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'Should I Turn On My Video Camera?' The Students' Perceptions of the Use of Video Cameras in Synchronous Distant Learning

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Abstract: One of the challenges teachers and students face in online synchronous learning is not turning on their video cameras. The reasons are multitasking, being concerned about the background, psychological barriers, and poor internet connection. In this study, social presence theory (SPT) was employed as the theoretical lens to understand the possible impacts of video cameras in synchronous online learning. Social presence allows individuals to make personal characteristics visible to the community. Students experience greater levels of trust and rapport because of verbal and nonverbal cues that occur when video cameras are turned on in video conferencing. The use of video cameras in synchronous distant learning creates intimacy and immediacy, leading to teacher–learner social presence, which leads to dialog. The phenomenographic study was carried out to analyze the students' perceptions of the phenomena. The eighty-two first-year undergraduate and doctoral students took part in the study. It showed that students perceive a video camera as a tool for cooperation, as well as for self-discipline and self-control. The students relate the use of video cameras with quality studies, the ability to interact, and to be a part of the process. They feel less inclined to participate when their cameras are off. That leads to the weaker student–teacher relationship, which is achieved with a higher social presence. It is essential to see one other to strengthen students' motivation, sense of belonging, and community in the courses for first-year students who are still developing learning habits and social networks.

Keywords: computer-mediated communication; teacher–student relation; E-learning; pandemic; social presence theory

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1. Introduction

Due to the pandemic, the education system has made a giant leap forward by moving to virtual learning. It was a challenge and provided many advantages: various computer-mediated platforms were tested, teachers mastered new technologies, and they adapted methodologies for distance communication. The sudden transition to distanced education mobilized by the educational community raised the need for supportive collaboration, self-control and discipline, and professional leadership [1]. The virtual environment allowed us to maintain education and at least partially maintain social relations. However, people lately complain about loneliness and lack of intimacy, even though technology has eliminated time differences and allowed direct and instant communication [2]. It is recognized that the affective domain (i.e., emotions, feelings, and moods) affects various aspects of the online experience, including distance learning [3–5]. However, how students interact with and respond to their online environment has been missed or overlooked in the specific literature on wellbeing [6]. Not only do students bring their own emotions to the online environment, but they also have to try and interpret and understand those of others (for example, tutors and peers) without the use of non-verbal cues, and deal with the emotions generated by this, which could potentially include distrust, isolation, and loneliness [7].

Teachers face no less stress. Many educators find themselves teaching remotely for the first time and facing a new set of challenges. One such challenge is not being able to see students during synchronous class meetings held via videoconferencing software because students do not have their video cameras turned on [8].

There are many reasons why students do not turn on their video cameras. These can be technical disturbances; either they do not have access to a private space or are embarrassed about their home environment [9]. Maybe they are self-conscious about their appearance and being seen by classmates [8,10,11], or they compromise their video presence by disabling the video display in their interface settings. It can also be a psychological barrier, as the COVID-19 pandemic has already increased college student anxiety and depression [12]. Scholars note that a mandate for camera use may add to that trauma [9]. During the initial transition to remote online learning, college students reported feelings of increased anxiety, fear, and depression consistent with responses to traumatic events [12,13].

F.R Castelli's and M.A Sarvary's (2020) [8] study with 312 undergraduate students revealed various reasons students do not turn on their video cameras during synchronous online class meetings. The reasons are that they are concerned about appearance (N = 113, 41% of students) and concerned about other people being seen in the background (N = 73, 26%). This reason was selected more frequently than the related reason of not wanting their physical location to be seen in the background. Of relatively moderate frequency were concerns about distracting their classmates or instructor. As for reasons related to technology, a very small number of students (N = 6, 2% of students) reported that their webcam was not working. However, a much larger number (N = 61, 22%) reported having a weak internet connection.

Thus, the reasons why students did not turn on their cameras were widely studied, [8,10,11,14] and the impact of video cameras on students' psychological statuses was investigated [9,12,13]. Given that not connecting the camera can be varied, the question arises as to how individuals perceive the use or non-use of video cameras in synchronous distant education. It is established that student–teacher relationships during video learning are crucial to students' academic success and satisfaction [15–17]. However, there is a lack of studies of the students' perceptions of computer-mediated communication during synchronous online learning not using video cameras. Do students see the use of video cameras as a prerequisite to the student–teacher relationship?

In this study, social presence theory (SPT) was employed as the theoretical lens to understand the possible impacts of video cameras in online learning. The research has shown that greater social presence within online classrooms increases students' satisfaction [18], motivation, and performance [19]. Much of this research was focused upon increasing social presence through the use of personal profiles, individualized video feedback, and one-on-one email communication [20–22]. However, there is limited research on fostering social presence perceptions among users [19], especially on using video cameras during synchronous distance learning and its relation to social presence theory.

The results can be used for further research on video camera (non) use to determine how it affects the specific social presence or wellbeing parameters.

2. Social Presence Theory

There are many reasons why video presence with cameras is crucial in distance education.

According to John Dewey's (1922) [23] philosophy, social interaction is central to education and is essential to creating a community of online learners. Garrison et al. (1999) [24] adapting Dewey's philosophy, said that three core elements must be present in the online space to facilitate learning: a social presence, a cognitive presence, and a teacher presence. The social learning theory states that behaviors result from people's social interaction and their environments [25]. "Virtually all learning phenomena resulting from direct experience occurs on a vicarious basis by observing other people's behavior and its consequences for them" [26] (pp. 11–12). Personal and environmental factors determine each other, and the influences are bi-directional. Social interaction between learners and role models is

required for social learning to occur; no interaction, no learning [27]. Instructional dialogue is considered purposeful, bi-directional, and a constructive communication between the learner and teacher [28]. The quantity of dialogue within a course exists on a spectrum, from continuous dialogue between teachers and learners to a complete absence of communication. The lack of physical presence and the inadequate communication between teachers and learners in online learning could lead to students' frustration, dissatisfaction, less participation, or even higher dropout rates in online courses [29].

Social presence allows individuals to make personal characteristics visible to the community. Social presence, according to Garrison et al., is defined as "the ability of learners to project themselves socially and emotionally as 'real' people into a community of learners" and may facilitate the success of cognitive presence [24].

Social presence in computer-mediated communication is "the degree of feeling, perception, and reaction to another intellectual entity in the CMC [computer mediated communication] environment" [17] (p. 146). Social presence allows individuals to make personal characteristics visible to the community. According to Garrison et al., it is "the ability of learners to project themselves socially and emotionally as 'real' people into a community of learners." It may facilitate the success of cognitive presence [24] (p. 17).

The minimum level of social presence occurs when users feel that a form, behavior, or sensory experience indicates the presence of another intelligence. The amount of social presence is how a user feels access to the intelligence, intentions, and sensory impressions of another. Factors contributing to social presence are facial expression, the direction of gaze, posture, dress, and non-verbal and vocal cues [30]. For example, *intimacy* is a function of eye contact, proximity, the topic of conversation, etc. Communication with maintained eye contact, proximity, the body leaning forward, and smiling conveys greater intimacy [31]. Another dimension, *immediacy*, is the psychological distance between communicator and recipient [32]. Technological immediacy is achieved when the maximum amount of information is transmitted [33]. Social immediacy is conveyed through speech and verbal and non-verbal cues [25]. Birdwhistel (1970) [34] notes that these nonverbal cues perform two distinct functions. The first concerns itself directly with the passage of information from one individual to another; the second is the "integrational aspects" of the communication process. Integrational aspects include all the physical manifestations of information exchange that keep the conversation going, regulate the interaction process, particularly cross-reference messages to semantic meaning, and relate a specific context to larger contexts. Immediacy enhances social presence [27]. Because of the immediacy of response to verbal and nonverbal cues that occurs when video cameras are turned on in video conferencing, students can experience greater levels of trust and rapport [8]. In computer-mediated communication, the integrational activity is the dialogue that occurs between participants and the instructors/moderators/facilitators, and among participants [27]. The use of video cameras in synchronous distant learning creates intimacy and immediacy, leading to teacher–learner social presence, which leads to dialog. When instructors and students can see one other, there is an added layer of human connection, strengthening students' motivation, sense of belonging, and community in the course [11,35].

On the one hand, everything seems clear; cameras help build trust and connection, so students and teachers should use them in online synchronous classes. However, as Nowak et al. (2009) [36] note, people are cognitive and behavioral misers, and prefer doing a task using less effort than more effort. If students can participate in the synchronous distant learning classroom with an audio setting only, they probably would be keen to choose one. Therefore, it is interesting to find out how students perceive the use or non-use of video cameras in their synchronous distant learning. What does it mean for them to learn remotely via Zoom when no teacher is nearby?

3. Material and Methods

3.1. Procedure and Materials

The phenomenographic research approach was chosen to carry out the study. The study aims not to summarize the experience, but to present the variety of aspects that characterize the experience of video camera use [28,37–39]. The article does not examine distance learning itself as a phenomenon, but how education participants perceive the (non) use of video cameras in synchronous distant learning. Phenomenography describes the collective variation of experiences among the respondents. Phenomenography assumes some degree of transferability, as the descriptive categories in a phenomenographic study are abstracted to a collective level of experiences as concepts of the phenomenon [40]. The results of phenomenological research enable us to identify and describe individual and subjective peculiarities, and ways of perceiving the experienced phenomena, showing their interrelationship, and revealing the human relationship with the world [41,42]. The analysis focuses on identifying a small number of qualitatively distinct descriptive categories of how the subjects experience (or understand or conceptualize) the phenomena of interest [38,43].

3.2. Research Aim and Purpose

This study aimed to explore students' perceptions of the significance of video cameras' (non) use in synchronous distant learning. In this study, social presence theory (SPT) is employed as the theoretical lens to understand the impacts of video cameras in online learning. The study focuses on the teacher–learner relationship in synchronous distant education, which is affected by (non) use of video cameras.

The following research question guided data collection for this study: How do participants perceive the significance of (non) use of video cameras in synchronous distance learning?

3.3. Participants

Non-probability convenience sampling [44,45] was used in this study. One hundred ninety-eight Lithuanian students of the first year of undergraduate and doctoral social sciences and engineering studies were invited to participate in the research through a letter of invitation following their enrollment in the courses with access to the virtual classroom space. Forty-seven students from undergraduate studies and thirty-five from doctorate studies voluntarily agreed to participate in the study. The research participants were supposed to study face-to-face, but because of the COVID-19 pandemic, were switched to synchronous distance learning from the beginning of their studies. The study was carried out in one of the universities of Vilnius, in Lithuania.

The first-year students were chosen on purpose. The first-year students still develop learning habits and social networks, and the importance of seeing one other is higher because of the necessity to strengthen students' feelings of motivation, sense of belonging, and community in the course [11,35].

The survey was finished when the data saturation was achieved. If the number of informants was larger, the results might have been deepened, or another descriptive category discovered. Nevertheless, the descriptive category system of a phenomenography study is not definitive, as the results are derived from a limited number of sources. However, the variation of experiences within the investigated material can be described [40].

Confidentiality was assured as the persons were anonymized and assigned a code kept in safe custody.

3.4. Data Collection

The research was carried out 3–16 March 2021. Using the Zoom platform for remote synchronous meetings and video conferencing, the four research sub-questions were presented to the informants: (1) What is the significance of a video camera during distance learning? (2) What is the difference between a video camera on and off during the synchronous distant class? (3) What does it mean to you to learn remotely via Zoom when there is no teacher nearby? (4) What problems do you encounter during distance syn-

chronous learning? Study participants provided synchronously written answers (all parties responded in real-time) using a Zoom chat tool. The researchers left students free to choose to provide an answer to the question to the researchers by sending a private message on Zoom or providing a visible answer to the group in the Zoom chat. Mobile messaging has been characterized as a unique semi-hybrid between spoken and written communication, bridging the spontaneity and informality of everyday conversation and the more edited, permanent nature of the written text [46]. There are some advantages and disadvantages of this data collection method. As a text-based medium, it allows one to structure and edit their remarks, and the text, once sent, is static and enduring [47]. However, people may be less willing to write long responses instead of a series of shorter comments supplemented with emojis and shorthand. One research point to mobile messaging is that is 'associated with less warmth and affection, and fewer expressed affiliation cues, and lower feelings of bonding' [48]. However, J. Chen and P. Neo (2019) [46] found that the virtual environment did not discourage the participants from writing longer answers, or from engaging with and responding to one another. We used additional strategies that helped increase the overall engagement levels among the focus group participants: we explained the importance of the research overall and the impact of students' participation on it. Students were free to choose when to quit responding, whether because they finished or they did not want to answer any further.

3.5. Data Coding

The phenomenographic research method was used to process the data. The research goal was not to generalize experiences but to present various aspects that characterize the experience of (non) use of video cameras in synchronous distance learning [37,39]. The results of phenomenographic research allowed for identifying and characterizing individual and subjective peculiarities and ways of perceiving the experienced phenomenon, showing their interrelations, and disclosing the relationship of an individual with the surrounding world [41,42]. The data were analyzed following seven steps: (1) familiarization (the text is read, content is learned, and technical mistakes are eliminated), (2) compilation (the most significant elements in the responses of every informant are identified), (3) reduction (the essence of every more extended response or dialogue is searched for), (4) grouping (responses are grouped according to categories), (5) preliminary comparison of categories (boundaries among categories are established), (6) naming (categories are named), and (7) contrastive comparison (categories are compared, and their differences are highlighted) [49]. The coder reliability check was conducted. Two researchers independently coded the transcribed texts of all the interviews and compared the received categories with each other. The dialogic reliability check was done through researchers' discussions [50]. The "critical friend" method was used to assure rigor, and focused on a reflective approach [51]. The role of the critical friend is to encourage reflection and explore multiple and alternative explanations and interpretations as these emerge from the data. [52]. Validation was done by verifying the findings during the research process with continual checks of the findings' credibility, plausibility, and trustworthiness [53]. Communicative validity checks were not carried out, as the study aimed not to capture a particular individual's understanding, but to capture the range of understandings within a particular group [50]. The authors followed the approach that the outcomes might then be judged regarding the insight they provide into more effective ways of operating in the world [54]. A pragmatic validity check was performed, providing the recommendations to the teachers and institutions' executives in the discussion sections. Ethical issues were carefully considered and addressed. All discussions were anonymous and voluntary to ensure that all respondents felt comfortable in this sensitive lockdown time. The whole process met the General Data Protection Requirements (GDPR).

The results of the phenomenographic study are descriptive categories and outcome space of the concept (Figure 1), expressed by a network of logically related, hierarchically arranged, and systematized categories [50]. The phemenographic research identified the

categories describing the phenomenon under consideration and revealed hidden, unexpressed (tacit) depth meanings, and presented their interrelationships. Figure 1 presents the hierarchical categories singled out by the authors. Following the recommendations of F. Marton (1994) [41], the authors distinguished qualitatively different but interrelated categories describing how informants experience the phenomenon under consideration. Therefore, the analysis of the survey data did not seek to identify as many descriptive categories as possible. Descriptive categories have distinctive features that describe how a phenomenon or situation is experienced. Category descriptions mean that the phenomenon is experienced differently, collectively [50]. Descriptive categories must reflect the experiences of the study participants and cannot be given real-world meanings [55]. Analyzing individual experiences, the collective concept of the phenomenon is formed [56]. Therefore, the categories are described with a focus on the collective level [40]. Based on the methodological insights of F. Marton (1988) [37], the article selects a type of empirical descriptive category in which the description is based on the experiences of the study participants.

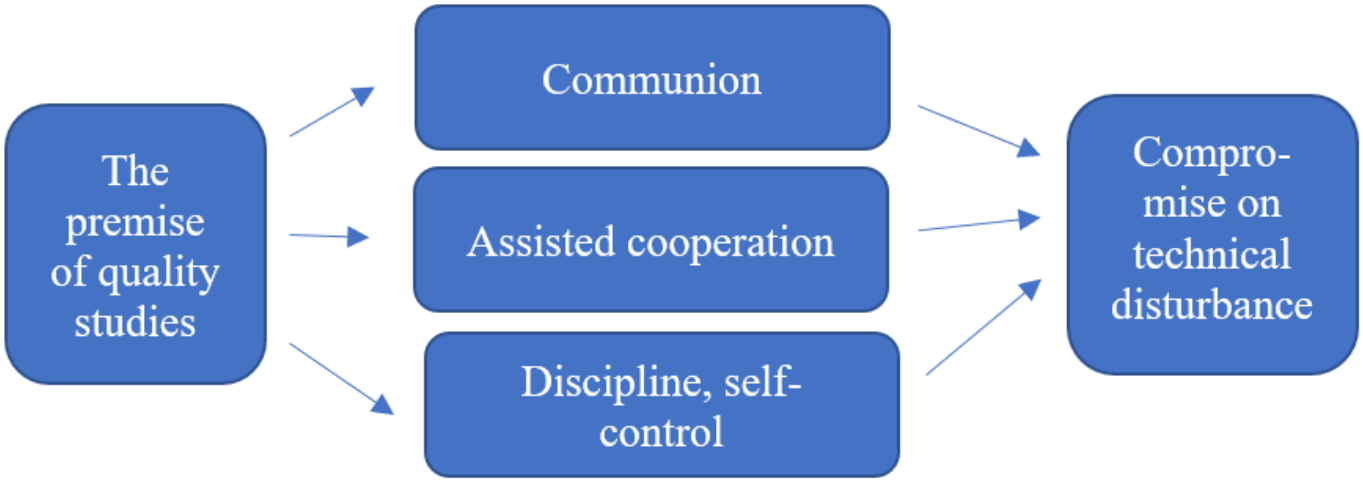

Figure 1. Relationships between research categories.

4. Results

The research data analysis allowed us to distinguish six descriptive categories that form hierarchically structured results (Figure 1). These categories reveal how students perceive and evaluate a video camera's (non) use during distance learning.

Prerequisites for a quality study process. Students point out that the (non) use of a video camera during distance learning can affect the quality of studies. Research participants noted that the video camera is associated with better communication, self-awareness, better information reception, understanding, student engagement during the session, collaboration, feedback, accountability, and academic integrity.

Learners' aspirations to obtain quality studies when studying remotely are related to the teacher–learner relationship, in which the real-time image of the teacher plays an important role. Observing the teacher's interpretation, following the change of emotions in the face creates conditions for a better understanding of the phenomenon discussed during the session. Textbooks' ideas and the themes of theories transform into a lively discussion here and now, during which existing knowledge can be combined with new information, and new conceptual constructs can be created. At the same time, the teacher can follow the growth of students' understanding of the topic and see the knowledge gaps issued in body language, and/or maintain a favorable atmosphere of learning and curiosity. Cognition, discovery, and learning become comfortable. Students indicate that it is good to feel heard and understood. It is good to receive information from all the senses given and to not just listen during a pandemic.

Discipline and self-control. Students in the study associate the use of a video camera with discipline. Learners claim to have experienced that it is challenging to speak for

yourself when you see "only black boxes" on the screen. Many informants describe the feeling they experience as "talking to themselves." At the same time, however, they note that their video camera helps to focus on the topic of the activity, not to engage in extraneous activities, and to become even more actively involved in the organized activities or to listen to the teacher's explanation actively, and to take notes. In addition, a switched-on video camera makes you look good, in regard to clothes, hygiene issues, sitting at a table instead of lying down, and so on. Students also draw on the experience gained that active involvement in teacher-organized activities helps to understand the topic better. Passive listening to lectures does not allow one to get answers to the questions that have arisen or even to limit oneself to a superficial understanding of the subject being studied. The activated video camera compensates for the lack of will to constantly learn, actively listen, and even follow the work rhythm.

In summary, the video camera being used in distance learning disciplines students to look and act analogously to face-to-face lectures. As a result, even during a pandemic, it is possible to have quality free time and rest. Moreover, a balanced rhythm of work and rest creates conditions for good mental and physical wellbeing.

Communion. Students appreciate that one of the essential things in the study process is relationships. Establishing a connection between the teacher and the student allows the teacher to act qualitatively on the student's values as a future specialist. Establishing a connection between the student and the student allows them to be a part of the community, experience together, survive, and feel the study process. The connection of the participants in the educational process creates a sense of community for a common goal. Working together and solving problems in the community are based on mutual trust, respect, and recognition of the value of each member. Students name the use of a video camera as a show of respect for another. With the video camera turned on, the student broadcasts to the teacher to appreciate the teacher's efforts to overcome the pandemic's obstacles, and to organize the study process as well as possible. The video camera allows one to observe colleagues' faces, show emotions, and express respect and gratitude for being together, focusing on studies, on growth. The video camera helps to create and maintain communication between the participants of the study process. A sense of community helps overcome the obstacles caused by a pandemic and gives additional strength to the common goal of quality studies. The use of a video camera in distance learning can be seen as a statement of your determination to belong to a particular group. Turning on the video camera is a person's attitude to a particular community.

Assisted cooperation. Students point out that a video camera helps maintain a specific relationship with another person. The students who participated in the study associate successful communication and conversation with a video camera. If they can freely choose to use or not to use a video camera while listening to specific lectures, there is no choice left in discussions, working in groups, or pairs. Listening to another means not only hearing by ear, but also reading the signs of nonverbal language. It is also very important for the speaker to see the interlocutor to follow the change of emotions and reactions seen in the face while developing one or another topic. Visible reactions allow you to turn the analyzed issue in one direction or another. There is no room for monologues for yourself and yourself in the study process. Every conversation has its own goal that can be pursued or even achieved by another person or other people. The video camera enables one to act and even collaborate according to the reactions and experiences of the participants, sometimes responding only to the needs expressed in non-verbal language. Mutual assistance, support, and cooperation in the distance learning process are implemented more fully, in detail and with better quality, if the participants use video cameras.

Compromise on technical disturbances. Students pointed out the reason of turning their video of in the distance learning process with hardware and software or even the physical environment. Even students who tend to use a video camera regularly point out that using specific applications during the session disrupts the internet connection. You must not use a camcorder to maintain your login status. If a student has to choose between

active participation in a lecture and the use of a video camera, in most cases, the student chooses to participate in the session actively. Another reason that can limit the use of a video camera during distance learning is the physical environment of the home: a few people working remotely in a small area (in which case, it can be challenging to use a microphone as well); young children in the background; incorrect background image, etc. Technical circumstances do not consider a person's wishes, needs, available experience, attitudes, goals, etc. The technical circumstances arise as a fact of the current minute, allowing you to choose only one of the two options: to participate in the session "as a dark box," or not to participate at all. In the long run, it is possible to make decisions according to the possibilities: to purchase an improved ISP service, to buy a new computer, to update the software, etc. However, in the initial stage of technical disruption, the situation here and now has to be addressed. After deciding to participate in a class without using a video camera, a student often experiences a feeling of discomfort, especially if his or her attitude is to always participate qualitatively using a video camera. Psychological discomfort limits a person's ability to act actively and creatively, and may even partially block the reception, understanding, and assimilation of information.

5. Discussion

The study showed that students perceive a video camera in synchronous distant learning as a tool for communion and cooperation, as well as for self-discipline and self-control (Figure 1). They describe these categories as the premise of quality studies. Students point out the technical disturbances as the reason for not using video cameras during the class: the trade-offs they make about not connecting a camcorder for better sound quality. Students have to compromise on a bed internet connection and personal visibility to the community, which they treat as a communion. Nevertheless, the students understand that without cameras, they lose the relationship with teachers and peers. A video camera means quality studies and students' involvement in active activities organized by the teacher. In the students' answers, a switched-on video camera was associated with interpersonal communication, relationships, interaction, communication, help, respect, and everyone's personal self-determination.

There is a consensus within the existing online learning literature that social presence or the ability to perceive others in a mediated environment is an important factor to cultivate within the online classroom [18]. It is established that *immediacy* enhances social presence [27]. Because of the immediacy when video cameras are turned on in video conferencing, students can experience greater levels of trust and rapport [8]. Not seeing a face or hearing a voice may pose the greatest obstacle to establishing the relationships that are so crucial in the success and satisfaction of students today [16]. Our students associate video cameras with the factors that influence immediacy. We can presume that they treat video cameras in online synchronous distant learning as a prerequisite for a greater social presence and, as a consequence, with quality studies. Students perceive it as the possibility to make connections with the teacher and peers; even they admit that sometimes they do not turn on their video cameras.

The social learning theory states that behaviors result from social interaction and environments [25,57]. Personal and environmental factors determine each other, and the influences are bi-directional. Social interaction between learners and role models is required for social learning to occur; no interaction, no learning [27]. Ch. H. Tu (2020) [58], describing the relationship between social learning and social presence theory, emphasizes that "social interaction on computer-mediated communication is affected by social presence. Learners must acknowledge and value the other person's social presence; otherwise, social interaction is absent and social learning will not occur" (u, 2020, p.4).

Our study confirmed that students relate video cameras with the community and assisted cooperation. The study showed that a video camera helps maintain a specific relationship with another person. Students indicate that it is good to feel heard and understood. Technically, it is unnecessary to see the other person to be heard and understood. How-

ever, students relate it with the teacher's visual presence, which creates the relationship. Philosopher Martine Buber (1998) [15] calls for a fundamental difference between I–You and I–It, which helps distinguish the opposite features of the study process: inclusion or exclusion. There is reciprocity, trust, and cooperation [15]. A mechanical or marketing dialogue in the second I–It determines that disconnection, distrust, and psychological tension prevail in the study process [59]. A mechanical dialog can be observed during synchronous distant learning. The transmission of information to students can be assured. However, educational growth occurs only when I–You is established.

Technological immediacy is achieved even when students do not use video cameras. However, social immediacy, conveyed through speech and associated verbal and non-verbal cues [25], is missing. That weakens the social presence of students because they feel more similar to passive listeners of the lecture than active participants. The increased social interaction and real-time collaboration among peers with video cameras turned on parallels the in-person learning experience and works to mitigate the negative cognitive consequences associated with loneliness [8]. Our students think that the video camera enables them to act and even collaborate according to the reactions and experiences of the participants, sometimes responding only to the needs expressed in non-verbal language. It is impossible to create and maintain the teacher–learner relationship without immediacy, which is essential in the educational process. Using video cameras in synchronous distant learning can create immediacy, leading to teacher–learner dialog.

The controversial results were shown by the Bradner and Mark (2001) [60] experiment, which discovered that visual feedback of a collaborating partner (or observer) is not necessary to create a sense of presence. When application sharing is used, a person's presence is salient, even when visible cues are not available to indicate their presence. Having in mind that there are many reasons why students and even teachers do not turn on their video cameras [8–11,14], and that a mandate for camera use may be, at some point, traumatic [9], there should be some balance in encouraging students to use it, and to let them stay online without their video cameras on. We argue that the relationship created by social presence is crucial for students' performances in any learning, and especially synchronous distant learning. We did not study the student's social presence measures or how visual feedback influences our students' social presences. According to our study, the students feel social distance if their peers turn the camera off, and they feel less likely to participate when they do not use their video cameras. The students associate video cameras with the community, integration, and cooperative assistance. Therefore, we presume that using video cameras during Zoom classes enhances the social presence of participants: students and teachers. It builds a stronger relationship. However, in the longer term, some compromises are possible in order not to lose students who want to take part in videoconferencing without a video camera. Andel et al. (2020) [19], found that even asynchronous comments enhance social presence in a video-centric online environment. They emphasized two personality traits (i.e., conscientiousness and extraversion) as moderators of the relationships between social presence perceptions and two outcomes: perceived learning and satisfaction. Castelli and Sarvary, 2021 [8] proposed strategies to encourage—without requiring—camera use, while promoting equity and inclusion. By explaining to students the rationale behind recommending camera use during synchronous class sessions, the instructor helps to set the norms for the course and maintains transparency about how camera use will enhance the learning experience [8]. We think it is essential to strengthen students' motivation, sense of belonging, and community. These can be achieved by encouraging students to use their cameras during synchronous distant classes. This is essential for first-year students who are still developing learning habits and social networks.

6. Conclusions

The study showed that students perceive video cameras during synchronous distant learning as a prerequisite to quality studies. The students understand that they lose the relationship with the teacher and peers without cameras. Video cameras were associated with

interpersonal communication, relationships, interaction, communication, help, respect, and everyone's self-determination. Students perceive a video camera as a tool for cooperation, as well as for self-discipline and self-control. We can conclude that students' perceptions of video cameras are related to their social presence, and they understand the importance of the student–teacher relationship. Using video cameras in synchronous distant learning can create immediacy, leading to teacher–learner dialog. Computer-mediated communication with a video camera is a prerequisite to students' social presences. It enhances social presence and helps create communion within the group. This dialog is essential in instructional communication between the learner and teacher and creates an I–You relationship. The educational processes without the I–You relationship lose the essence and can be described as a process of knowledge transfer, which reduces the effectiveness of learning. However, in the longer term, some compromises are possible in order not to lose students who want to take part in videoconferencing without a video camera. The relationship with students can be maintained by explaining to students the benefits of social presence and using other tools for cooperation and communion.

The findings of this study, at a practical level, contribute to broader university decision making about the use of video cameras in synchronous distant learning. Perhaps more importantly, it is expected that findings will add to a more comprehensive understanding of if and how students are invited to switch on the cameras, and what arguments are for or against them. The generalization of this study depends on the context of synchronous online learning, which we suppose can be relatively the same for university studies beginners. Further clarification is still needed. There is a need for other instructors to gather information about their own student population to develop more tailored strategies that also promote communion and cooperation.

Limitations: As this was a qualitative descriptive phenomenographic study, causal links between social presence and the effect of the use of video cameras during synchronous distant learning were not concluded. The effect of video cameras on students' perceptions of social presence as an expression of emotions, humor, or self-disclosure was not investigated. We also did not investigate interactive categories of social presence (continuing thread, quoting from others' messages, referring explicitly to others' messages, asking questions, complimenting, expressing appreciation, and expressing agreement), nor cohesive categories of social presence (vocatives, addresses, or references to the group using inclusive pronouns, phatic speech, and salutations) [61]. Social presence is an important variable in perceived learning effectiveness and instructor satisfaction for typically developed populations; however, it can differ for learners with various disorders. However, these factors have not been studied. Lastly, it is unclear to what extent our findings would hold for long-term, computer-mediated communication.

To which settings could we generalize our findings? We assume that many teachers and students after being locked down during the COVID19 quarantine find them selfs in similar situations. Therefore, many can find useful insights that apply to their context. However, the various factors can be important while applying the results to the specific context.

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