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AI Use among Undergraduate Students in Nepal: A Transformative Learning Perspective

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Abstract

Artificial intelligence (AI) is reshaping higher education through personalised and learner-centered approaches; however, little is known about its transformative impact on students' learning perspectives in developing contexts such as Nepal. This qualitative narrative inquiry explores the lived experiences of four first-semester Computer Science and Information Technology (CSIT) students from four colleges in Lalitpur. Data were analysed thematically using Braun and Clarke's (2006) framework. The findings reveal three major themes: AI as a catalyst for perspective transformation; negotiating trust, ethics, and dependency; and contextual conditions shaping AI-enabled learning. While AI fosters learner autonomy and confidence, students critically navigate issues of accuracy, over-reliance, and ethical use. Structural factors, including digital infrastructure and affordability, significantly influence adoption and outcomes. The study concludes that AI can support transformative learning when implemented ethically and contextually, emphasizing the need for teacher upskilling, clear policy frameworks, and collaborative efforts to ensure equitable and human-centered integration.

Keywords: artificial intelligence, transformative learning, higher education, ethics, Nepal

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1. Introduction

Artificial Intelligence (AI) is reshaping conventional teaching and learning practices. It has enabled learners to move beyond traditional pedagogical and research processes (Pahud de Mortanges, 2025). It has supported personalised learning and provided mentorship assistance. The number of AI-using students has increased drastically in recent years in higher education. Now, the world's development process is defined through the perspective of AI. This is reshaping the educational paradigm which is the major target for improvement (United Nations Development Programme, 2025).

There are several benefits of AI in making teaching- learning process easier and more effective. AI is considered a useful tool to promote learning outcomes by increasing accessibility (Chen et al., 2020). This drives learner engagement and aids in acquiring new knowledge and skills. It provides intelligent tutoring through personalised learning (Pasupuleti, 2024). Digital technologies such as AI virtual reality, and social media support critical reflection and dialogic learning. These are considered essential components of transformative learning in the current educational context (McClain, 2024). AI tools such as ChatGPT, DeepSeek, Gemini, and Perplexity have helped students in getting access to information, increasing research output, and efficient institutional efficiency. This positive attitude is gradually growing, resulting in increased perceived usefulness and ease of use of AI technology (Lawaju et al., 2024). AI has brought several educational applications such as personalised learning, intelligent tutoring, predictive analysis, and data-driven insights. These have improved learner engagement and educational outcomes (Trivedi, 2023). However, the main concern lies in the use of responsible AI that addresses issues such as data privacy and algorithmic bias (Trivedi, 2023). AI tools help adults learn through flexible methods that are easily adaptable (Storey & Wagner, 2024). These help learners by providing feedback on assignments, engaging them in interactive activities, and serving as a research guide to support evidence-based reasoning. Moreover, it helps learners develop rational thinking and ultimately contributes to their empowerment (Meakin, 2024). These research findings indicate that AI is increasingly shaping education as a transformative learning process.

In Nepal's context, the national AI policy envisions developing human resources to foster AI innovation and development (Government of Nepal, 2025). Research also shows that AI increases work productivity of users in Nepal, and this will rise steadily by addressing the challenges associated with its adoption (Nepal Applied Mathematics and Informatics Institute for Research, 2025). According to Bhattarai et al. (2024), AI

has benefitted students by enhancing their engagement. They get benefits through personalised learning and motivation. AI is proven essential for developing improved lesson preparation (Chapagai & Adhikari, 2024). Furthermore, AI has diverse positive impacts on learning, and research from the aspects of efficiency, inclusiveness, and personalisation tools (Khatri & Karki, 2023).

Building on the above research context, it can be claimed that the integration of AI in education is gradually being recognised as a transformative learning approach in Nepal (Meakin, 2024). However, empirical evidence on students' engagement with AI from a Mezirow's transformative learning (2009) perspective remains limited. The aim of this research is to explore how undergraduate Computer Science and Information Technology (CSIT) students in Nepal experience AI tools in their learning.

2. Literature Review

A growing body of literature indicates that the integration of AI tools, large language models (LLMs) such as ChatGPT, Bing Chat, Bard /Gemini, GitHub Copilot, DeepSeek, and automated graders, into computer science learning has evolved rapidly over the years, playing a significant role in the advancement of educational paradigms. Their role remains influential in shaping how students learn programming, complete assignments, and conceptualise the role of humans in computing and generate code as well as work on debugging (Nakatani & Jiang,2025; Baidoo-Anu & Owusu Ansah, 2023; Huang & Tan, 2023). The use of AI coding assistants like GitHub Copilot and Amazon Code Whisperer is useful in creating real-time code and completing within a given time frame, allowing students to engage in reading, writing, and refactoring code (Yetistiren et al., 2023; Vaithilingam et al., 2022). According to Keuning et al. (2018), intelligent tutoring systems and automated graders are useful in finding quick feedback on correctness, originality, and style in learning programming courses. These tools are becoming a part of students' daily work activities, including problem-solving conceptualizing new ideas, and executing them.

Previous literature stresses numerous perceived learning benefits of AI tools in CSIT program. Vaithilingam et al. (2022) shared that student are found to be adopting such tools as they assist them in getting step-by-step hints, tailoring examples while working with debugging and unfamiliar concepts, as well as their applicability in reducing anxiety and increasing the level of confidence. All types of learners, including novices, are allowed to learn at their own pace, even for complicated tasks because of such tools (Barke et al., 2023). Usefulness of AI tools is also seen to facilitate self-paced learning,

have revision of the conceptual understanding, and provide easy and alternative solutions outside of the formal class hours (Long et al., 2025; Ma et al., 2025).

The effectiveness of AI tools is also found in the coding process. AI tools are more useful in enhancing productivity by allowing automated boilerplate codes and helping students to give keen concentration on higher-level design activities (Ghorbani, 2023; Tistelgren, 2024). However, the benefits are highly dependent on the metacognitive competencies of students, as they can critically rethink and evaluate AI-created outputs. Besides these influential advantages, literature also highlights the risks and concerns associated with using AI tools. Due to over-reliance on AI, students may be motivated to copy solutions, ignoring deeper engagement, avoiding algorithmic thinking, as well as basic conceptual understanding (Zhai et al., 2024; Prather et al., 2024). AI outputs are questionable and remained with problems leading to insecure, incorrect and even biased codes students are failing to fix or detect priorly (Huang & Tan, 2023). Moreover, equity issues also exist as there is unequal access to the internet and paid tools. These very common tensions of support as well as over-reliance are discussed globally but are ignored in developing countries such as Nepal. Reviewing the literature, most works are based on surveys providing quantitative evidence on patterns, perceptions of usefulness, and performance oriented. There exist fewer studies with a qualitative approach, especially on students' views on AI as a tutor and an easy guide, dependent tools application versus competent hardworking programmers, and on the development of prompt efficiencies. Yet, studies on tracing how undergraduate students of CSIT program in Nepal's unique socio-cultural and underdeveloped context experience the use of AI tools over time using narrative inquiry remains limited and unexplored. In Nepal, macro-level policies frameworks, including the 2025 AI policy (Government of Nepal, 2025), Sixteenth Periodic plan (National Planning Commission, 2024), are showcasing broader and indirect promotion for AI use in higher education for preparing competent students and e-learning. Some universities, including Kathmandu University, have also run AI/ML courses aligned with the provisions and framework developed by the government of Nepal. Nepal-specific literature highlights the need for AI in education, learners' online readiness, infrastructure gaps, digital platform competencies during COVID-19, students' attitudes toward AI, and AI ethics (Baral, 2022; Bhattarai et al.,2024; Dhakal et al., 2025). However, concrete guidance on the use of AI in teaching, learning activities, assessment, and other academic integrity remains incomplete and emerging, leaving an unexpressed, ambiguous situation in academia. Previous studies have not adequately examined the experiences of CSIT students with generative AI tools in higher education. While existing reports highlight students'

growing reliance on ChatGPT and other AI tools, theory-driven empirical evidence on undergraduate experiences in the Nepali context remains limited. This study addresses this gap by presenting recent, context-specific insights from Nepal.

Transformative learning theory (Mezirow, 2009) shapes this study as it reveals how technological innovation can transform an individual's rational thinking and build their capability to deal with real world problems. Within this context, narrative inquiry addresses several gaps (Clandinin, 2022). First, it responds to empirical research using a qualitative approach on AI tools in CSIT education in Nepal. Second, it bridges the link between policies and practices of Nepal, providing micro-level practices of the students by capturing contextually rich stories of students on access, use, negotiation as well as on resistance in a deeper level. This study is critical for offering more systematic institutional practices of students, providing structures for meaningful integration in CSIT program by answering this overarching research question: How do undergraduate Computer Science and Information Technology program students share the experiences of AI use in Nepal?

3. Mezirow Transformative Learning as a Theoretical lens

Transformative learning is useful for students in higher education, as it enables them to make critical reflections on established knowledge and build their own knowledge horizons. This is the core of educational achievement, and it develops skills related to individual autonomy, reflective judgment, and the creation of new knowledge in their field. Students do not follow traditional reliance on established notions. According to Mezirow, this theoretical position is different from empirical problem-solving learning and merely validating older belief systems. It stresses transforming layers of knowledge/skills that are suited to time, place, and society, thereby bringing change. This process takes learners from theory to practice and enhances their capability to deal with real-world experiences (Mezirow, 2002). This learning approach has been gradually evolving since 1978. Mezirow was influenced by the ideas of Freire, Habermas, Kuhn, and critical social theory. He built transformative learning theory by proposing how adults critically reflect on assumptions and change their perspectives. He emphasised that learning occurs in two types- practical and communicative. In this context, transformation of learners happens when they critically reflect, begin questioning, and move toward personal change. This theory is constantly evolving, incorporating emotion, culture, social power, and technology, making it a living theory (Mezirow, 2009).

Transformative learning theory is applied as a pedagogical framework in which learners engage in practical courses useful in their daily lives and career advancement. Students are required to reflect on their knowledge base, enrich dialogue with their community of practice and mentors, and develop awareness of contextual issues. This source of knowledge takes students beyond formal classroom walls and gradually connects them with real-world experiences (Murphy, 2021). In this theoretical context, AI has established itself as a mediating tool rather than a standalone technology. It supports critical reflection and dialogic learning. Students use AI for critical reflection, personalised learning, and to extend their knowledge horizons beyond the classroom boundary. These suggest that AI is enhancing the transformative learning of higher education students (Henukh et al., 2025; Kumar et al., 2023; Meakin, 2024). Nepali undergraduate students are using AI in their academic tasks despite limited access to digital technology, unreliable internet connectivity, and weak institutional frameworks for AI. This paradoxical scenario is important to explore through a transformative learning perspective, as it contextualises and advances this theory within Nepal's AI-in-education context.

4. Methodology

This research adopts narrative inquiry methodology. Narrative inquiry is a research method in which researchers understand the experiences of participants through their life stories and connecting to societal frameworks (Wei, 2023). It helps to explore the reflective learning process of participants, through their life stories (Savin-Baden & Van Niekerk, 2007). Broadly, it can be considered both as phenomena (storied experiences of participants) and methodology (studying human experiences through stories) (Clandinin, 2022). The participants in this research were four first-year CSIT students from different colleges in Lalitpur, Nepal. They were identified as P1, P3, and P4 (males); and P2(female). Participants' ages ranged from 17–19 years. All had prior exposure to AI tools during school. They were selected purposively based on their engagement with and usage of AI tools, while maintaining gender inclusivity (Tajik et al., 2025).

Informed consents were obtained to ensure ethical considerations. Pseudonyms were used to maintain anonymity and voluntary participation was ensured (Laryeafio & Ogbewe, 2023). The quality of the research was ensured through prolonged engagement, rich descriptions, inclusion of participants' voices via direct quotes, and peer debriefing to review the research process and interpretations (Earnest, 2020). The findings were analysed using Braun and Clarke's (2006) six-step thematic analysis

process, including familiarization, coding, and theme development, review, naming, and reporting. This process enabled the organization of participants' narratives into key themes, which structure the following findings section.

5. Findings

This section highlights the voices of participants, illustrating their experiences and perspectives on using AI tools for learning. The themes generated from participants' narrative included: Changing Learning Practices Through the Use of AI, AI- Assisted Learning and Its Benefits and Challenges, Guided and Cautious Use of AI in Learning, and Responsible and Practical Use of AI.

5.1 Changing Learning Practices Through the Use of AI: Narratives of P1

P1 mentioned, *"I have been using ChatGPT since its introduction after COVID-19, when I was studying in grades 8. At present, I also use DeepSeek for idea generation and for conceptual understanding whenever required."* Initially, P1 used AI tools to learn different topics, and now mainly for learning coding and understanding various course contents. He also shared, *"I usually give my code to ChatGPT and ask it to find bugs and debug them. After completing Grade 12, I planned to learn Python on my own, and I learned it mostly through ChatGPT. Now I can write basic Python programs. AI tools helped me to learn things faster and more effectively."*

Regarding changes in learning habits, P1 stated, *"I have noticed a clear change in my learning style. Previously, while writing essays in English, I used to write in a haphazard way, but now I write more systematically. I find AI tools very easy to use."* P1 also highlighted challenges, saying, *"One of the challenges I face is the lack of reliable internet access everywhere and all the time. Another problem is that many useful features are available only in premium versions, which are costly. Recently, I have been using DeepSeek because it is available without premium charges."*

P1 observed a shift in reliance on teachers, noting, *"Nowadays, I feel that even if teachers do not teach some topics well, I can still learn them using AI tools. I no longer worry much if I do not fully understand what the teacher explains in class. I also recommend AI tools to my friends because these tools have helped me change my learning style."* P1 added, *"At the beginning, I was not sure how AI tools worked, but now I find them both useful and easy to use. However, I do not trust all the answers given by AI and try to be careful while using them."*

Reflecting on optional mathematics, P1 said:

"I had never studied optional mathematics in school, and I found it very difficult in Grades 11 and 12. With the help of AI tools, I was able to understand the subject better." He added, *"My confidence level has increased, and I have also improved my prompting skills while using AI tools. Even my teachers suggest that we should use ChatGPT to learn certain topics."* P1 concluded, *"I would like to continue using AI tools in the future. Overall, I really like using AI tools for my learning."*

5.2 AI- Assisted Learning and Its Benefits and Challenges: Narratives of P2

P2 mentioned, *"I have been studying computer subjects since Grade 4. When I was in Grades 7 and 8, I used different computer tools and Google to learn many things. Since Grade 9, I have been using ChatGPT. Along with ChatGPT, I also use DeepSeek and Perplexity. Among these AI tools, I find Perplexity better for understanding topics because I feel the answers are more accurate."* P2 explained that she mostly uses AI tools for doing assignments. Further, she stated, *"It also helps me by suggesting the best and most effective YouTube videos to learn certain topics."* P2 added, *"Sometimes I tell the AI that I do not know anything about a topic and ask it to explain from the beginning, and it provides knowledge from the basics, which helps me to start learning."*

Regarding accuracy, P2 shared, *"However, AI tools do not always give correct answers. One day, I asked around 20 multiple-choice questions, and when I checked with my teacher, I found that 10 answers were wrong. When I informed the AI that it had given wrong answers, it apologised and then provided the correct ones."* P2 reflected, *"Overall, I find AI tools useful, even though they sometimes provide incorrect information. They are very easy to use. One of the challenges I face is the limitation in the free versions. For example, when I upload photos as input, it often asks me to start a new chat. Despite these issues, I feel AI tools are positive and useful for my learning, but I trust their answers only about 40 percent."*

On changes in learning style, P2 said, *"I have noticed a significant change in my learning style. Before the availability of tools like ChatGPT, I had to study topics very deeply, spend many hours, and depend mostly on teachers. Now I find it easier to learn through AI tools."* P2 also recalled, *"I remember an experience from Grade 10 when our teacher taught a wrong method to solve a mathematics question, and the whole class got the answer wrong. Later I realised that if I had asked ChatGPT at that time, I could have learned the correct method."*

P2 reflected on ethical concerns, saying, *"Sometimes I feel that I am cheating when I ask the AI very small things that I could do myself. At the same time, I also feel that it is making me more dependent. At times, I even ask questions without knowing anything about the topic. During Grades 11 and 12, teachers used to restrict and carefully check our assignments, but during school, teachers did not seem very concerned about AI usage. But nowadays, I use it more confidently for any sort of assistance."*

P2 concluded, *"I feel that one negative aspect of AI tools is that they can make people dependent and may destroy creativity if we rely on them too much. Even though there are some negative aspects, I would still like to continue using AI tools. I believe that there should be proper awareness and guidance from teachers on how to use them effectively."*

5.3 Guided and Cautious Use of AI in Learning: Narratives of P3

P3 mentioned, *"I studied computer subjects from Grade 4 and computer science courses in Grades 11 and 12. I first heard about ChatGPT when I was in Grade 9. Initially, I used it mainly for writing English essays. At present, I use other different types of AI tools as well."* P3 emphasised, *"I feel that it is not good to use AI tools without having any prior knowledge about the topic. In my opinion, AI tools should be used mainly to understand certain concepts, not to copy everything. When I first used ChatGPT, I felt that the answers were not very good, maybe because it was not well trained at that time. I also believe that prompting skills are very important for getting useful answers."*P3 explained the usefulness and limitations of AI, stating, *"Sometimes, when I do not know where to start, the guidance provided by AI tools is helpful. However, when I search for topics in depth, I do not find the answers very satisfactory. For example, once I asked about some Android code and requested an explanation of what each part does, but the tool could not answer correctly."* P3 also expressed concerns, *"One negative aspect I see is that AI tools are available to everyone, including people with little background knowledge, which can result in the spread of incorrect information. I also feel that the data produced by users is being fed back into AI systems, which could be dangerous in the future."*

On trust and dependency, P3 stated, *"AI tools are useful when we ask about known facts or simple questions, and for such questions, I trust the answers almost completely. However, when I try to explore topics in depth, I do not find the answers satisfactory. In my view, we should not be very dependent on AI tools and should use them mainly for guidance."* P3 also noted, *"I also think that the code written by AI tools is often buggy. AI tools cannot replace human teachers; they mainly perform auto-completion. Before*

the availability of ChatGPT, we had to search through many websites and understand topics from different sources, which helped us learn more deeply. Now, AI tools give direct answers, and we do not always cross-check with other sources, so in that sense, I feel learning was better in the past."

P3 clarified their ethical stance, saying, *"Regarding cheating, I do not feel that I am cheating when I take help from AI tools because I do not ask them to write everything from the beginning. However, I feel that people are becoming dependent on these tools, which leads to a loss of creativity. I remember an incident when I asked about derivative problems and received wrong answers. I find that language-based responses are usually better than answers related to deeper technical knowledge."* P3 concluded, *"I think there should be awareness about AI tools, but teachers should not directly encourage heavy usage. I am not fully in favor of depending on AI tools, and I do not trust all the answers they provide. Still, I will continue using them in the future and will recommend them to others mainly as tools for guidance."*

5.4 Responsible and Practical Use of AI: Narratives of P4

P4 mentioned, *"I was familiar with computer subjects since grade 6 and again studied computer science in Grades 11 and 12. I first started using ChatGPT when I was in Grade 10. At that time, I mainly used it to write English essays and letters. For the first time, I asked it to provide the correct formats for Grade 10 assignments, and it gave me the appropriate formats."*

P4 shared, *"I find AI tools such as ChatGPT very easy to use. After the COVID-19 pandemic, we got access to our own electronic devices for online learning, and after that we were able to use AI tools more easily. I currently use only the free version of ChatGPT."* On usage preference, P4 stated, *"Nowadays, instead of searching on Google, I usually use ChatGPT. It provides fact-based answers more quickly, and I find it very useful. I would like to continue using it in the future. However, I feel neutral about using AI tools overall…"*.P4's experiences align more closely with P3's

Regarding accuracy, P4 mentioned, *"Based on my experience, I think that around 70 percent of the answers are correct, while about 30 percent are wrong. I would recommend that only adults use these tools. I feel that young children should not use AI tools because if they use them without having any background knowledge, they may become dependent on them and their creativity may be negatively affected."*

The participants' narratives show that AI tools have enhanced autonomy, confidence, and efficiency in learning, especially in coding and writing, while also raising concerns about accuracy, dependency, ethics, and loss of creativity. As researchers situated within the Nepali

higher education context, we interpret these findings from a human-centered perspective. We believe that AI should complement, not replace, students' cognition, critical thinking, and creativity, and must be integrated ethically and contextually.

6. Discussions

The following discussion interprets the participants' experiences with AI tools in learning, highlighting key themes in relation to participants' narratives, existing literature, and transformative learning theory. This is structured into themes: AI as a Catalyst for Perspective Transformation, Negotiating Trust, Ethics, and Dependency in AI-Mediated Learning, and Contextual Conditions Shaping AI-Enabled Transformation.

AI as a Catalyst for Perspective Transformation. The findings show that AI tools challenge students' usual ways of learning, helping them rethink their understanding and develop new learning habits, in line with Mezirow's (2009) idea of transformative learning. Participants reported fundamental shifts in how they understand learning, authority, and self-efficacy. For instance, P1 explained that he no longer worries if teachers do not teach some topics well because AI allows him to learn independently, while P2 described how she now begins learning "from the basics" through AI rather than spending hours depending on traditional learning style. These narratives demonstrate a redefinition of the learner role from traditional approach to self-directed and AI-mediated, reflecting the human AI collaborative learning pathway emphasised by Kumar et al. (2023).

This perspective shift supports Storey and Wagner's (2024) argument that AI should not be treated as a separate pedagogical approach but rather as an integrated component that enables learners to exercise creativity and innovation. However, P3's belief that learning was deeper prior to ChatGPT reveals tension within this transformation, suggesting that while AI accelerates access to knowledge, it may also discourage exploration across multiple sources. This resonates with current research trends emphasizing the need to balance generative AI with learner-centered pedagogy to avoid superficial engagement (Henukh et al., 2025).The participants' experiences also echo McClain's (2024) assertion that technology must remain a supportive tool, with pedagogy and instructor engagement remaining central. The Nepali students' transformation is therefore not purely technological; it is situated within adult meaning-making processes shaped by socio-cultural conditions, as emphasised by Fleming (2018), who argues that transformation is both cognitive and collective.

Negotiating Trust, Ethics, and Dependency in AI-Mediated Learning. Participants did not accept AI uncritically; rather, they actively negotiated its trustworthiness, ethical implications, and risks of dependency, demonstrating the reflective discourse central to transformative learning. P2's experience of receiving 10 incorrect answers out of 20 MCQs, P3's incorrect derivative solution, and P4's estimate that AI provides only 70% correct answers exemplify learners critically reassessing their assumptions about technological reliability. This selective trust corresponds with Pasupuleti's (2024) observation that ethical issues such as fairness, bias, and accuracy remain core challenges in AI adoption.Ethical tension was further evident in feelings of cheating and dependency. P2 expressed guilt when asking AI for small tasks, while P3 and P4 feared loss of creativity and growing dependence. These concerns align with Khatri and Karki's (2023) warning about increased plagiarism, erosion of originality, and reduced critical thinking among Nepali learners. The participants' awareness that AI can undermine creativity reflects Meakin's (2024) call for institutional AI policies that preserve human-centered values and responsible use.

From a transformative learning perspective, these ethical struggles represent the reconstruction of meaning perspectives, students are not merely adapting behaviours but critically reflecting on how AI reshapes their moral and academic identities. This also mirrors the global concern that AI must not dominate human intelligence but instead remain integrated within human agency and innovation (Storey & Wagner, 2024; Ahamed, 2025).

Contextual Conditions Shaping AI-Enabled Transformation. The students' transformative experiences were embedded in structural, institutional, and cultural contexts, highlighting that transformation is not solely individual but socially grounded. P1's reliance on DeepSeek due to premium costs, P2's frustration with free version limitations, and P4's post-COVID access to personal devices reveals how infrastructure and affordability directly shape AI adoption. These findings resonate with Mariyono &Hd (2025) and the U.S. Department of Education (2023), who stress that digital equity and infrastructure investment are critical to retaining human values within AI-mediated education.

At a national level, the experiences mirror Nepal's structural challenges: poor digital infrastructure, lack of progressive AI policies, and limited skilled human resources (Pasa et al., 2025). Participants' desire for teacher guidance and awareness programs aligns with Pahud de Mortanges (2025) argument that multi-stakeholder engagement and teacher upskilling are essential for ethical and inclusive AI development. This also

reflects Taylor's (1998) view that pedagogical conditions and mentor–mentee relationships are crucial for fostering positive transformation.

Globally, these findings parallel the United Nations Development Programme's (2025) concern about uneven AI access and the widening digital divide between developed and developing nations. Nepal's 2025 AI policy, with its six pillars including governance, human resource development, and people-centered rights (Government of Nepal, 2025), provides a policy backdrop against which these student experiences can be interpreted. The participants' narratives thus exemplify how transformative learning is shaped by broader socio-cultural realities, reinforcing that AI integration in education must be contextualised, human-centered, and ethically governed, as advocated by the United Nations Educational, Scientific and Cultural Organization (2022).

In relation to transformative learning theory, AI functions as a disorienting catalyst that challenges Nepali undergraduate students' taken-for-granted assumptions about knowledge authority, learning effort, and their role (Mezirow, 2002, 2009; Murphy, 2021). As learners interact with AI systems, they are exposed to new ways of accessing information, solving problems, and constructing understanding, which often disrupts previously held beliefs about how learning should occur. Through critical reflection such as questioning the accuracy of AI outputs, feeling ethical tension about dependency or cheating, and evaluating the impact of AI on creativity students engage in rational discourse that is central to Mezirow's transformative learning process. This reflective engagement enables learners to reconstruct their frames of reference, shifting from teacher-dependent and content-receptive orientations toward more self-directed, critically aware, and technologically mediated learning identities. Importantly, this transformation is not merely cognitive or individual; it is socially and culturally embedded, shaped by institutional policies, infrastructure access, peer influence, and national AI governance frameworks. Thus, AI-mediated learning becomes a site of transformative meaning-making where human agency, ethical reasoning, and contextual realities collectively influence how adult learners redefine themselves as learners in the age of AI.

In summary, AI tools act as a catalyst for transformative learning by challenging students' assumptions about knowledge, learning effort, and their role. Through critical reflection on AI's accuracy, ethical use, and impact on creativity, learners reconstruct their perspectives and develop self-directed, technology-mediated learning identities. This transformation is both cognitive and socially grounded, influenced by institutional policies, infrastructure, peer interactions, and national AI frameworks. AI-mediated

learning thus supports human agency, ethical reasoning, and inclusive education, enabling adult learners to redefine themselves as autonomous, critically aware, and collaborative participants in higher education.

7. Conclusion

This study shows that AI tools help transform the learning experience of undergraduate CSIT program students in Nepal. The main findings show that AI makes learning faster, more structured, and allows students to learn on their own, while they also think carefully about trust, ethics, and dependence. Their experiences are influenced by access to technology, cost, and support from their institutions. In conclusion, AI is not just a tool but can help students become more independent, thoughtful, and responsible learners when used properly. Future research can look at how AI affects learning and creativity over time and how it can be best included in teaching. This study implies that higher education institutions should provide AI training, fair access, and clear guidance to enable students to use AI in pedagogically meaningful ways.

Authors' Contribution

Ganga Subba (first author) contributed to data collection, interpretation, discussion, and the overall drafting of the article. Devendra Adhikari (second and corresponding author) was responsible for writing the introduction and developing the theoretical framework. Laxmi Sharma (third author) conducted the literature review and provided overall supervision throughout the study. Joshan Neupane (fourth author), an undergraduate student and not a research participant, critically assisted Devendra Adhikari with literature search, proofreading, organising the authors' collaborative work, and providing peer debriefing support during the research process. All authors reviewed and approved the final manuscript.

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