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Araştırma Makalesi | Research Article

To Be Seen or Not to Be Seen: Examination of Camera Sharing in Online Learning Environments in Terms of Interaction*

Görünmek ya da Görünmemek: Çevrimiçi Öğrenme Ortamlarında Kamera Görüntüsü Paylaşımının Etkileşim Açısından İncelenmesi

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Abstract

Along with the Covid-19 pandemic lockdowns experienced, educational institutions of every level conveyed their learning environments to digital environments mostly utilizing online video conference technology. These environments, which were basically designed as communication technologies, were used intensively in online classes in this process where the learner and the instructor were at a distance. This study aimed to examine camera sharing in online learning environments where online video conference applications were used during the Covid–19 pandemic in terms of interaction. This study used a mixed-method and explanatory sequential design model. Whether learners, the participants of this study, shared their camera during online classes and what they thought about learner-learner and learner–instructor interaction was structured through data collection processes using both quantitative and qualitative methods. The findings of the research reveal that the learners in online classes are hesitant about sharing their cameras (for reasons of privacy, distraction, concern, etc.). On the other hand, the learners expressed their opinions that especially the camera sharing made by the instructor (for reasons such as contributing to focus, providing feedback, feeling valued, etc.) increases the interaction.

Keywords: Digital Communication, Interaction, Online Learning, Mixed-method, Explanatory Sequential Design.

Öz

Covid-19 salgını ile yaşanan kapanmalarla birlikte, her düzeyden eğitim – öğretim kurumu geleneksel öğrenme ortamlarını çevrimiçi video konferans teknolojisi özellikleri ile ön plana çıkan dijital ortamlara aktarmak durumunda kalmıştır. Temelde birer iletişim teknolojisi olarak tasarlanmış bu ortamlar, öğrenen ve ders yürütücüsünün farklı mekanlarda bulunduğu bu süreçte canlı derslerde yoğun olarak kullanılmıştır. Bu araştırmada, Covid-19 salgını ile birlikte çevrimiçi video konferans uygulamalarının yoğun bir biçimde kullanıldığı öğrenme ortamlarında, katılımcılar tarafından yapılan kamera görüntüsü paylaşımının etkileşim açısından incelenmesi amaçlanmıştır. Karma yöntemle desenlenen bu araştırmada, araştırma modeli olarak açımlayıcı sıralı desen kullanılmıştır. Öğrenenlerin canlı derslerde kamera paylaşımlarına ilişkin durumları ile kamera paylaşımı ve etkileşim (öğrenen – öğrenen, öğrenen – öğretici) konusundaki düşüncelerine ilişkin veriler, önce nicel, ardından nitel olmak üzere iki aşamadan oluşan veri toplama süreçleri ile elde edilmiştir. Araştırma sonuçları, canlı derslerde öğrenenlerin kamera paylaşımı yapma konusunda (mahremiyet, dikkat dağınıklığı, kaygı, vb. nedenlerle) çekinceli davrandıklarını ortaya koymaktadır. Bununla birlikte, öğrenenler, özellikle ders yürütücüsü tarafından yapılan kamera paylaşımının (odaklanmaya katkı, geribildirim sağlama, değer gördüğünü hissetme, vb. nedenlerle) etkileşimi olumlu yönde etkilediği konusunda görüş bildirmişlerdir.

Anahtar Kelimeler: Dijital İletişim, Etkileşim, Çevrimiçi Öğrenme, Karma Yöntem Açımlayıcı Sıralı Desen.

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Introduction

The new type of Coronavirus (Covid–19) was declared as a pandemic by the World Health Organization (WHO) on March 11, 2020, (WHO, 2021) triggered a crisis not only in the medical sector but also in the social and financial sectors (United Nations, 2021). Having affected approximately 1.6 billion learners in more than 190 countries, Covid–19 pandemic (UNESCO, 2021b) caused the worst impact on the education system in history. To reduce and eliminate this negative impact, a series of measures were taken by the relevant institutions and organizations, with certain emergency procedures being implemented (YÖK, 2021; UNESCO, 2021a). These procedures included emergency remote education.

With this form of education, educational institutions at every level conveyed their learning environments to the digital world following the lockdowns caused by Covid–19. These digital environments can be grouped as follows: resources used for providing psychosocial support, digital learning management systems, systems created for mobile use, collaboration platforms supporting live video communication, Massive Online Open Course (MOOC) Platforms, etc. (UNESCO, 2021a). For all educational, communication, cooperation, and supportive activities conducted face to face before, these digital environments that became popular after the pandemic have been actively used.

The digital environments mentioned above consist of the practices and systems which were designed as communication technologies to offer interpersonal and intergroup communication in online environments (Zoom, 2021; Microsoft Teams, 2021). For instance, online video conference technologies such as Zoom, Microsoft Teams, Skype, WhatsApp, etc., where people and groups performed personal and professional interviews, were adapted to being Educational Technology after the pandemic, and they were intensively used by secondary and higher education institutions during this period although they were mainly designed as digital communication technologies. Enabling people to share texts, audio, and GIFs/images, these applications, and systems came to the forefront with their online video conference technology. Learners and instructors who were deprived of the opportunity of experiencing the sense of communication and collectivity due to the lockdowns (Downing, Lam, Kwong, Downing, & Chan, 2007, p. 202) aimed to overcome this deprivation with the possibilities of the aforementioned technologies.

Despite the communication–related benefits of the online video conference technologies during learning periods, restrictions arising from overuse also became a current issue (Lowenthal, Borup, West, & Archambault, 2020; Vandenberg & Magnuson, 2021). These restrictions include "Zoom fatigue" which is a new term defined recently and which indicates fatigue, concerns, or burnout arising from the overuse of virtual communication platforms like Zoom (Lee, 2020), and the lack of interaction with peers and learners arising from the sense of isolation in online environments (Klemm, Ruelens-Trinkaus, Allshouse, & Barnard, 2020). York and Richardson (2012, p. 84) explain the interaction in the learning activities as a meaningful form of communication that challenges learners' opinions, shapes the process of gaining information through meaningful ways, and directs learners to reach their targets by helping them change. Therefore, during the Covid–19 pandemic in which communication and interaction have become necessary, the question of what learners think about the interaction in the learning environments where online video conference applications are used gained importance.

Learners had to participate in the classes held with the online video conference applications (Zoom, MS Teams, BigBlueBotton, etc.) due to the lockdowns caused by the pandemic. In online classes, interaction is mainly ensured through camera, voice, and text. Bozkaya (2006, pp. 55-56) notes that a high level of social interaction always occurs in the interactive and video conference systems because audio and video are used simultaneously. Similarly, Garrison (2017, pp. 25-26) notes that instant communication is important for a supportive and safe learning environment, to reduce the risks. Therefore, we can say that online conference applications offer a high level of interaction as participants see and hear one another instantly.

This study focuses on the topic of sharing cameras and interaction in the learning environments where online video conference applications are used. It also aims to examine the interaction between instructors and learners during online classes held using online video conference applications. Therefore, the research questions are as follows:

1. Do learners turn on their cameras during online classes?

2. What are the learners' thoughts about turning on cameras and interacting with others during online classes?

3. What are the learners' thoughts about instructors' act of turning on cameras and the interaction during online classes?

4. What are learners' thoughts about other learners or their classmates' turning on cameras during online classes?

The population of this study was limited with the undergraduate and postgraduate students studying in a foundation university between the 2020 and 2021 academic years. The measurement tool (questionnaire) used to collect the quantitative data and the focus group study performed to collect the qualitative data are limitations of the present study. This study is believed to be important as it offers a road map to researchers, institutions, and shareholders to ensure the interaction is established for the learners in the most effective way possible in online learning environments used intensively during the Covid–19 period.

Interaction and Online Learning

This study aimed to examine camera sharing in online learning environments where online video conference applications were used during the Covid–19 pandemic and the effects of sharing cameras on interaction. The concept of interaction is discussed in the context of interaction experienced in online learning environments. Therefore, the literature review focuses on the general definition of interaction, interaction in online learning environments, and the types of interaction.

The Oxford English Dictionary (2021) describes the interaction as is the act of affecting one another. Akyazı (2014, p. 155) explains interaction as overall attitudes shown by people and groups toward one another, underlining *mutualism* as the main trait of interaction. Similarly, Yüzer (2013, p. 57) defines interaction as the mutual communication between at least two people, objects, or instruments. Based on these definitions, we can say that interaction focuses on the process of *affecting each other*. How the process of affecting occurs or will occur differs by the environment where the interaction will occur as well as people, groups, objects and/or instruments, which is also the case for the communication types and processes (verbal – non–verbal, written, face–to–face, online) (Bozkaya, 2006;

Akyazı, 2014). Because interaction is examined in terms of online learning environments in the present study, it will be more accurate to define the concept of online learning first, and then to focus on the interaction types in online learning environments.

The concept of online learning has been used in different forms in the relevant literature. The terms commonly used for online learning in the literature include e-learning, Internet learning, distributed learning, mobile learning, tele–learning, virtual learning, computer-assisted learning, web-based learning, or remote–learning (Ally, 2008). The common point between these concepts which are related to online learning in the literature is that they all define a learning process where a technological instrument (generally a computer) is used to access learning materials and interact with the instructor or other learners during the periods when learners are away from the learning environments. In other words, it can also refer to the presentation of a majority of or entire online class content (Allen & Seaman, 2007). Communication technologies are generally used to present these class contents as audio, text, GIF, or image.

Face–to–face learning environments were to be transferred to online learning environments where video conference applications (Zoom, MS Teams, BigBlueButton, etc.) are used due to the lockdowns caused by Covid–19 pandemic. Online video conference applications include sharing documents, texts, tables, and cameras for audiovisual communication between instructors and learners. With these applications, remote learners can listen to the instructors without being present in the same environment, perform dialogs and watch visual materials (Bozkaya, 2006, p. 54). Similarly, these applications enable learners and instructors to show their presence in an online environment and to show up as real human beings (Garrison, Anderson, & Archer, 2000, p. 94). These opportunities of online video conference applications help to establish healthy communication and interaction in online environments for learners and instructors who are away from one another due to obligations.

Moore (1989) defined three interaction types for online learning environments: (1) learner–content interaction, (2) learner–instructor interaction, and (3) learner-learner interaction. Stating that understanding the difference between the interaction types can make conceptual contributions and eliminate misunderstanding between the learners who use different media, Moore (1989) explains these three interaction types as follows:

1. *Learner–content interaction:* This can be explained as the interaction between a learner and a study topic or content. This interaction type can be defined as a distinctive trait of learning because learners establish cognitive structures and intellectual interaction with the content. The content may consist of texts, or audio, or GIFs/images. The interaction between learners and content may include the following: reading informative texts, using guides, watching educative videos, participating in simulations or utilizing cognitive support programs (e.g., statistical applications), searching for information, completing homework, or working on a project (Abrami, Bernard, Bures, Borokhovski, & Tamim, 2011, p. 86).

2. *Learner–instructor interaction:* This is the form of the interaction between the learner and instructor who prepares the class material. The purpose of this type of interaction is to promote learners' interest in learning or to maintain the current interest. In other words, the aim is to sustain the learners' motivation. The learner–instructor interaction can be synchronous through activities such as telephone calls, video conference or conversation or asynchronous with activities such as

correspondence, emailing, and discussing (Abrami, Bernard, Bures, Borokhovski, & Tamim, 2011, p. 86; Graham & Davies, 2013). It is accepted that the effect of learner–instructor interaction on learners is greater than the learner–content interaction. However, in cases where no personal feedback is received from the learner, it may be more difficult to analyze the success of the practices and to sustain motivation. In this case, this interaction type requires *autonomy* for the learners.

3. *Learner–learner interaction:* This is the type of interaction that occurs between a learner and another learner individually or within groups, regardless of the presence of an instructor. As in the learner–instructor interaction, it can be synchronous through activities such as telephone calls, video conference or conversation or asynchronous with activities such as correspondence, emailing, and discussing (Abrami, Bernard, Bures, Borokhovski, & Tamim, 2011). The interaction between learners is valuable and even necessary for learning. It is a fact that peer interaction positively affects learning performance. However, the level of interaction between the learners may vary based on the conditions, ages, experiences, and autonomy of the learners. Moore (1989) noted that incentives and motivation may not be necessary for adult learners who are tended to motivate themselves, although incentives and motivation can be supported through peer interaction for younger learners.

Previous Studies

Studies that focused on the topic of interaction in online learning environments are presented under this heading. These studies can be reviewed under two groups: studies performed before the Covid–19 pandemic and studies performed after the Covid–19 pandemic. The studies that focused on interaction in online learning environments before the pandemic refers to the research on the role of interaction, factors affecting interaction, and the types of interaction (York & Richardson, 2012; Graham & Davies, 2013; Hawkins, Graham, Sudweeks, & Barbour, 2013).

York and Richardson (2012) conducted a study and focused on the factors affecting interpersonal (learner-learner and learner–instructor) interaction. A qualitative phenomenology study was conducted with the semi-structured interviews performed with the instructors who were experienced in conducting online classes. They indicated that factors such as group study during online classes, class environment, the structure of the learner group, type of the discussion item, assessment method, feedback type, and learner participation affected interaction. Graham and Davies (2013) conducted a study at Open High School of Utah (OHSU) and used self–report questionnaire data to define learners' interaction. Accordingly, the learners tended to value all interaction types in terms of their motivation and learning, although the amount of interaction they perceived varied largely. The study noted that learners believed the learner–instructor interaction and learner–content interaction had better educational values compared to the learner-learner interaction. Hawkins, Graham, Sudweeks, and Barbour (2013) performed a study and found that learner–instructor communication positively affected learners from qualitative and quantitative perspectives and that the amount of interaction was a significant factor for learners to complete the class. The study underlined that learner–instructor contact was critical during the early periods of the relevant class when learners' participation rate was higher. Moreover, it reported that keeping up with the learners was important for instructors despite the low participation.

However, the studies that focused on the video conference systems which have been intensively used with the Covid–19 pandemic and the concept of interaction reported that

technological deficiencies, lack of technical hardware, insufficient Internet connection, and absence of a distraction-free communication/learning environment were among the obstacles to learning (Lowenthal, Borup, West, & Archambault, 2020; Vandenberg & Magnuson, 2021; Lee, 2020; Klemm, Ruelens-Trinkaus, Allshouse, & Barnard, 2020).

Arslan and Şumuer (Arslan & Şumuer, 2020, pp. 223-224) performed a study using convergent study design, a mixed research method and aimed to determine the issues experienced in online learning environments during the Covid–19 period by consulting 381 instructors. It was understood that almost half of the instructors had problems in communication. Results also indicated that sharing cameras caused concerns among learners due to certain reasons such as the safety and privacy concerns related to the online learning environments, particularly the free video conference systems, adversely affecting the feeling of trust and participation in the classes, causing learners to stay silent (showing no participation), and directing learners to avoid from showing their living environment to others. In the study by Serhan (2020), the aim was to investigate learners' attitudes toward a video conference system used as an online learning environment and their perceptions toward the impacts on their progress of learning and participation compared to face–to–face learning. Utilizing a five-point Likert-type questionnaire to collect data, the study indicated that the learners were negative toward the use of an online video conference system and that their negative thoughts harmed their learning experiences and motivation. Similarly, Ensmann, Whiteside, Gomez–Vasquez, and Sturgill (2021) conducted a study to better understand the emotional needs and experiences of learners during the period of quarantine after the Covid–19 pandemic and found that learners were deeply concerned with what was happening around them. These results suggested that learners, especially college freshmen, needed more empathy, communication, interaction, and flexibility.

Studies from the relevant literature indicate that the concept of interaction is important for a more meaningful communication and sense of belonging/presence in online learning environments. This importance increased during the Covid–19 pandemic when the learners and instructors were not present in the same environment. Relevant studies show that learners have problems in terms of communication and interaction, although modern communication technologies are used. Accordingly, this study is believed to be important in terms of collecting in-depth data about whether learners shared their cameras in the online learning environments through an online video conference system and what they thought about interaction during online classes. It is believed that this study, which solely and uniquely focuses on sharing camera and interaction, is important for bringing the concepts of safety and privacy to the agenda as the basic concerns complicate the interaction in online classes conducted using video conferences in online learning environments.

Method

Aiming to examine the topic of camera sharing within the learning environments where online video conference applications are used concerning the learner-learner and learner–instructor interaction, this study used a mixed design. Johnson, Onwuegbuzie, and Turner (2007, p. 123) define the mixed method as a type of study where researchers or research teams combine the elements of qualitative and quantitative study (for instance, use of qualitative and quantitative perspectives, data collection, analysis, and inference methods) to achieve in-depth understanding and confirmation. Similarly, Creswell and Plano Clark (2011, p. 3) define the studies, which have at least one quantitative method

(designed to add numbers) and a qualitative method (designed to collect terms) and where no method type can be naturally associated with a research paradigm, as mixed-method studies.

This study uses a mixed-method because the quantitative and qualitative research methods were used at the same time. The model of the study was explanatory sequential design, also known as the explanatory design. The explanatory sequential design occurs in two different interactive steps (Creswell & Plano Clark, 2011, p. 79). This design starts with the collection and analysis of the quantitative data responding to the research question with priority, and it continues as follows (Creswell & Plano Clark, 2011):

- First step: Collection and analysis of the quantitative data responding to the research question with priority.
- Second step: Collection and analysis of the qualitative data. This step was fulfilled by following the results of the first step (quantitative step) (i.e., the first results). The researcher explains how the qualitative results help to explain the quantitative results in the first step.

Consisting of the explanatory sequential design, this study carried out data collection and analysis processes in two phases, which were quantitative and qualitative. Details regarding the aforementioned processes are presented below.

Ethical Committee Permission

Within the framework of the decision of the Alanya HEP University Ethics Committee dated 28.01.2022 and numbered 01; the study does not contain any ethical objections.

First Step: Quantitative Data Collection

During the quantitative data collection which was the first step of the study, a four (4) point Likert-type questionnaire was administered to all undergraduate and postgraduate students studying at a foundation university to find out whether they shared their camera in the learning environments where online video conference applications were used and to question their thoughts about the interaction in online classes. A total of hundred and forty (140) responders responded to the questionnaire conducted online through the Learning Management System provided by the Open and Remote Learning Implementation and Research Center in the relevant university between December 2020 and January 2021. There was no loss or invalid data in the responses given to the questionnaire. After completing the questionnaire, the IBM Statistical Package for the Social Sciences (SPSS) version 28 was used to analyze the quantitative data.

As noted by Creswell and Plano Clark (2011), this step was completed after collecting and analyzing the quantitative data responding to the research question with priority. Determining the participants for the qualitative data collection process, which is the next step, was performed based on the results in this step. In other words, an explanation of the qualitative results obtained in this step was examined and detailed with the qualitative data collection process, which is the next step.

Second Step: Qualitative Data Collection

This step of the study was fulfilled by following the results of the first step (quantitative step) (i.e., the first results). For this purpose, a focus group interview constituting the qualitative data collection step was conducted. The focus group interview suggests the interviews were performed with many people simultaneously, rather than a single person

(Punch, 2005, p. 168). In the focus group interview, a series of meticulously planned discussions are performed to learn about the perceptions toward a predetermined topic (Yıldırım & Şimşek, 2011, p. 152). Patton (2002, p. 385) reports that the focus group interviews performed with a small group of participants on a certain topic should be conducted with a group of 6–10 people with common experiences.

In this study, participants with common experiences were selected through purposeful sampling by using the results of the quantitative data. Purposeful sampling is defined as researchers' preference regarding the people to be selected for sampling and a qualitative sampling method where researchers make this preference by selecting those who suit best the study objective (Yıldırım & Şimşek, 2011, pp. 107-115). An equal number of undergraduate and postgraduate students (with equal women and men in every group) were selected for two endpoint options, Definitely Agree – Agree and Disagree – Definitely Disagree, for each questionnaire item while selecting the participants. Table 1 presents the distribution of the participants selected through purposeful sampling:

Table 1. *Distribution of participants selected through purposeful sampling*

Option Group	**Post–graduate**		**Undergraduate**	
	Female	**Male**	**Female**	**Male**
Definitely Agree – Agree	1	1	1	1
Definitely Disagree – Disagree	1	1	1	1
Total	4		4	
Grand Total	8			

After determining the participants, a focus group interview invitation was sent to each participant. An online interview was done on May 21, 2021 at 21:00 with the participants who agreed to participate in the focus group interview which was arranged through BigBlueBotton Web Conference Application in the Learning Management System of the relevant university. Total number of eight participants joined the focus group interview. All participants were present at the time determined for the interview. Before the interview, the moderator (researcher) made a presentation and explained the study objective and the process as well as research questions. After reminding that participation was on voluntary basis, the researcher shared the focus group interview consent forms (Annex 1) with the participants through Google Forms. The interview was lunched by the researcher after the focus group interview consent forms were filled by all participants.

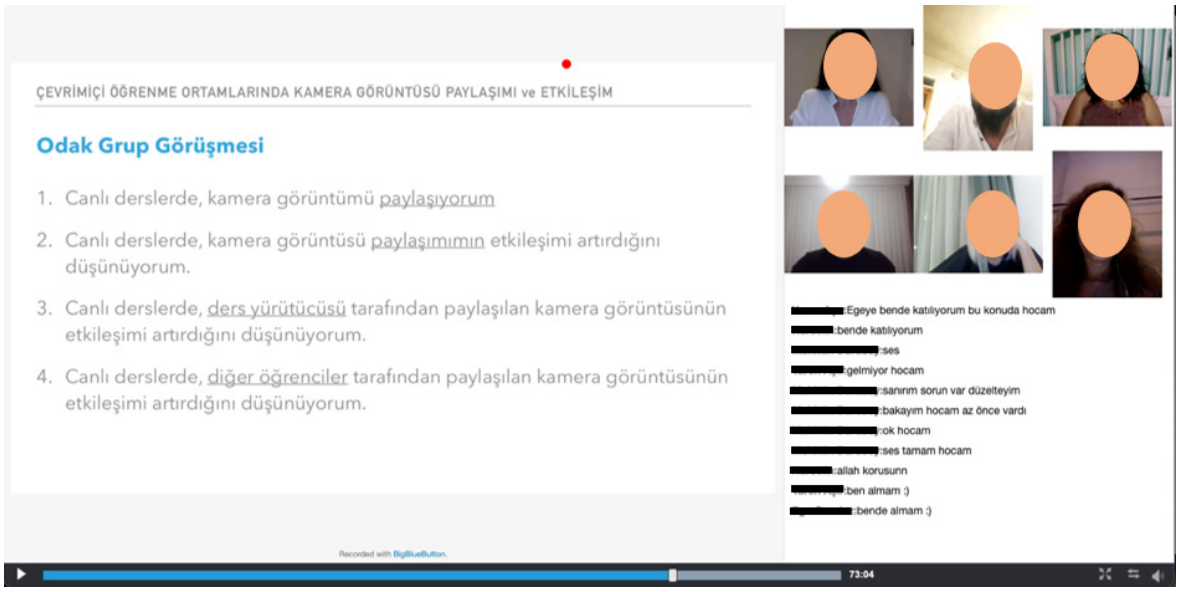

Figure 1. *Screenshot of online focus group interview*

Moderators performed active listening throughout the interview. They did not intervene in participants' speeches and/or direct them to any thoughts. However, as a matter of course in a focus group interview, every participant is asked the interview questions individually, and interacted during the interview, and shared ideas to each other. Lasting one hour and 32 minutes, the interview ended after all participants answered all interview questions, and made a discussion considering the ideas and opinions of others. Analyses and interpretation of the qualitative data regarding the focus group interview include the analyses of texts, audio, images and footages. The online interview was recorded, so enabled researchers to perform data analysis from three aspects. Accordingly, the process presented in Figure 2 was followed while analyzing the data.

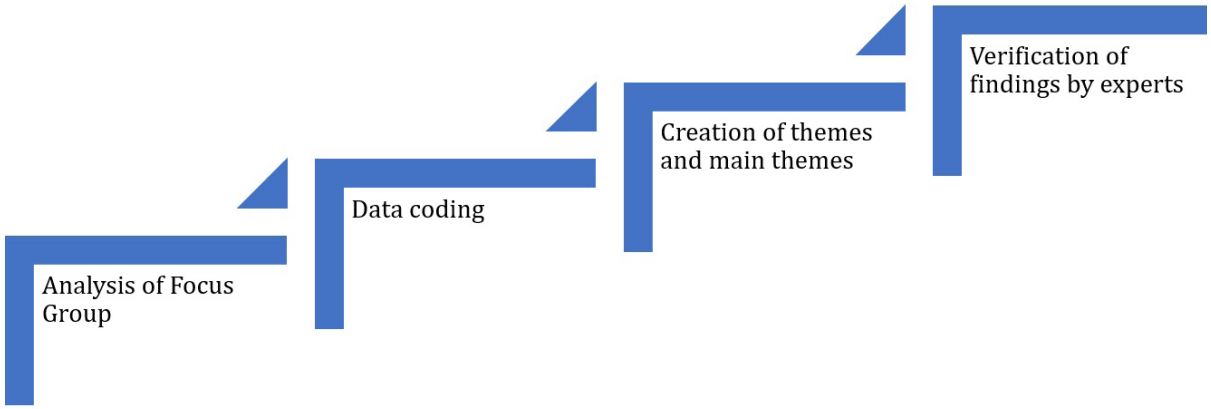

Figure 2. *Qualitative data analysis and interpretation*

Figure 2, shows the data (texts as well as audio, image, and footage) of the focus group interview were analyzed in an electronic environment and conveyed to the Word Processor. Then, the data that were tabularized were bilaterally divided into themes and sub-themes by the researchers. The themes/sub-themes and main themes regarding every item are presented in detail under the "Results" heading.

Findings

The findings can be reviewed under two subheadings: (1) findings from quantitative data and (2) findings from qualitative data. Explanations for each subheading are presented below.

Findings from Quantitative Data

Findings from quantitative data and the data related to each item in the online questionnaire were reviewed under four (4) subcategories: (1) results related to sharing camera during online classes, (2) results related to sharing camera and interaction during online classes, (3) results related to instructors' act of sharing camera and interaction during online classes, (4) results related to other learners' act of sharing camera and interaction during online classes.

Table 2. *Findings related to sharing cameras during online classes*

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid Responses	Always	1	.7*	.7*	.7*
	When Necessary	37	26.4	26.4	27.1
	When Obligated	74	52.9	52.9	80.0
	Never	28	20.0	20.0	100.0
	TOTAL	140	100.0	100.0	

In terms of *using cameras during online classes*, 0.7% of learners (n=1) noted that they always shared their cameras. Furthermore, 26.4% (n=37) shared their cameras when needed, 52.9% (n=74) did the same when obligated, and 20% (n=28) never shared their cameras.

Table 3. *Findings related to sharing camera and interaction during online classes*

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid Responses	Definitely Agree	2	1.4	1.4	1.4
	Agree	21	15.0	15.0	16.4
	Neutral	32	22.9	22.9	39.3
	Disagree	48	34.3	34.3	73.6
	Definitely Disagree	37	26.4	26.4	100.0
	TOTAL	140	100.0	100.0	

Regarding the item, *I think sharing camera during online classes increases the interaction*, 1.4% (n=2) selected Definitely Agree. Also, 15% (n=21) opted for Agree, 22.9% (n=32) Neutral, 34.3% (n=48) Disagree, and 26.4% (n=37) Definitely Disagree.

Table 4. *Findings related to instructors' act of sharing camera and interaction during online classes*

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid Responses	Definitely Agree	25	17.9	17.9	17.9
	Agree	42	30.0	30.0	47.9
	Neutral	34	24.3	24.3	72.1
	Disagree	24	17.1	17.1	89.3
	Definitely Disagree	15	10.7	10.7	100.0
	TOTAL	140	100.0	100.0	

Regarding the item, *I think instructors' act of sharing camera during online classes increases the interaction*, 17.9% (n=25) selected Definitely Agree, 30% (n=42) Agree, 24.3% (n=34) Neutral, 17.1% (n=24) Disagree, and 10.7% (n=15) Definitely Disagree.

Table 5. *Findings related to other learners' act of sharing camera and interaction during online classes*

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid Responses	Definitely Agree	3	2.1	2.1	2.1
	Agree	13	9.3	9.3	11.4
	Neutral	46	32.9	32.9	44.3
	Disagree	46	32.9	32.9	77.1
	Definitely Disagree	32	22.9	22.9	100.0
	TOTAL	140	100.0	100.0	

Regarding the item, *I think other learners' act of sharing camera during online classes increases the interaction*, 2.1% (n=3) selected Definitely Agree, 9.3% (n=13) Agree, 32.9% (n=46) Neutral, 32.9% (n=46) Disagree, and 22.9% (n=32) Definitely Disagree. The focus group study which constituted the qualitative data collection was conducted based on the quantitative data, and the results of this focus group study are presented in detail in the following subheading.

Findings from Qualitative Data

The themes and sub-themes obtained from each research question are presented in Table 6 in line with the focus group study performed during the qualitative data collection step.

Table 6. *Number of themes, sub-themes and main themes regarding the items of focus group interview*

Item	Theme and/or Sub–theme	Main Theme
1st Item	44	19
2nd Item	45	12
3rd Item	28	16
4th Item	33	10

The themes and sub-themes in Table 6 are combined by the conductor of the project and researcher in upper categories, resulting in the formation of main themes. These steps were examined by two researchers who were qualitative research experts, and the data underwent expert inspection. Then, the results obtained after the step of analyzing and interpreting the data were tabularized as seen in Table 7:

Table 7. *Findings regarding the focus group study*

Results	Sub–Category	Main Category
Results related to sharing camera during online classes	• Creating the sense of collectivity • Contribution to the common share • Interaction and communication • Obligation • The need for seeing the instructor • The need for showing oneself to the instructor • Thinking that sharing camera is necessary for effective communication	Reasons for sharing camera during online classes
	• The desire of focusing solely on the instructor • Distraction • Preferring to focus on class content • Home comfort • Being concerned about self-appearance • Thinking it is useless	Reasons for not sharing camera during online classes
Results related to sharing camera and interaction during online classes	• Lack of hardware • Feeling uncomfortable • Privacy • The concern arising from the environment • The environment being shared by a couple of people • The distraction arising from the background • The belief that online learning does not require being in front of a camera • Negative attitude toward online learning • The sense of distance arising from online learning • Being unavailable	The negative impact of camera sharing on interaction during online classes
	• Serving as feedback for the instructor • Creation of synergy between the instructor and learners • The need for seeing the other learners	The act of sharing camera during online classes and its positive impact on interaction
Results related to instructors' act of sharing camera and interaction during online classes	• Preferring audio learning • Preferring not to look at the screen • The content and scope of the class • Lack of hardware • Causing distraction	Instructors' act of sharing camera during online classes and its negative impact on interaction
	• Activation of perceptions • Feedback to both learners and instructors • Contribution to understanding the importance of the topic through gestures and mimics • The content and scope of the class • The need for seeing the instructor • The function of strengthening learners' understanding through gestures and mimics • The feeling of "being valued" by the instructor (feeling not to be valued when not sharing camera) • Failure of understanding without an image • Difference in learning • Formation of sincerity • Contribution to focusing • Formation of an environment based on trust and compassion	Instructors' act of sharing camera during online classes and its positive impact on interaction

Results	Sub–Category	Main Category
Results related to other learners' act of sharing camera and interaction during online classes	• Distraction and loss of interest • Loss of interest based on the number of participants • The sense of discomfort arising from being monitored • Avoiding from participating in the class when a disliked classmate is present	Other learners' act of sharing camera during online classes and its negative impact on interaction
	• Communicating with other learners about the class (through gestures and mimics) • Sharing emotions (laughing, asking questions, etc.) • The feeling of comfort arising from seeing others • Contribution to the formation of a sincere environment • Happiness after seeing one another • Leaving the class in a happy manner	Other learners' act of sharing camera during online classes and its positive impact on interaction

Table 7 indicates the findings regarding sharing cameras during online classes, learners preferred sharing their camera for the following reasons: forming the sense of collectivity, contribution to the common share, interaction, and communication, obligation, the need for seeing the instructor, instructors' need for showing themselves, thinking that sharing camera is necessary for effective communication, etc. However, the reasons why learners preferred not to share their camera included the following: the desire of focusing on the instructor solely, preventing distraction, preferring to focus on the class content, home comfort, concern about self-appearance, thinking it is useless.

> "… a speaker should see the audience while talking; eye contact would be good even in the electronic environment. In other words, I realized that such a contact was necessary for communication. If we share our cameras, we can have better communication with the instructors and better informational interaction."
>
> "I think what is necessary is sharing the camera during classes. However, I believe I can understand the classes better just by focusing on the instructor. For instance, I used to get distracted during the early periods when my classmates shared their cameras but then I realized that I learned better when only the instructors shared their cameras. Sharing no camera as a learner is both an advantage and disadvantage for me."

Moreover, learners noted that sharing camera had a negative impact on interaction due to the following reasons: lack of hardware, feeling uncomfortable, privacy, is concerned due to the environment, the environment being shared by a couple of people, distraction arising from the background, belief that online learning does not require being in front of a camera, negative attitude toward online learning, sense of distance arising from online learning, and being unavailable. Furthermore, those who believed that sharing a camera positively affected interaction thought so for the following reasons: learners' presence on the camera serving as feedback for the instructor, creation of synergy between the instructor and learners, the need for seeing the other learners etc.

> "I think sharing my camera ensures interaction with the instructors by making contact. I mean this assures the instructors and me, helping my perceptions to be sharper."
>
> "For instance, when I get distracted, I check my view on the camera in that environment and tidy up myself after seeing my view on the camera. This helps me to focus more. However, it causes distraction from time to time. I sometimes realize that I look at myself for a long time. I mean I suffer from a dilemma in this regard but sharing a camera has both positive and negative aspects."

Learners who believed that instructors' act of sharing cameras during online classes adversely affected interaction mentioned the following reasons: preferring audio learning, preferring not to look at the screen, content, and scope of the class, lack of hardware, and causing distraction. However, there were also learners who thought that instructors' act of sharing cameras during online classes positively affected interaction due to the following reasons: activation of perceptions, serving as feedback to both learners and instructors, contribution to understanding the importance of the topic through gestures and mimics, the need for seeing the instructor, the function of strengthening learners' understanding through gestures and mimics, and failure of understanding without an image:

> "… it is not a problem for me as I get more positive effects when I listen to podcasts. I actually cannot check the views of others."
>
> "I feel like I am valued more. I feel like the instructors share their entire time with us like they do at schools. Seeing them only on the camera makes me think I receive better education, so I focus more."

Regarding cameras shared by other learners during online classes and interaction, some learners mentioned that they were negatively affected due to the following reasons: distraction and loss of interest, distraction based on the number of participants, the sense of discomfort arising from being monitored, avoiding from participating in the class when a disliked classmate is present. There were also those who reported positive thoughts for the following reasons: contacting with other learners about the class (through gestures and mimics), sharing emotions (laughing, asking questions, etc.), feeling of comfort arising from seeing others, contribution to the formation of a sincere environment, happiness after seeing one another, leaving the class in a happy manner:

> "… it feels like watching live city surveillance cameras. I see someone raising a cup. Someone else is drinking tea. Then, we start talking about what is there on the cup. In other words, we watch the learning environment like we watch city surveillance cameras, then we start different adventures. We actually deviate from the class."
>
> "It increases the interaction from time to time. I ask, for instance; 'Do you think the instructor meant this or that?' with one of my friends replying 'yes, this or that. Besides, with the cameras on, I see instructors nodding their heads, helping me to understand their messages. I think my classmates can share their cameras only when needed, for instance when they need to nod their heads..."

Another important finding from this study was that all participants (except for one) shared their cameras at the end of the focus group interview although cameras of all participants, except for the moderator, were off (it was optional for the participants to share their cameras) when the focus group interview was initiated. The participants gave the following answers when they were asked why they needed to share their camera even if they were not required to do so:

> "I also want to share my camera, but I receive an error message. That is why I could not show myself. However, I should note that sharing a camera creates a sincere environment. I mean expressions that we hear during audio classes like 'goodbye', 'see you later', etc. Those indicated an unhappy, unenergized mood, but the appearance on the screen makes great contributions to the sincere environment."
>
> "I first felt stressed while connecting. Bu then, I saw such a sincere environment with sincere participants that I felt it would not be a problem to share my camera."
>
> "However, seeing only yourself on the camera at first and then everybody's participation feels good. This made people smile. They saw one another and became happy."

As can be understood from these statements, participants stated that sharing cameras contributed to the creation of a sincere and safe environment. Learners noted that they felt happy and safe in the environments where learners and instructors shared their cameras, which was different compared to the classes with audio participation.

Conclusion

This study aimed to examine the impact of sharing cameras on interaction during online classes where video conference applications are intensively used to ensure learning during the Covid–19 period. The focus was on whether learners shared their cameras during online classes and learners' thoughts on the interaction between them and the instructors. Results of this study can be summarized under two categories: (1) whether learners shared their cameras during online classes and (2) learners' thoughts on sharing cameras during online classes and the interaction between them and the instructors.

In regard to the first category, most learners (52.9%) shared their cameras *only when obligated*, and the reasons for this result included the following: the desire of focusing on the instructor solely or class content, home comfort, the act of sharing camera causing distraction, being concerned about self-appearance, etc. Although it was thought that sharing camera resulted in a high level of interaction (Bozkaya, 2006, p. 55), there were studies indicating that learners were shy in this regard for various reasons such as their concern about their self-appearance (Arslan & Şumuer, 2020, p. 224) or desire of hiding their own environment from others (Neuwirth, Jović, & Mukherji, 2020, p. 8). Therefore, as noted by Garrison (2017, p. 38), it is recommended that the conditions where participants will feel comfortable enough for rich communication and interaction be fulfilled and that an approach to promotion participation is established.

Learners' thoughts about sharing cameras and interaction during online classes were asked, and more than half of the participants (60%) reported that sharing cameras did not increase interaction. Although the literature indicated that online video conference applications could be an opportunity for increasing the interaction as they enable people to share their cameras, provide feedback to them and raise social presence (Lowenthal, Borup, West, & Archambault, 2020), participants of the present study reported opposite opinions. These thoughts were based on the reasons such as lack of hardware, distraction arising from the background, the environment is shared by a couple of people, privacy, etc. However, only 16% of the participants mentioned that sharing cameras during online classes increased interaction for the following reasons: serving as feedback for the instructor and creation synergy between the instructor and learners.

When asked about what they thought about instructors' act of sharing camera and interaction during online classes, 47.9% of the participants stated that the interaction increased due to the following: increased focus, contribution to the formation of the environment based on trust and compassion, serving as feedback for the learners, etc. However, 27.8% of the participants mentioned that sharing a camera did not increase interaction due to different reasons such as lack of hardware, preferring audio learning, and causing distraction. Similarly, when asked about their opinions on other learners' act of sharing cameras and interaction during online classes, 55.8% of the participants stated that the cameras of other learners being on during online classes did not increase interaction, with only 11.4% of the participants thinking the opposite.

In conclusion, the instructors' act of sharing cameras was important for the interaction of the participants. However, the participants thought that other learners' acts of sharing cameras may also have an adverse impact on interaction. Every participant mentioned that seeing their classmates made them feel good. In this case, it is recommended that spare time be planned at the beginning/end of the class, regardless of the content and duration of the class, and that opportunities be granted to the learners so that they can socialize at that time. Similarly, another issue regarding the recommendations of this study is related to the competence of instructors. Instructors' awareness should be raised so that they can conduct online classes with enriched interaction. However, instructors learn online communication skills through practice, rather than formal education, which may be harmful to learners until instructors and learners find a suitable way of communication (Hawkings, Barbour, & Graham, 2012). It is clear that online videoconference systems will continue serving even after the Covid–19 pandemic. Accordingly, the possibilities, as well as limitations and threats of these environments, should be considered so that they can be used effectively. As can be understood from the points above, it is believed that detailed studies with qualitative and quantitative data and various participating groups are needed. The concepts of safety and privacy should be studied well for effective communication and interaction in online learning environments.

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Görünmek ya da Görünmemek: Çevrimiçi Öğrenme Ortamlarında Kamera Görüntüsü Paylaşımının Etkileşim Açısından İncelenmesi

Tülay GÖRÜ DOĞAN (Asst. Prof. Dr)

Genişletilmiş Özet

Bu araştırmanın amacı, Covid-19 salgını ile birlikte çevrimiçi video konferans uygulamalarının kullanıldığı öğrenme ortamlarında kamera görüntüsü kullanımının etkileşim açısından incelenmesidir. Covid-19 salgını ile temelde birer iletişim teknolojisi olarak, kişiler ve gruplar arası iletişimi çevrimiçi ortamlarda sağlamak üzere tasarlanmış uygulama ve sistemler (Zoom, 2021; Microsoft Teams, 2021) birer Eğitim Teknolojisi olarak adapte edilmiş ve özellikle orta öğretim ve yüksek öğretim kurumları tarafından salgın sürecinde yoğun olarak kullanılmışlardır. Çevrimiçi video konferans uygulamaları ile yürütülen canlı derslere katılmak durumunda kalan öğrenenler için, söz konusu teknolojilerin, alanyazında da (Bozkaya, 2006; Garrison D. R., 2017) ifade edildiği gibi yüksek düzeyde bir etkileşim sağlaması beklenmektedir. Dolayısıyla, canlı derslerde kamera görüntüsü kullanımı ve etkileşim konusuna odaklanan bu araştırmaya ilişkin araştırma soruları şu şekilde belirlenmiştir:

1. Öğrenenlerin, canlı derslerde kamera paylaşımlarına ilişkin durumları nelerdir?

2. Öğrenenlerin, canlı derslerde kamera paylaşımı ve etkileşim konusunda düşünceleri nelerdir?

3. Öğrenenlerin, canlı derslerde, ders yürütücüsü tarafından paylaşılan kamera görüntüsü ve etkileşim konusunda düşünceleri nelerdir?

4. Öğrenenlerin, canlı derslerde, diğer öğrenenler tarafından paylaşılan kamera görüntüsü ve etkileşim konusunda düşünceleri nelerdir?

Araştırma soruları kapsamında, öğrenenlerin canlı derslerde kamera paylaşımlarına ilişkin durumları ile kamera paylaşımı ve etkileşim (öğrenen – öğrenen, öğrenen – öğretici) konusundaki düşünceleri öncelikle nicel, ardından nitel olmak üzere iki aşamadan oluşan veri toplama süreçleri ile yapılandırıldığından, araştırma karma yöntemle desenlenmiştir. Johnson, Onwuegbuzie ve Turner (2007, p. 123) karma yöntem araştırmasını, araştırmacı veya araştırma ekibinin anlama ve doğrulamanın genişliği ve derinliği amacıyla nitel ve nicel araştırma yaklaşımlarının bileşenlerini (örneğin, nitel ve nicel bakış açıları, veri toplama, analiz ve çıkarım tekniklerinin kullanımı) birleştirdikleri bir araştırma türü olarak ifade etmektedirler. Araştırmanın modeli ise açıklayıcı desen olarak da bilinen açımlayıcı sıralı desendir (*Eng. explanatory sequential design*). Açımlayıcı sıralı desen iki ayrı etkileşimli aşama içinde gerçekleşmektedir (Creswell & Plano Clark, 2011, p. 79). Bu desen, araştırma sorusuna birincil öncelikle karşılık veren nicel verilerin toplanması ve çözümlenmesiyle başlamakta ve ardından nitel verilerin toplanması ve çözümlenmesi aşaması gelmektedir. Araştırmanın birinci aşaması olan nicel veri toplama sürecinde, bir vakıf üniversitesinde öğrenim gören tüm lisans ve lisansüstü öğrencilere, çevrimiçi video konferans uygulamalarının kullanıldığı öğrenme ortamlarında kamera görüntüsü paylaşımı durumları ve etkileşim konusuna yönelik dört (4) adet likert tipi sorudan oluşan bir anket uygulanmıştır. Ardından, birinci aşama (nicel aşama) sonuçlarının (yani birinci sonuçların) takip edilmesiyle, araştırmanın nitel veri toplama sürecini oluşturan bir Odak Grup Görüşmesi gerçekleştirilmiştir. Odak grup görüşmesi için, amaçlı

örnekleme yoluyla, her bir anket sorusu için Kesinlikle Katılıyorum – Katılıyorum ve Katılmıyorum – Kesinlikle Katılmıyorum olacak şekilde belirlenen 2 uç seçenek için, her seçenek grubunda lisans ve lisansüstü düzeyde eşit sayıda öğrenen (her grupta bir kadın, bir erkek olmak üzere) seçilmiştir.

Araştırmaya ilişkin bulgu ve sonuçlar, öğrenenlerin canlı derslerde kamera paylaşımlarına ilişkin durumları ve öğrenenlerin canlı derslerde kamera paylaşımı ve etkileşime yönelik görüşleri olmak üzere iki temel başlıkta açıklanmıştır. Öğrenenlerin, canlı derslerde kamera paylaşımına ilişkin durumları incelendiğinde, büyük çoğunluğun (%52,9) kamera paylaşımının yalnızca *zorunlu tutulduğu durumlarda* paylaşım yaptığı görülmüştür. Bunun nedenleri arasında ise yalnızca ders yürütücüsüne veya ders içeriğine odaklanma isteği, ev ortamı rahatlığı, kamera paylaşımının dikkat dağınıklığına neden olması, kendi görüntüsüne ilişkin kaygı duyma, vb. gerekçelere rastlanmıştır. Her ne kadar kamera görüntüsü paylaşımının yüksek düzeyde bir etkileşim sağladığı düşünülse de (Bozkaya, 2006, p. 55), öğrenenin kendi görüntüsüne yönelik kaygı duyması (Arslan & Şumuer, 2020, p. 224) veya yaşadığı ortamın başkaları tarafından görülmesini istememesi (Neuwirth, Jović, & Mukherji, 2020, p. 8) gibi nedenlerle öğrenenlerin bu konuda çekingen davrandığı alanyazındaki diğer çalışmalarda da görülmektedir. Bu nedenle, Garrison'ın (2017, p. 38) da ifade ettiği gibi, zengin bir iletişim ve etkileşim ortamı için katılımcıların yeterince rahat hissedebilecekleri koşulların sağlanması ve katılımcı bir iklimin oluşturulması gerektiği önerilebilir.

Öğrenenlerin, canlı derslerde kamera paylaşımı ve etkileşim konusundaki görüşleri sorulduğunda ise katılımcıların yarısından fazlası (%60), kamera görüntüsü paylaşımının etkileşimi artırmadığı yönünde görüşlerini bildirmişlerdir. Alanyazında, çevrimiçi video konferans uygulamalarının, kamera görüntüsü özelliği sayesinde hem geribildirim sağlaması hem de sosyal buradalığı artırması bakımından etkileşimi artırabilecek bir fırsat olarak işaret edilmesine rağmen (Lowenthal, Borup, West, & Archambault, 2020), bu araştırmada, katılımcılar aksi yönde görüş bildirmişlerdir. Bu görüşlerin temelinde, donanım eksikliği, arka planın yarattığı rahatsızlık hissi, ortamın birden fazla kişiyle paylaşılması, mahremiyet, vb. gerekçeler yer almaktadır. Bununla birlikte, katılımcıların yalnızca %16'sı, canlı derslerde kamera paylaşımının ders yürütücüsü için geribildirim niteliğinde oluşu, ders yürütücüsü ve öğrenenler arasında sinerji oluşturması gibi nedenlerle etkileşimi artırdığını ifade etmişlerdir.

Canlı derslerde, ders yürütücüsü tarafından paylaşılan kamera görüntüsü ve etkileşim konusunda görüşleri sorulduğunda ise, katılımcıların %47,9'u ders yürütücüleri tarafından paylaşılan kamera görüntüsünün odaklanmayı artırma, güven ve şefkate dayalı ortamın oluşmasına katkı sağlama, öğrenenler için geribildirim niteliğinde olması, vb. nedenlerle etkileşimi artırdığını ifade etmişlerdir. Ancak, katılımcıların %27,8'i donanım eksikliği, ses odaklı öğrenmeyi tercih etme, dikkat dağınıklığı oluşturması gibi nedenlerle, kamera görüntüsü paylaşımının etkileşimi artırmadığını dile getirmişlerdir. Benzer şekilde, canlı derslerde diğer öğrenenler tarafından paylaşılan kamera görüntüsü ve etkileşime ilişkin görüşleri sorulduğunda, katılımcıların %55,8'i diğer öğrenenler tarafından paylaşılan kamera görüntüsünün etkileşimi artırmadığı yönünde görüş bildirmişlerdir. Katılımcıların, yalnızca %11,4'ü diğer öğrenenler tarafından paylaşılan kamera görüntüsünün etkileşime olumlu yönde katkı sağladığını ifade etmiştir.

Sonuç olarak, bu araştırmanın gerçekleştirildiği katılımcı grubunda, ders yürütücüsünün kamera paylaşımının etkileşim açısından önemli olduğu sonucuna ulaşılmıştır. Bununla

birlikte, katılımcılar, diğer öğrenenlerin kamera görüntüsü paylaşımının etkileşim açısından olumsuz olarak değerlendirmişlerdir. Ancak, her katılımcı, görüşme soruları dışında, arkadaşlarını/diğer öğrenenleri görmenin kendilerini mutlu hissettirdiğini de görüşlerine eklemişlerdir. Bu durumda, ilgili canlı dersin başında ve/veya sonunda, ders içeriğinden ve süresinden bağımsız olarak boş bir zamanın ayrılması ve bu zaman diliminde öğrenenlerin sosyalleşebilmeleri için fırsat tanınması önerilebilir. Benzer şekilde, bu araştırmanın önerileri arasında yer alabilecek diğer konu öğreticinin uzmanlığı konusudur. Canlı derslerin etkileşim açısından zengin bir biçimde yürütülebilmesi için ders yürütücülerinin de bu konuda farkındalıklarının olması beklenmektedir. Çevrimiçi video konferans sistemlerinin Covid-19 sonrası da kullanımının devam edeceği ortadadır. Bu bağlamda, söz konusu ortamların etkin bir biçimde kullanılabilmesi için, sunduğu olanakların yanı sıra sınırlılıklarının ve tehditlerinin de farkında olunmalıdır. Bu bağlamda, ileriki çalışmalar için, çevrimiçi öğrenme ortamlarında etkili iletişim ve etkileşim bağlamında güvenlik, gizlilik ve mahremiyet konularının farklı katılımcı grupları ile nicel ve nitel verilerle derinlemesine çalışılması gerektiği önerilebilir.

Anahtar Kelimeler: Dijital İletişim, Etkileşim, Çevrimiçi Öğrenme, Karma Yöntem Açımlayıcı Sıralı Desen.

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In this study, the rules stated in the **"Higher Education Institutions Scientific Research and Publication Ethics Directive"** were followed.

Araştırma tek bir yazar tarafından yürütülmüştür.

The research was conducted by a single author.

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Etik Kurul İzni | Ethics Committee Permission

Alanya HEP Üniversitesi Etik Kurulu'nun 28.01.2022 tarih ve 01 sayılı kararı çerçevesinde çalışma etik açıdan bir sakınca içermemektedir.

Within the framework of the decision of the Alanya HEP University Ethics Committee dated 28.01.2022 and numbered 01; the study does not contain any ethical objections.