

## IMPACT OF SOCIAL PRESENCE ON LEARNING OUTCOMES IN DIGITAL EDUCATION

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**Abstract.** *This study aims to show the influence of social presence on the learning process of students of higher educational institutions in Kazakhstan. It demonstrates how social presence, defined as the feeling of connection and involvement with other students and teacher in the classroom, affects different attributes of learning, such as course satisfaction, timely feedback, chats, forums, etc. Data collection was gathered by the Likert scale questionnaire in which students assessed the degree of their social presence according to ten variables and the overall importance of social aspects in digital education. The results of the study provided sufficient evidence to include aspects of social presence in the development of online courses. Finally, this paper will show that understanding social presence is vital for both students and teachers as it enriches the learning experience of students and helps teachers to better understand student demands.*

**Key words:** *digital education, social presence, learning outcomes, digital platforms, sense of belonging*

### 1. INTRODUCTION

In 1976, Short, Williams, and Christie defined social presence as the isolation of another person in transmitted speech. If we translate this isolation in a virtual environment, it can lead to a decrease in motivation to learn. Today, however, with the rise and expansion of digital education around the world, especially after the COVID pandemic and rapid development of artificial intelligence (AI), social presence has become a key success factor in learning. This claim is justified in the recent study by Aldosari et al., (2022), which has shown that online classes can ignite motivation, set learning goals and outcomes by harnessing the power of belonging among students and teachers.

Historically, early concepts of social presence, which were developed based on the broader field of communication theory research, were based on how widely communication tools were used to allow other people to realize the existence of interpersonal relationships and develop them. According to the idea of the abovementioned Short, Williams, and

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Christie theory from 1976, social presence shows how different means of communication affect individual perceptions of interconnectedness. In other words, it is crucial to observe the extent the online platforms and virtual learning tools create a sense of community and productive engagement among students in the digital learning environment. This view has overcome the constraints set by video-conferencing, discussions in chats and forums, platforms since it encompasses the social and emotional process of learning. Incidentally, the Community of Inquiry (CoI) concept developed by Harrison, Anderson, and Archer (2001) defines the social presence as one of the three interrelated *presences*, those being: teaching, cognitive and social, each contributing to students' success. Additionally, the development of a rich and productive online learning environment requires at least two other *presences*: a cognitive presence and a teaching presence. Here, both *presences* ensure group cohesion, joint learning, and emotional connection between students.

Today, social presence provides a sense of 'communicating with people' in a virtual environment. It promotes community development and ownership, which is crucial in online education. Moreover, the sense of community, belonging and interaction is enhanced when teachers create an online learning environment that naturally increases students' motivation, engagement, and academic achievement. Thus, social presence positively influences learning outcomes and indicates pedagogical strategies that primarily focus on social aspects in digital learning spaces. As digital education develops, teachers should arguably become aware of the importance of social presence and its implications on the learning outcomes. In turn, this will help them to better meet the needs and interests of their students.

In recent years, the focus of many studies on social presence and effective learning outcomes has been on digital education institutions. For instance, Richardson et al., (2017) conducted a meta-analysis that established a positive relationship between social presence in a virtual learning environment and students' enjoyment of learning. As revealed in the results, students who feel connected to their teacher(s) and peers are satisfied with their choice of school and show higher academic achievements. Also, Kreijns (2021) stated that focus should be on the development of teaching methods that enhance social presence within the context of online learning. Incidentally, Barreda-Angeles (2023) said that it is possible to enhance social presence through online communities through socially enhanced virtual reality. Additionally, Al Seyer and Lowenthal (2024) discussed the issue of assessing social presence in online learning and its implication on learning outcomes.

Generally, numerous studies have shown that social presence is a significant component of effective online learning and has a big impact on students learning practices and influences overall learning outcomes in digital education.

### **1.1 The Role of Teachers in Social Presence**

It is imperative that teachers also become social participants in the digital learning environment since they help to facilitate learning. Furthermore, understanding social presence will help them create interesting, efficient, and encouraging online learning strategies. For instance, they can create online learning projects and tests to encourage student involvement and collaboration. These could include virtual teams, online forums, peer feedback events, and group projects. According to Lowenthal and Dunlap (2010) digital storytelling could also help teachers and students feel more involved in creating an enjoyable and motivating social presence. Furthermore, teachers will also have the chance

to model acceptable demeanor in an online setting, help with informative communication with certain communication aids, and join student discussions. Additionally, teachers can establish and insist on a positive and inclusive online culture, give consistent feedback and support, and quickly address student concerns and difficulties they might encounter in learning.

Based on the aforementioned, positive aspects of social presence in the classroom are as follows:

1. *Higher levels of engagement and motivation.* Strong social involvement can create a dynamic and exciting learning environment. Students who feel a connection with their teachers and peers participate more in discussions, shared projects, and persist in learning. Thus, Miao and Ma (2022) postulate positive relatedness between social presence and online engagement, self-regulation, and participation in higher education.
2. *Improved collaboration and knowledge accumulation.* Participation in public life helps students to develop a sense of shared goals and encourages them to interact and share information. According to Don et al., (2022) the application of social participation in online classrooms is a necessity in establishing cooperative learning.
3. *Reducing feelings of isolation and anxiety.* Online learning can potentially bring a feeling of isolation, especially for students who are used to learning face-to-face. However, social presence through participation and dialogue also tends to reduce the feeling of isolation.
4. *Increased satisfaction and perseverance.* Strong social involvement helps students be more satisfied with their online learning experience and to persist with their studies. With online courses, Richardson (2019) shows an apparent correlation between social engagement and students' satisfaction on the one hand, and students' persistence, on the other.

Taking all of the abovementioned into consideration, social presence can help teachers to create effective, engaging, motivating, and gratifying online learning experience for their students because the online learning space further develops collaboration and, ultimately, effective learning outcomes. So far, several studies have demonstrated that students are more satisfied with learning and its efficacy when they experience a larger degree of social presence (Widjaja & Chen 2017). Further studies revealed that in an increased interactive classroom environment students become more responsible and autonomous, which enhances deeper learning (Munawar et al. 2023).

## 2. DATA COLLECTION AND RESEARCH METHODS

Current study involved 205 participants, mainly junior and senior students, from three universities in Almaty, Kazakhstan: 1. The National Pedagogical University named after Abai 2. Suleyman Demirel University and 3. Narxoz University. The survey was conducted by Google Forms and utilized a 5-point Likert scale. The survey included 10 items that measured different aspects of social presence related to community belonging, course understanding, interactivity, feedback, learning effectiveness, course satisfaction, academic performance, application of knowledge, and active participation. Some items used a binary agree/disagree scale (e.g., *I strongly agree/strongly disagree that...*), others

used a binary very important/unimportant scale (e.g., *'It is very important/not important at all...'*), and others used a binary satisfied/dissatisfied scale (e.g., *'I am very satisfied/dissatisfied at all with...'*). To ensure the reliability of the results, Cronbach's alpha was applied, which revealed a score of 0.89

### 3. RESULTS AND DISCUSSION

The results show a largely favorable correlation between the perception of social features in a digital educational environment and several important aspects of student learning. This includes a sense of belonging, understanding of the course content, and a comprehensive learning experience. The findings strongly endorse the idea that enhanced social presence in digital learning environments leads to better learning outcomes, more engagement, and a stronger sense of belonging among students in higher education institutions in Kazakhstan.

Table 1 Likert scale survey results

Number	Response items	Mean	SD
1	Social presence elements (chats, forums, conferencing, etc.) on the digital education platform enhance my sense of belonging to the learning community."	3.61	0.94
2	Using social elements (chats, forums, conferencing, etc.) to interact with classmates and teachers helps me understand course materials better.	3.59	0.98
3	How strongly do you agree that the social elements of the digital education tool encourage you to interact with other people and complete course activities?	3.14	0.89
4	If you use the social elements on the digital education platform, please rate how often you get timely comments and help from your peers and teacher(s).	3.51	0.95
5	To what extent do you agree that participating in discussions and collaborative activities on the digital education platform positively impacts your learning outcomes?	3.63	1.03
6	Overall, how satisfied are you with the social presence and interactive elements that the digital education tool gives you to help you learn?	3.79	0.7
7	Please rate how much you agree or disagree with this statement: "My academic performance (e.g., grades, test scores) is affected by how much I use the social elements on the digital education platform."	3.54	0.87
8	How much do you agree that using social elements in the digital education tool to interact with each other and teachers helps you use what you are learning in the real world?	3.37	0.86
9	Do you agree or disagree with this statement: "The social presence elements on the digital education platform contribute significantly to my overall learning experience."	3.72	0.8
10	How important do you think it is for digital learning platforms to include social presence elements that make learning better for all students compared to standard face-to-face teaching?	4.17	0.93

The results show that social presence promotes community growth and participation in online learning. This is supported by a high average score on ‘sense of belonging’ (the average score for the first quarter = 3.61), which is a major factor in dealing with loneliness that sometimes accompanies digital learning. Similar to this, a large number of favorable evaluations of the degree of information acquired throughout the course (Q2 average = 3.59) suggests that social activities, including forums, video calls, and chats, are useful for enhancing communication and, thus, comprehension. As a result, it is possible that students, who study challenging topics of social and humanitarian nature, could learn more and find solutions to their problems if they engage in conversation with their teachers and peers.

The advantages of interactive learning are supported by the positive replies to the question of how the learning process is influenced by group teachings and discussions (Q5, average value = 3.63). This indicates that students highly value the resources offered by digital educational platforms, which is reflected in their satisfaction with their social participation and interactive components (Q6, average = 3.79). It is clear that the educational experience of students improves as they develop a sense of closer connection and interaction with the information they are learning. Both answers to the question of academic performance (Q7, average value = 3.54) and the question of the application of learning in real conditions (Q8, average value = 3.37) indicate that students are aware of practical benefits that can be obtained by adding social components in the training course. Moreover, a detailed analysis of these components was carried out for the sake of further understanding. By examining each question on its own, we could clearly see the strengths and weaknesses of applying social presence in distance education, how it affected student understanding of the course material, and their performance, respectively. A detailed survey analysis for each item is shown below:

1. *Sense of Belonging* (Q1 mean = 3.61): This score shows that social presence helps students feel part of the learning community. Research shows that when students feel a belonging to a community, they interact actively and cooperate with peers, which leads to an improvement in the learning outcomes (Aldosari, Alramthi and Eid, 2022).
2. *Understanding Course Material* (Q2, mean = 3.59): Students think that social elements make course content clearer. This supports the idea that the interaction of students among themselves greatly enhances learning effectiveness and is in line the concept of research community that views social presence as a predecessor to cognitive presence and critical thinking.
3. *Encouragement to Interact* (Q3 mean = 3.14): The lower score here might mean that while students believe in the value of social aspects of the course, they do not always feel compelled to be actively involved. However, studies have shown that interactive learning experiences are directly connected to higher academic performance and satisfaction.
4. *Timely Support* (Q4 mean = 3.51): This score shows that students believe they get feedback on time, which largely induces students interest and motivation. Recent research by Gao et al., (2024) supports the idea that feedback results in greater learning effectiveness and satisfaction when embedded in a socially supportive environment.
5. *Impact on Learning Outcomes* (Q5 mean = 3.63): Students agree that working together helps them learn better. Their ideas and experiences are different and they vary, but by sharing them together students learn how to apply the newly learned material in practice.
6. *Overall Satisfaction with Social Presence* (Q6 mean = 3.79): The ways in which students interact (whether in a discussion forum, a live video session, or on a

collaborative project) are essential to building a collaborative student community, which makes the learning experience more productive and enjoyable.

7. *Academic Performance Impact* (Q7 mean = 3.54): Academic Performance Impact (Q7 mean = 3.54): As mentioned earlier, the academic success of students is directly related to the social elements used in digital education. In the process, students benefit when working in groups on assignments, contributing on discussion boards, or attending study sessions to help reinforce what they have learned in class.
8. *Real-World Application* (Q8 mean = 3.37): Although this score is lower, it still suggests that students can solve practical problems by interacting with others. In this process, as students discuss real-world topics during interactive activities, they can see how theory can be translated into practice.
9. *Contribution to Learning Experience* (Q9 mean = 3.72): This points to a strong agreement that social presence plays a crucial role in their overall learning experience. Additionally, it creates a comprehensive learning experience in which students gain information while simultaneously honing their emotional intelligence and interpersonal skills.
10. *Importance of Social Presence* (Q10, mean = 4.17): The high score indicates students need for social presence in online learning platforms and shows that social presence could be the most important factor in closing the gap between online and on-campus education. It also implies that an ideal online learning experience would roughly replicate the social interaction typical of on-campus classroom experiences.

Finally, future research is recommended to replicate this study across various colleges and countries that feature diverse educational systems and student demographics, all while maintaining the same objectives. This will also allow the evaluation and comparison of the obtained results in this study. Also, further research can examine factors that might affect overall learning results such as students past online learning experience, tech skills and/or teaching approaches. According to Mutezo & Maré (2023), Suryanto et al. (2024), Gherghel et al. (2023), Shehzad & Charles (2023) these can impact the way social presence relates to the learning outcomes.

#### 4. CONCLUSION

This research aimed to explore how social presence affects students' learning and their sense of connection in an online learning environment. The study results showed that a sense of belonging, knowledge of the subject matter, and overall satisfaction with the learning experience had significantly increased for students exposed to social presence. The obtained results emphasized the need for a learning environment that promoted student interaction resulting in academic achievement and the application of learned content to real life. Because social presence attributes are valued so highly, it is justifiable to conclude that they are required for both efficient online learning and attaining the same degree of success as conventional classroom setting. Based on the obtained results, online learning tools and their application could be implemented in higher education institutions. To do this, it is essential to emphasize the significance and advantages of social presence for students, which significantly impacts their achievement, motivation, teamwork, communication and learning outcomes.

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