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THE ROLE OF STUDENT'S MOTIVATION AND SATISFACTION ON ONLINE COLLABORATIVE LEARNING ATTITUDE IN CSCL

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Abstract:

Due to the contributions of computer-supported collaborative learning (CSCL) to learning processes and outcomes, the use of CSCL within the scope of in-class and out-of-class learning processes is increasing. Despite its many advantages, students' attitudes towards online collaborative learning may not be developed at the expected level. In order to provide the expected benefit from CSCL, students are expected to have a positive attitude towards it. In this study, student attitude in CSCL was theoretically examined in the context of student's motivation and satisfaction factors. In line with the literature findings, it was discussed what can be done to improve the online collaborative learning attitude of the students.

Keywords: computer-supported collaborative learning; CSCL; motivation; satisfaction; attitude

Introduction

Computer-assisted collaborative learning (CSCL) is a learning process in which students carry out joint studies on a common learning task with the help of computer and internet-based tools. Upon careful examination of the literature on CSCL, it is observed that this field is equipped with its own theories, technologies, and methodologies (Lämsä et al., 2021). The fact that students perform a collaborative activity at CSCL does not mean that the learning process will be successful. Conversely, quality of CSCL depends on whether students can generate new knowledge or develop shared conceptual understandings through interaction in their learning processes or activities (Hämäläinen & Vähäsantanen, 2011). Hence, primary objective of CSCL research is to comprehend technologically mediated peer interaction processes and their outcomes (Cress et al., 2019; Lämsä et al., 2021). Current research on CSCL is concerned with examining learning outcomes and collaborative learning processes in computer-assisted environments. In other words, CSCL research has focused on the effects of implementing a particular technological tool or strategy in collaborative learning environments (Chen et al., 2018).

The examination of the literature reveals that the technological tools and strategies applied in CSCL processes have evolved with time. In the early stages of CSCL research, technologies such as e-mail-

based tools, artificial intelligent tools, argumentation software, and text-based discussion environments were prevalent (Lehtinen et al., 1999; Yilmaz & Karaoglan Yilmaz, 2023a, 2023b). In today's CSCL applications, it is seen that technologies with whiteboard feature are used, with which students can interact text-based, video, synchronous and asynchronous. One of these technologies is Zoom.

The use of Zoom as a CSCL tool has become widespread especially during the Covid 19 pandemic (Kohnke & Moorhouse, 2022; Serhan, 2020). After Covid 19 pandemic, that is, in context of today's hybrid education practices, teachers use Zoom in their project work, in the realization of collaborative learning activities with students, apart from lessons in face-to-face classroom environment. Although use of Zoom as a collaborative learning tool is common, the important point in CSCL is understanding the process and results of learning that takes place here. The point of interest here is how students' attitudes, motivation and satisfaction are affected by CSCL activities using Zoom. Through a comprehensive review of the literature, it is related that among the major problems experienced in CSCL, students' attitudes, motivation and satisfaction are low and the learning process and results are negatively affected (Muñoz-Carril et al., 2021; Rienties et al., 2009; Yilmaz & Karaoglan Yilmaz, 2020; Zhan et al., 2015). In learning processes where Zoom is used as a CSCL tool, students' attitudes towards online collaborative learning, how their motivation and satisfaction will be, and the relationships between these structures are a curious dimension. In this study, it was aimed to examine the theoretical relationships between students' attitudes, motivation and satisfaction towards online collaborative learning. Based on the findings in the literature, theoretical inferences were made and suggestions were made for research.

Theoretical background and literature review

Attitude towards Online Collaborative Learning

It is possible to discuss about many advantages of online collaborative learning on students' learning process and results. Nonetheless, it is acknowledged that students are often hesitant to actively take part in online collaborative learning activities (Chatterjee & Correia, 2020; Korkmaz, 2012; Yilmaz et al., 2020). It is stated that this situation threatens the effectiveness of the collaborative learning process (Nam & Zellner, 2011; Uz Bilgin & Gul, 2020). In CSCL processes, it is stated that while a few willing students fulfill almost all the responsibilities of the group, other students avoid responsibility (Korkmaz, 2012). In such cases, it is seen that certain responsible students bear the workload of CSCL groups. Other students, on the other hand, often prefer to avoid responsibility. As a result of this situation, the expected benefit from collaborative learning activities cannot be obtained (Nam & Zellner, 2011). In the study conducted by Korkmaz and Yeşil (2011) it was stated that this is the main factor underlying dissatisfaction and negative motivation to group activities. Collaborative learning groups that are not formed properly and unplanned collaborative learning activities can lead to development of negative attitudes towards collaborative learning in course of time (Korkmaz, 2012). The fact that students have a negative attitude towards collaborative learning is one of the factors that may negatively affect their learning process and results (Wengrowicz et al., 2018; Yilmaz & Karaoglan Yilmaz, 2020). For this reason, it is important to determine the factors that affect student attitudes in collaborative learning and to take the necessary measures for this.

Student Motivation and Attitude at CSCL

Researchers state that learning in CSCL environments is more complex than in face-to-face environments (Rienties et al., 2009). Also, research reveals that students in CSCL settings contribute lower levels of cognitive discourse (Schellens & Valcke, 2005), while students collaborating online produce fewer (positive) learning goals and more performance goals than students collaborating in a face-to-face setting (Järvelä et al. al., 2008). Among the reasons for this situation, it is stated that the

meaning barriers due to the lack of face-to-face communication cause problems (Bromme et al., 2005). For example, deficiencies in online communication can lead to misunderstandings of students. This is seen as one of the factors that may lead to a decrease in student motivation towards the lesson (Rienties et al., 2009).

On the other hand, CSCL environments are learning environments that require students to learn self-directed (Roth el al. 2007). Students whose self-directed learning skills are not sufficiently developed will not know what to do in this environment and will not be able to manage their own learning processes effectively. In addition, in these environments, students often learn through peer learning. In other words, there is little chance of getting feedback from the teacher. Therefore, it is stated that the motivation of students who expect feedback and cannot receive feedback will decrease over time (Ryan & Deci, 2000).

The decrease in students' motivation towards CSCL may lead them to have a negative attitude towards online collaborative learning. Studies reveal that students' attitudes towards online collaborative learning can affect their learning process and performance (Ku et al., 2013; Magen-Nagar & Shonfeld, 2018; Yilmaz & Karaoglan Yilmaz, 2020). For this reason, it is important to determine the factors that affect students' attitudes towards online collaborative learning and to control these factors for an effective learning process.

Zoom, one of the technologies used in CSCL processes, is widely used for educational purposes today due to its features such as communication, interaction, knowledge sharing and collaboration. Therefore, it is thought that the decrease in student motivation due to the above-mentioned lack of technology-based communication and interaction in CSCL can be reduced by the use of Zoom. It is thought that students' attitudes towards online collaborative learning will develop positively, depending on the prevention of the decrease in student motivation.

Student Satisfaction and Attitude at CSCL

Student satisfaction can be defined as student satisfaction with the service received (Parlak, 2004). Personal expectations and personality traits of the individual are important in student satisfaction. According to Hom (2002), student satisfaction is the positive emotion that an individual feels at the end of her/his past and present knowledge, expectations, experiences, perceived service and outcome evaluation.

Student satisfaction is one of the quality indicators in online learning programs. Studies reveal that student satisfaction is one of the most important factors for the implementation success of a system (Delone & Mclean, 1992; Jiang et al., 2021). Determining the expectation levels of the students and meeting these expectations will also increase the satisfaction levels of the students. According to Fredericksen et al. (2000), students with high satisfaction levels in student-centered learning environments achieve higher learning levels compared to those with low satisfaction levels. Sun et al. (2008) states that one of the factors affecting student satisfaction in an e-learning environment is the technology used. Accordingly, the technology used in the course affects student, teacher and content interactions and has an impact on satisfaction in general.

While student performance is an important indicator of the success of an educational program, the continuity of the student's success in the program is closely related to her/his satisfaction (Rivera et al., 2002; Hettiarachchi et al., 2021). Studies reveal that the technologies used in learning affect the performance of students (Alqurashi, 2019). These technologies used are also factors that affect students' satisfaction (Turk et al., 2022). Considering these factors increases the student's desire to learn, and this positively affects the effectiveness of teaching (Costagliola et al., 2005).

Bailey (2002) based student satisfaction on Thorndike's law of outcome. According to this law, if a stimulus or activity results in a satisfying way, the bond between the stimulus and the result will be strengthened. Arousal or gratification can be generated through interactions. For example, feedback from the teacher may increase the student's satisfaction or cause the student to work harder. Thorndike's Law of Effect, assuming that student-to-student and teacher-to-student interaction serves as a stimulus for increasing student satisfaction, suggests that an elevated level of interaction between students and teachers corresponds to heightened student satisfaction. Conversely, a decreased level of interaction, both among students and with the teacher, is linked to diminished student satisfaction. From this point of view, Zoom, which is used for CSCL purposes, has advantages over technologies used for similar purposes with its asynchronous and synchronous communication possibilities, information sharing options, whiteboard features. This can provide to development of student-student interaction, knowledge sharing and knowledge construction processes in CSCL. Accordingly, students can get higher satisfaction from the CSCL activities performed in the Zoom environment. The increase in student satisfaction may lead students to participate in CSCL activities willingly. Over time, it can be ensured that students' attitudes towards online collaborative learning develop positively.

Discussion and Conclusion

When the literature is examined, there are findings that group size affects the learning process and results in CSCL. In particular, it is stated that group cohesion decreases in large groups, and collaboration and coordination problems are experienced among group members (Nam & Zellner, 2011; Yilmaz & Karaoglan Yilmaz, 2020). However, it is revealed that group cohesion and collaboration processes can be carried out more effectively in small groups (Noroozi et al., 2012; Yilmaz et al., 2017). When the researches are examined, there are findings that the use of Zoom in the learning process contributes to learning satisfaction and motivation (Kohnke & Moorhouse, 2022). However, these studies in the literature do not contain results on CSCL.

In recent researches, students' e-learning readiness (computer self-efficacy, Internet self-efficacy, online communication self-efficacy, self-directed learning, learner control), student interactions (student-student interaction; student-teacher interaction; student-interface interaction); student-content interaction) have been determined to be effective on student motivation (Yilmaz, 2017; Cebi, 2022). Therefore, the measures to be taken to improve these factors may be useful in increasing student motivation in CSCL and thus improving the attitude towards online collaborative learning in a positive way. Studies have shown that one of the factors affecting student motivation in online learning is student-interface interaction and student-learning environments interaction (Cebi, 2022; Karaoglan Yilmaz, 2017). Therefore, the high availability of the interface of the technology to be used in the CSCL process and the fact that the learning environment responds to the needs of the students will increase student motivation. In this sense, it can be said that the Zoom program is useful in providing student-interface interaction and student-learning environments interaction, accordingly, student motivation increases in CSCL, and the attitude towards online collaborative learning develops positively. Researchers have revealed that in small CSCL groups formed by students according to their wishes, learners perform their duties and responsibilities better, group harmony and collaboration are better, and accordingly, students' motivation is higher (Karaoglan Yilmaz & Yilmaz, 2019; Yilmaz et al., 2020).

It is seen that there is no research examining the relationship between student satisfaction and attitude in CSCL. However, it is noteworthy that there are studies examining the relationship between these two variables in terms of online learning environments. Ngah et al. (2021) concluded that student satisfaction in online learning environments has a direct effect on attitude. Taghizadeh and Hajhosseini (2021) revealed that the quality of learner–learner, learner–instructor, learner–content interactions

and the technological environment used in the course are effective on student satisfaction. For this reason, measures to be taken to increase learner-learner and learner-content interactions at CSCL and the high availability of the technological environment will increase student satisfaction. Depending on the increase in student satisfaction, students' attitudes towards online collaborative learning can be improved positively.

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