



The Fusion of AI and Group Dynamics: A Case Study of IMC Krems University, Tashkent

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Abstract

This study investigates the fusion of artificial intelligence (AI) and group dynamics by examining undergraduate student perceptions (n=112) of AI tools (e.g., ChatGPT, Grok, Gemini, Grammarly, etc.) in collaborative group work at IMC Krems of Applied Sciences University, Tashkent campus. By using surveys, thematic analysis, it explores AI impact on communication, equity, and task management in culturally diverse, multilingual settings. Results show majority students regularly use AI tools for idea generation, feedback, language support. Qualitative analysis reveals four themes: enhanced efficiency, improved communication support and concerns about over-reliance and reduced interpersonal interaction. While AI serves as cognitive and emotional scaffolding but requires mindful, ethical integration to maximize benefits. The research offers novel insights for non-Western multilingual contexts and practical guidance for educators implementing human-AI hybrid collaboration.

Keywords: Group dynamics; Human-AI collaboration; Fusion Model; Higher education; Multilingual environment

1. Introduction

Group work is a cornerstone of university life, particularly at International Double Degree Faculty of Tashkent State University of Economics with IMC Krems University of Applied Sciences in Tashkent, where students are often expected to work together on different projects. Working in groups helps students develop important skills like communication, teamwork, time management and creative problem solving. These skills are not only useful for university but also for real jobs in the future.

However, as useful as group work can be, it also comes with challenges. Many students find it hard to work with new people, especially if team members are not equally active or responsible. Some students end up doing more than others do, which can feel unfair. There are also problems with communication, like misunderstandings or different opinions that make it harder to work as a team. Another issue is organizing everything on time, since students have different schedules and priorities.

In recent years, a new phenomenon has emerged in higher education: the fusion of AI with human group process. In this context, fusion refers to the seamless integration of AI tools, like ChatGPT, Grok, Gemini, Grammarly, into collaborative fabric student teams. Rather than serving as mere passive aids, these AI systems are increasingly acting as 'social actors' within groups [1], [2], [3]. Through improved writing support, idea generation, decision-making and communication facilitation, these tools present viable answers to common group work problems. However, there is still a lack of empirical research on how AI tool works as fusion in-group learning dynamics, especially in non-

Western, multilingual contexts. The integration of AI raises new questions about over-reliance, academic integrity and nature of authentic collaboration. In the context of a study, following critical research questions will be focused:

- To what extent do AI tools enhance communication effectiveness and promote equitable participation in multilingual student groups?
- What fusion patterns emerge between human creativity and AI-generated content?
- How does AI integration influence group dynamics and social interdependence structures in collaborative learning tasks?
- What are student perceptions and attitudes toward AI-assisted collaboration in diverse academic environments?

Thus, this article looks at how AI tools might support better group dynamics among university students. It focuses on both existing research and a survey of undergraduate student of IMC Krems University, Tashkent. It explains what current studies say about AI and teamwork, presents the results from our research and discusses what these findings could mean for the future. Our goal is to find out if AI can be a helpful partner in-group work and, if so, how students and teachers can use it in a smart and responsible way.

At IMC Krems Tashkent, where the student community is diverse in terms of culture, language and academic backgrounds, group work offers an important opportunity for students to learn from each other. However, this same diversity can also create misunderstandings, uneven contributions or even conflict. For example, some students may feel shy speaking English or may not feel confident expressing their opinions in a group. Others may be very dominant or take control without giving others space. These real-life challenges are not unique to one university; they are common across many higher education settings [4].

Today's students are also busier than ever. Many juggle studies with part-time work or family responsibilities. Group projects often require coordinating schedules, dividing work and making sure deadlines are met, all of which take extra effort. When one or two group members do not fully participate, the pressure increases for the more responsible students. This imbalance often leads to stress, frustration and in some cases, poor academic outcomes.

The idea of using AI in-group work is still new for many students and professors and opinions about it vary. Some believe AI can reduce the workload and support those who struggle, while others are concerned that too much AI use might make students less engaged or dependent on technology. These mixed views make it important to study how students actually experience AI in-group work and what potential benefits or risks it brings.

This study investigates the fusion of AI and group dynamics role as a social actor in the collaborative learning experiences of students at IMC Krems University, Tashkent campus, a multicultural and multilingual higher education institution. The research aims to understand how this blending of human and AI influences communication, equality and group work settings, as well as what it means for the future of collaborative learning in higher education.

2. Literature Review

The adoption of AI in education has gained critical attention, especially concerning its impact on collaborative learning. This study reviews literature focusing on communication, equity, and task management related to collaboration to shed light on the role of AI in-group activities while noting the gaps this study aims to fill.

2.1. Theoretical Foundations and Collaborative Learning

Recent scholarship has introduced the concept of AI as a 'social actor' within educational environments, capable of participating in social interactions and influencing group dynamics [1], [2], [3]. This perspective builds on decades of human-computer interaction research demonstrating that users often anthropomorphize intelligent technologies, triggering social responses similar to those elicited by human collaborators [5]. Unlike traditional views that position AI as passive responders, this social generative AI framework envisions AI as an active agent capable of setting goals, building meaning and contributing to knowledge construction within group settings.

The theoretical foundation for understanding collaborative learning process lies in Social Interdependence Theory. It proposes that within a group, the nature of goals determines the relationships among members and their interactions shape learning outcomes [4]. The theory classifies goal structures into three forms: (i) cooperative – positive interdependence; (ii) competitive – negative interdependence; and (iii) individualistic – no interdependence. For effective collaboration among groups, participants must function under a cooperative system where their achievements depend upon the achievement of others. This leads to greater willingness among group members to support one another, assume responsibilities, and interact meaningfully.

Collaborative learning has practical advantages and considerable empirical appeal; however, there are several systemic barriers to defining collaborative work through empirical studies. One of the persistent problems in-group projects is Social loafing, which was initially identified by Latané et al. [6]. It occurs when certain group members put in less effort than they would if they were working individually. This issue is exacerbated in classes that are diverse, with students from a range of backgrounds, motivations, and ability levels [7].

Computer-supported collaborative learning (CSCL) research indicates that technology can assist in resolving some enduring issues related to group projects. Group communication, coordination, and cooperation can be improved using well-designed technology tools for engagement, task management, and knowledge building [8]. However, there is a substantial knowledge vacuum about the precise effects of artificial intelligence on collaborative learning dynamics because the majority of CSCL research was conducted before the development of sophisticated AI technologies.

2.2. AI Fusion in Educational Settings

The concept of fusion, integrating disparate data sources, technologies, or intelligences – has been explored widely within areas such as information systems and digital communication. For example, Alnaqbi et al. [9] investigated social media data fusion for enhanced situational awareness and decision-making and presented how disparate data streams could be facilitated in group coordination and collective intelligence. Similarly, Ruzieva [10] researched the convergence of digital technologies in the workplace and concluded that deployment of AI, cloud computing, and collaborative platforms led to more responsive, innovative, and agile teams [11]. In context of environmental sciences, fusion approaches integrate multi-source remotely sensed data (e.g., radar, optically, and elevation models) by using the latest deep learning approaches to attain better classification of highly complex ecological phenomenon like wetlands [12].

These studies highlight that fusion is not only technical but also social, as it alters the manner in which individuals communicate, share information, and make decisions collectively. This aspect of knowledge is especially significant in the case of AI and group dynamics within the education sector, where AI programs are already assuming the dual role of information providers and social actors.

Recent empirical studies on higher education have attempted to evaluate how AI affects group-learning exercises. Chen et al. [13], for example, conducted a comprehensive review on the application of AI in collaborative learning and found that the tools' functionalities primarily fell into three categories: facilitating communication, helping with task management and planning, and providing assistance with content. According to their findings, students who used collaborative platforms with AI support engaged in more active and equitable participation.

Tuychibaeva and Usmanova [14] examined the growing utility of chatbots, specifically GPT-based systems, in the context of teaching Russian as a foreign language at higher education institutions. Accordingly [14], AI-driven tools can enhance language learning by providing students with interactive, real-time conversational practice, supporting both group discussions and independent study scenarios. By synthesizing these perspectives, the literature highlights the transformative potential of AI, particularly chatbots, in reshaping traditional educational environments and advancing individual as well as collective learning outcomes.

2.3. AI's Impact on Group Dynamics and Equity

The fusion of AI into group processes has also been shown to address issues of equity and participation. Wang et al. [15] examined whether having access to AI would help students with varying academic performance levels close the gap. Because individuals who had previously been less active contributed more to debates and final outputs, their experiment demonstrated that participants' groups with AI support exhibited engagement that is more egalitarian.

Rodriguez and Kim [16] investigated how AI affected multilingual groups' ability to communicate. According to their findings, language and translation services greatly improved the efficacy and comprehension of communication. Their study of students at international schools revealed that those who used AI to communicate engaged in more inclusive group activities and performed better academically.

Despite this, new studies concerned about an AI dependency. When Holmes et al. [17] have found that although majority of students appreciate the efficiency and support provided by AI tools, some of them worried about dependence and how it might affect their ability to think critically. These kind of findings underscore the importance of integrating AI thoughtfully and ethically in education to maximise the importance while mitigating risks of dependency.

2.4. AI Tools and Communication Enhancement

Research on specialized AI applications in-group work has focused mainly on communication augmentation. Liu and Ma [18] undertook a randomized controlled experiment over groups employing or not an AI writing aid. They observed that the collaborative documents created by the groups with access to AI writing assistance were of higher quality. According to AI-supported groups, communication satisfaction was also higher. Due to group members' uniform writing, the AI tools assisted in lowering disputes resulting from varying contribution quality.

Grammarly and other collaborative frameworks have also examined supporting technologies like grammar checkers. According to Martinez et al. [19] when given adequate advanced writing assistance, the quality disparity between native and non-native English speakers was significantly lessened, leading to less hierarchical and more cooperative group dynamics.

It appears intriguing to work with AI technologies that provide real-time feedback. An AI created by Baker and Zhao [20] gives groups ongoing feedback on their involvement, activity, and task advancement. The groups who received feedback showed improved task distribution and controlled social loafing in comparison to the control groups.

2.5. Challenges and Limitations of AI in Collaborative Learning

Despite the advantages that have been highlighted, there are still issues that need to be addressed. Over-reliance on AI technology caused some members to accept it while others choose to collaborate, which weakened group cohesion, according to Zhai et al. [21]. It served as one illustration of why there are no fundamental guidelines governing AI technologies in organizations.

In their analysis of the significance of ethics in the use of AI across students, Đerić, et al. [22] found concerning gaps that could quickly escalate into serious problems. It was discovered that there are serious misunderstandings regarding the moral boundaries established by the institutions when examining the students' opinions on academic integrity in a cooperative project using AI. They are so accustomed to unethical behavior that they are unable to distinguish between academic dishonesty and AI assistance.

The functionality is limited by these and other gaps. As explained by Kumar and Mindzak [23], relying exclusively on AI resources has drawbacks as well. They found that the usage of AI tools led to disputes within groups because the information they gave was both culturally and technologically incorrect. Applying AI requires a greater degree of information analysis in order to address these issues [24].

2.6. Cultural and Contextual Factors

The impact of AI on culturally diverse group environments and non-Western educational systems has received relatively little attention. In their study on the use of AI by international students at South Korean institutions, [25] found that the students' usage of AI during group projects was influenced by their cultural attitudes regarding technology and hierarchy. It was difficult for students from high power distance cultures to use AI techniques that challenged long-standing group power structures.

In the context of international education, this factor is particularly significant. Using tools like chatbots and virtual reality simulations, Klimova and Chen [26] analysis emphasizes that contextual considerations and cultural sensitivity are crucial for the successful incorporation of AI in intercultural education. They warn that in the absence of human supervision, AI systems can unintentionally perpetuate cultural prejudices or neglect to resolve disparities in access to technology, which might obstruct genuine cross-cultural comprehension. Additionally, the authors emphasize how crucial it is to combine AI with conventional teaching methods in order to establish inclusive classrooms that honour a range of cultural origins and get students ready for the demands of a worldwide society. This nuanced viewpoint emphasizes how contextual and cultural elements play a crucial role in determining how AI tools affect students' development of intercultural competency.

The current study fills in the following important gaps found in the literature:

- Lack of Contextual Variation: The majority of research is conducted in Western English-speaking contexts with minimal attention to Central Asia, and more especially, the educational environment in Uzbekistan.
- Inadequate Attention to Student Perceptions: Although a large number of research assess learning results, few examine how students really feel and react emotionally to AI-supported collaboration.

The research in various fields points to the fact that the fusion of AI and group dynamics is both technological and social phenomenon. Whether in educational, business or digital communication this convergence is new in the sense of increasing collaboration, equity, and innovation, along with new moral, cultural, and pragmatic challenges. This study contributes to the emerging literature in this field by examining how the combination of AI and group processes unfolds in a multicultural, multilingual higher education setting.

3. Methodology

This study was conducted at IMC Krems University of Applied Sciences, Tashkent campus, Uzbekistan. This institution represents a unique educational environment and obtained international curriculum: Austrian-Uzbekistan joint degree program following European higher education standards. The university serves a culturally and linguistically diverse student body, although courses delivered in English, students' first languages include Uzbek, Russian, Tajik and Kazakh. In context of technology integration, University has wide emphasis on digital literacy and educational technology adoption.

3.1. Sampling and Setting

The sample consisted of 112 second-year undergraduate students (51.8% male, 48.2% female) from Tourism and Leisure Management (n=58) and International Business Management (n=54) program. Students participated in two undergraduate courses: 'Group Dynamics' and 'Training Intercultural Competence' over two academic semesters: winter 2024 and summer 2025. These courses were selected because both the courses require collaborative group work; include diverse, mandatory group projects, which allow natural observation of AI tool usage.

Race and ethnicity data were not collected, as the study specifically targeted the impact of AI in-group dynamics. During the winter semester of 2024, students worked in teams of 8–9 members with gender-balanced compositions. In the subsequent summer semester of 2025, teams were restructured into smaller groups of 5–6 members with new member combinations assigned randomly. Throughout both semesters, teams engaged in various collaborative assessments, including video projects, role-playing exercises, and intellectual as well as entertainment-based activities. All participants had prior experience with group projects within their academic curriculum.

3.2. Research Design

This study employed an explanatory sequential mixed-method design [27] to understand student perceptions of AI tools in a group work. Quantitative data identified broad pattern of AI usage, while qualitative phase offered deeper insights into student perceptions and experiences. Based on a pragmatic paradigm, the study recognized that subjective experiences and objective measurements both play a role in comprehending educational phenomena [28]. This philosophical position supports the study's objective of producing practical insights for teaching while upholding methodological integrity.

3.3. Data Collection

Data collection instrument was developed through a systematic process, items adapted from validated scales including the Technology Acceptance Model [29], Group Development Assessment [30], and Collaborative Learning Satisfaction Scale [31]. Data were collected via a structured online questionnaire designed to capture both quantitative and qualitative information. The survey included multiple-choice questions, 5-point Likert-scales (1=Strongly Disagree to 5=Strongly Agree), yes/no responses, and open-ended questions allowing participants to elaborate on their experiences and provide examples. The questionnaire was developed based on relevant literature and reviewed by subject matter experts to ensure content validity. Data collection occurred during a four-week period (April 10 to May 10, 2025) at the conclusion of the spring semester to ensure participants had substantial group work experience with potential AI tool integration. Of approximately 140 invited students, 112 initiatively completed the survey, yielding a response rate of 80%.

3.4. Data Analysis

Google Forms and Microsoft Excel's built-in capabilities were used to evaluate quantitative data and provide descriptive statistics, such as percentages and frequency distributions. Thematic analysis of the qualitative responses was conducted using the six-phase framework developed by Braun and Clarke [32]. In order to arrange the replies and find emerging patterns pertaining to group dynamics, and student experiences, coded the data using NVivo software. To improve dependability, coding discrepancies were addressed through dialogue. To offer context and highlight important findings, representative quotes were chosen.

3.5. Ethical Considerations

All students gave their informed consent before any data was collected, and participation was completely voluntary. Participants were made aware of their freedom to leave at any moment and without consequence. The survey was anonymous, and no personally identifiable information was collected, ensuring confidentiality and compliance with ethical research standards.

4. Results

The study examined the fusion AI and group interaction, which validates that AI integration in multilingual, multicultural educational settings, can enhance collaborative learning while maintaining human agency and interpersonal connection.

4.1. Quantitative Findings

The survey, completed by 112 undergraduate students at IMC Krems University, Tashkent, revealed several notable findings regarding group work dynamics and the use of AI tools:

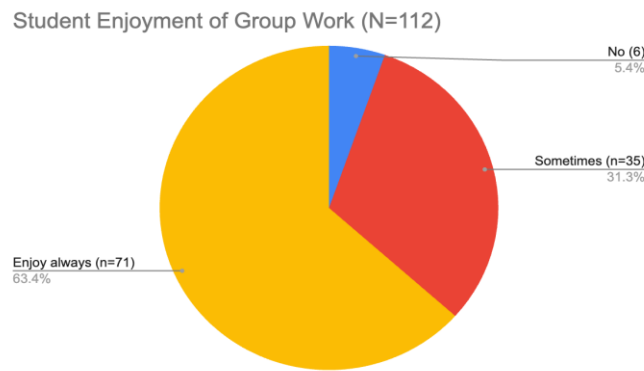


Figure 1. Enjoyment of Group Work:

63.4% (n=71) of students reported that they enjoy working in groups.

31.3% (n=35) indicated that they enjoy group work only sometimes.

5.4% (n=6) stated that they do not enjoy group work at all (Figure 1).

Overall, 96,4 (n=106) widespread AI adoption by students (regular or occasional).

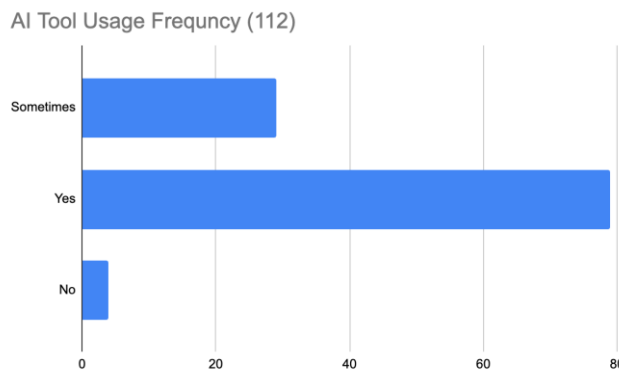


Figure 2. Adoption of AI Tools in Group Work

70.3% of respondents reported regularly using AI tools such as ChatGPT, Grammarly, and similar platforms during group work (Figure 2).

26.1% used these tools occasionally.

Only 3.6% reported not using AI tools at all.

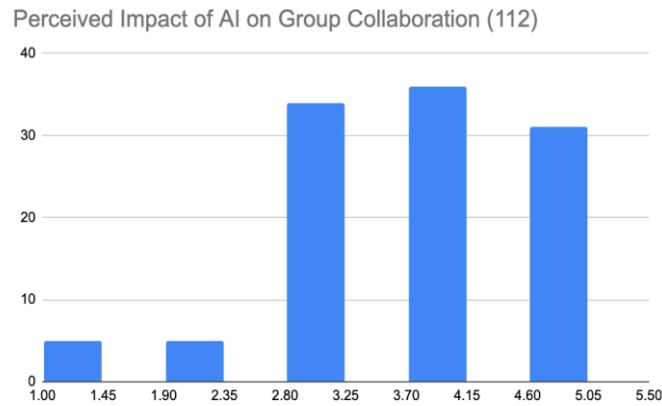


Figure 3. Perceived Impact of AI on Group Collaboration

According to the survey, results (see Figure 3), the majority of students believe that AI can improve group work at university. Out of 112 respondents, 36 (32.1%) rated their agreement at 4 and 32 (28.6%) at 5 on a 5-point scale, indicating strong agreement with the statement. Additionally, 34 (30.4%) selected 3, suggesting a moderate level of agreement. Only a small proportion of students expressed disagreement, with 5 (4.5%) each selecting 1 or 2. These results demonstrate a generally positive perception among students regarding the potential of AI to enhance group collaboration in academic settings.

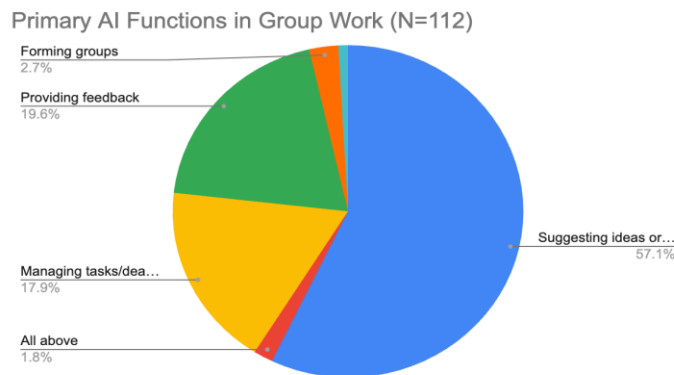


Figure 4. Specific Functions of AI in Group Work

When asked how AI supports group work, students identified the following main functions (see Figure 4):

Suggesting ideas or content: 57.8% (n=65)

Providing feedback: 19.6% (n=22)

Managing tasks and deadlines: 17.9% (n=20)

Forming groups: 2.7% (3)

All above: 1.8% (n=2)

Idea generation and content suggestion represent the most common AI application, used by over half of respondents.

4.2. Qualitative Findings

Analysis of open-ended survey responses revealed several recurring themes regarding the impact of AI tools on teamwork and communication in-group work. The findings reflect both perceived benefits and drawbacks, as described by the students.

4.2.2. Enhanced Efficiency and Organisation:

Students reported that AI tools save time, help organize group tasks, and streamline project management. Features such as idea generation, feedback provision, and deadline management were frequently cited as practical benefits. Respondents noted that AI tools make it easier to divide work, generate ideas, and maintain clarity in-group communication.

“AI tools help teams work better by saving time and improving communication.”

“It helps make fast decisions, to distribute equal tasks for all members of the group.”

4.2.3. Improved Communication and Participation:

AI was seen as a facilitator for clearer, more organized communication, especially in diverse and multilingual groups. Some students mentioned that AI tools support less confident members in sharing ideas and improve the overall quality of group interactions.

“AI tools can improve teamwork communication by making information sharing faster and more organized.”

“Well, usually people are shy to show their ideas in front of teammates. In this case, they can improve this idea by using AI tools.”

4.2.4. Support for Idea Generation:

Many students highlighted the value of AI in brainstorming sessions and in providing constructive feedback on written work, which was particularly beneficial for non-native English speakers. Respondents also valued AI for its ability to suggest ideas, provide content, and offer alternative perspectives, which can stimulate creativity and help overcome group stagnation.

“When we give our ideas for AI it can easily provide the best option.”

“AI helps generate ideas, but cannot generate ready-to-use materials. So it helps to start the project and use our creativity.”

4.2.5. Concerns about Over-Reliance:

A significant concern was that over-reliance on AI tools could diminish students' critical thinking, creativity, and individual responsibility. Some students felt that easy access to AI-generated content might discourage original thought and reduce meaningful participation.

“It may limit the imagination of students.”

“Students rely too much on AI and stop thinking for themselves; I believe it can cause problems with thinking.”

4.2.6. Reduces Interpersonal Interaction:

Several students observed that while AI can facilitate task completion, it might also reduce the need for face-to-face communication and discussion among group members, potentially weakening group bonding and interpersonal relationships.

“AI helps, but can reduce talking and sharing in groups.”

“Over-reliance on AI for communication can lead to weakening interpersonal relationships and trust.”

4.2.7. Concerns About Plagiarism and Ethical Issues

Some students raised concerns about plagiarism, data privacy, and the risk of producing similar or unoriginal work when depending heavily on AI tools.

“If we use it in order to get some ideas, it will affect well, if not, it will cause plagiarism.”

“From my point of view the bad side of using AI is that creation the idea from 0 in AI tools leads to the problem with plagiarism or same ideas.”

4.2.8. Contextual and Balanced Perspectives

A number of responses indicated that the impact of AI on group work is not universally positive or negative; rather, it depends on how the tools are used and the specific context of the group task.

“It depends on how the team will use it, whatever happens it’s not good option use only AI.”

“They absolutely contribute to the improvement of groupwork only if used in a proper way.”

5. Discussion

The results in this survey explore the distinctive characteristics of AI-human fusion in collaborative learning at IMC Krems of Applied Sciences University, Tashkent campus. The findings are in line with recent studies showing that AI can enable a more engaged and inclusive group experience [15], [19]. The discovery that AI overcomes language barriers and decreases anxiety among non-native speakers is consistent with previous work by Martinez et al. [18] and Liu & Ma [17], who found that AI tools help standardize contributions to increase inclusivity.

A findings that 96.4% (n=106) of students reported to using AI tools regularly or occasionally, which either suggests or marks the hit of a technological shift in advanced academics collaboration towards partnership with innovation. While this statistic is concerning when viewed through Central Asian lens on limited comprehensive data within the region, it certainly reflects growing acceptance worldwide.

The figure that mostly stood out was the one showing the predominant utilization of AI for idea generation and suggestion creation (57.8%). Therefore, it captures students viewing AI as a partner who co-creates instead of seeing them merely as a tool to which they delegate their work to ease workload burdens. This findings supports the theoretical framework of AI as a ‘social actor’ [1], [2], [3], about technology functioning and participating in social processes. In general, terms, students seem to take advantage of AI's generative power necessary during typical group assignment bottlenecks such as creativity hurdles and imbalance between participants' involvement levels.

The qualitative results show that AI can play both cognitive and emotional scaffolding roles in multilingual, multicultural groups: cognitively, they provide a form of assistance for language barriers, idea generation, and task organization, addressing some fundamental challenges identified in collaborative learning literature [4]. Emotionally, AI helps shy students feel more comfortable participating, creating what we term “confidence fusion”.

The results offer a unique perspective on Social Interdependence Theory's to AI-assisted group learning as students can achieve both individual productivity and group goals at the same time [4]. Several participants expressed concerns about reduced interpersonal interaction, indicating that AI may be changing the interdependence of collaborative groups from purely human-to-human to human-AI hybrid models. Yet, despite these concerns, the finding that students rely on AI for ideation rather than task completion suggests that human-to-human interdependence remains core to group success and that students are leveraging AI as a supplemental tool to augment rather than replace relational dynamics, which is consistent with cooperative goal structure.

The findings reveal a distinctive human-AI collaborative fusion model, which is significantly distinct from traditional human-computer interface paradigms. Students are not merely utilizing AI tools but constructing with AI, developing what we recognize as “collaborative intelligence fusion”. This fusion adopts three disparate patterns:

- Cognitive Fusion: AI strengthens human thinking processes, providing complementary perspectives and transcending cognitions.
- Language Convergence: AI bridges language gaps and facilitates more equitable interaction between multilingual populations.
- Creative Fusion: AI as a creative catalyst, stimulating human imagination rather than replacing it.

The results from this Central Asian context provide additional perspectives to the largely Western-centric literature on AI in education. The high acceptance and positive perception of AI tools by students of Uzbekistan could be related to cultural attitudes towards technology adoption and educational innovation, as well as specific circumstances surrounding multilingualism at IMC Krems Tashkent. The nuanced ways that students reflect upon the use of AI, emphasizing both advantages and limitations, are indicative of how contextual factors such as institutional culture,

student backgrounds, and explicit policies regarding technology integration can affect perceptions of AI in collaborative learning contexts.

These results imply that traditional models of collaborative learning may have to be revised to consider AI as another member in the group and suggest a new model of ‘human-AI collaborative fusion’, where humans retain agency but utilize technological power. That these concerns remained alongside enthusiasm for certain AI applications suggests that successful integration of educational technology involves balancing human needs with technological capabilities rather than either fully adopting or rejecting these technologies.

6. Limitations

Several limitations to this study should be considered when interpreting these findings: the research was conducted within undergraduate students at a single institution over two semester, which may limit generalizability to other education contexts. (i); it relied on self-reported data, which can introduce social desirability and recall bias (ii); convenience sampling may have impacted results (iii); and the particular cultural context of Uzbekistan may also impact transferability (iv).

7. Conclusion

This study demonstrates the emergence of fusion model in collaborative learning, where AI are seamlessly integrated into group dynamics with high adoption rate (96.4%) and positive attitudes toward AI tools among undergraduate students at IMC Krems of Applied Sciences University, Tashkent campus. It fills a gap in the literature for a non-Western, multilingual settings, to improve efficiency, organization, communication, and participation. However, some concerns exist about over-reliance on AI and less interpersonal interaction.

The research proves AI as a ‘social actor’ [1], [2], [3], in-group dynamics, extending Social Interdependence Theory to account for human - AI hybrid collaboration model. The fusion patterns observed as cognitive, linguistic and creative support. These serve cognitive as well as emotional scaffolding, particularly helpful in multicultural, multilingual settings [4]. The research also contributes that AI integration may not necessarily decrease human interdependence but can create new collaborative relationships that may persist beyond a single group experience.

8. Recommendations

Educators should implement comprehensive AI literacy programs that encompass technical, ethical, and critical evaluation skills. Develop clear guidelines for the appropriate uses of AI in-group work, design hybrid collaborative models that incorporate both AI-assisted interaction and authentic human interaction. Institutions should develop balanced policies about AI with academic integrity. Invest in faculty development to help educators effectively integrate AI. Promote research around the impact of AI in various cultural and linguistic contexts. Students should prioritize authentic interpersonal relationship and direct communication within groups. They engage actively with questions, critical evaluation skills for content generated by AI. Pledge to remain open to learning about changing

It is worth exploring through future studies how educators receive, adapt to, and incorporate AI tools into collaborative learning environments; challenges to implementation, what makes implementations successful, and professional development needs. These recommendations can help educational stakeholders take steps toward responsible integration of AI tools in collaborative learning while preserving the human aspects that are necessary for group work to be beneficial to student growth and academic success.

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