claims from the first months of ChatGPT. *Higher Education*, *89*(4), 1145–1161. https://doi.org/10.1007/s10734-024-01265-3

Johnston, H., Wells, R. F., Shanks, E. M., Boey, T., & Parsons, B. N. (2024). Student perspectives on the use of generative artificial intelligence technologies in higher education. *International Journal for Educational Integrity*, *20*(1), 2. https://doi.org/10.1007/s40979-024-00149-4

Khong, M. L., & Tanner, J. A. (2024). Surface and deep learning: A blended learning approach in preclinical years of medical school. *BMC Medical Education*, *24*(1), 1029. https://doi.org/10.1186/s12909-024-05963-5

Manosuthikit, A. (2025). Fostering Thai students' identities and agency: Teacher strategies for TED-Style presentations. *TESOL Journal*, *16*(2), 1–11. https://doi.org/10.1002/tesj.70033

Martín Ortega, E., & Solari Maccabelli, M. (2024). The role of reflection in learner identity construction. A sociocultural and dialogical approach. *Journal for the Study*

of Education and Development: Infancia y Aprendizaje, *47*(4), 744–767. https://doi.org/10.1177/02103702241286404

Msambwa, M. M., Wen, Z., & Daniel, K. (2025). The impact of AI on the personal and collaborative learning environments in higher education. *European Journal of Education*, *60*(1). https://doi.org/10.1111/ejed.12909

Najmiah, L., & Al-Anbari, A. H. J. (2025). Narrative explorations of EFL learners' engagement with AI tools in developing writing proficiency. *DUTIES: Education and Humanities International Journal*, *1*(2), 42–62. https://doi.org/10.70152/duties.v1i2.222

Neupane, B. P. (2024). Sociocultural environment and agency in identity construction of English language teachers. *The Qualitative Report*, *29*(7), 1948–1968. https://doi.org/10.46743/2160-3715/2024.6756

Norton, B. (2013). *Identity and language learning: Extending the conversation*. Multilingual Matters.

Perifanou, M., & Economides, A. A. (2025). Collaborative uses of GenAI tools in project-based learning. *Education Sciences*, *15*(3), 354. https://doi.org/10.3390/educsci15030354

Satvati, N., Kamali, J., Safian Boldaji, F., Khodadadi, M., & Akhondi, S. (2025). AI integration into language education and teacher identity: An ecological perspective. *Language Teaching Research Quarterly*, *47*, 1–19. https://doi.org/10.32038/ltrq.2025.47.01

Sousa, A. E., & Cardoso, P. (2025). Use of generative AI by higher education students. *Electronics*, *14*(7), 1258. https://doi.org/10.3390/electronics14071258

Stratton, S. J. (2024). Purposeful sampling: Advantages and pitfalls. *Prehospital and Disaster Medicine*, *39*(2), 121–122. https://doi.org/10.1017/S1049023X24000281

Sun, L., & Zhou, L. (2024). Does generative artificial intelligence improve the academic achievement of college students? A meta-analysis. *Journal of Educational Computing Research*, *62*(7), 1676–1713. https://doi.org/10.1177/07356331241277937

Tenberga, I., & Daniela, L. (2024). Artificial intelligence literacy competencies for teachers through self-assessment tools. *Sustainability*, *16*(23), 10386. https://doi.org/10.3390/su162310386

Vieriu, A. M., & Petrea, G. (2025). The impact of artificial intelligence (AI) on students' academic development. *Education Sciences*, *15*(3), 343. https://doi.org/10.3390/educsci15030343

Wang, N., Wang, X., & Su, Y.-S. (2024). Critical analysis of the technological affordances, challenges and future directions of Generative AI in education: A systematic review. *Asia Pacific Journal of Education*, *44*(1), 139–155.

https://doi.org/10.1080/02188791.2024.2305156

Williams, R. T. (2024). The ethical implications of using generative chatbots in higher education. *Frontiers in Education*, *8*. https://doi.org/10.3389/feduc.2023.1331607

Yamada, A. (2025). Advancing intercultural competence in higher education: Strategies for engaging generation Z. *Education Sciences*, *15*(3), 341. https://doi.org/10.3390/educsci15030341

Yeo, M. A. (2023). Academic integrity in the age of Artificial Intelligence (AI) authoring apps. *TESOL Journal*, *14*(3). https://doi.org/10.1002/tesj.716

Zhai, C., Wibowo, S., & Li, L. D. (2024). The effects of over-reliance on AI dialogue systems on students' cognitive abilities: A systematic review. *Smart Learning Environments*, *11*(1), 28. https://doi.org/10.1186/s40561-024-00316-7