

Post- COVID-19 Pandemic Education: The Student Perspective

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Abstract: The COVID-19 pandemic can be considered to be a long-term crisis and the outcome of such a crisis is depending on the decisions made during the crisis. As a Higher Education Institution, we are now at a crossroad regarding how to utilize experiences learned during the pandemic. Before the COVID-19 pandemic, there were only a few online study programmes at the Inland Norway University of Applied Sciences, Rena, Norway. During the pandemic, all of the education provided was online. There are now discussions amongst faculty staff regarding a return to the "ordinary" physical lectures or to embark on a hybrid way of educating students. However, equally important is what the students' perceptions of hybrid versus physical lectures are. We have therefor, through qualitative interviews, investigated what would suit the students' needs. We have asked the students if they prefer digital teaching, physical teaching or a hybrid which combines both digital and physical teaching. In this paper we present the results from these investigations. The students feedback indicated clearly that they prefer physical teaching, but also that they would like to have access to digital recordings and lectures. We believe that his feedback is an important input to the further discussions on the New Normal in Higher Education Institutions.

Keywords: hybrid lecture, collaboration, blended learning, synchronous versus asynchronous communication

1. Introduction

The COVID-19 pandemic turned out to last longer than anyone had anticipated at least in the beginning. For some, it has been nearly 2 years with distance education. For some, this has not been a problem, for others it has resulted in psychological problems due to, for instance, solitude (Lehmann et al., 2021). Reports indicate an increase in loneliness and isolation due to lack of on campus activities, including physical teaching (Chen & Ma, 2020). According to Norwegian health authorities (FHI, 2020) every third student experienced loneliness and every fourth student suffered psychosocially during the COVID-19 pandemic.

Online education has been offered for decades at our university, but during the COVID-19-pandemic even the regular study programmes had to be delivered online. Most universities organized for distance education utilizing tools for broadcasting lectures. The Learning Management Systems (LMS) have since long enabled digital handling of for example student assignments and student information. Together with the broadcasting, it provided an opportunity for providers of education to stay in practice, and for students to stay in a study programme (Heldt et al., 2021; Iloh, 2019; Neuwirth et al., 2021).

As the pandemic seemed to come to an end, a demand from some of the students arose regarding continuing online education, particularly with adult students that are part time students and in a work life and with different challenges regarding travelling to campus. As it turned out, the online education not only provided students living at or nearby a campus a possibility to stay in a study programme, but also enable others to study which were either hindered by distance, work situation or family situation.

The discussions amongst faculty staff at the Inland Norway University of Applied Sciences, has been focused around three major directions forward; 1) return to ordinary physical lectures only, 2) organize for a combination of some online and some physical attendance, or 3) organize for hybrid lectures with the possibility of joining per internet or physically. The faculty staff has been divided, hence we sought to investigate what the students would prefer and why.

Hence, our problem statement for this paper is:

What are the students' opinions on the three different types of approaches to our delivery of education, and why?

The paper presents students' own experiences and perspectives which teaching methods they prefer in teaching.

The paper will in the following present the theoretical foundation that has enlighten our study. Then we present our methodological approach, before we present and discuss our data. We lastly conclude and point towards further research.

2. Theoretical foundation

We have chosen a sociocultural perspective because views knowledge as constructed in and through interaction with other people (Cole, 2003; Dysthe & Igland, 2001; Säljö & Moen, 2001; Wertsch, 1991,1998). Learning is understood here as something dialogic, where the individual participates in a social context, and negotiates and develops knowledge in relation to others (Hauge, Lund & Vestøl, 2007). Students learn best when they are engaged and active. Research has shown that students must be activated and engaged to achieve the best learning effect. When teachers and students are geographically separated in online teaching, and communicate using digital tools, students can both feel isolated and lonely, as well as experience reduced interaction with lecturers and other students. In connection with the lack of social contact between students and lecturers, a student survey conducted in 2021 as a part of a project regarding digital education during the COVID-19 pandemic, conclude that more than half of the students choose to turn off the camera in synchronous online teaching, while more than half of the students' state that they learn less when they turn off the camera (Madsbu et al., 2021). Students turn off the camera because they are afraid of or do not want to be challenged by the lecturer, or because they do not want to be seen by others. Such uncertainty and insecurity among students can, however, simply be about not knowing their fellow students or lecturers, or unresolved expectations in synchronous meetings with, for example, Zoom (Madsbu et al., 2021).

Teaching design for online teaching includes everything from full online teaching, via asynchronous, hybrid or blended teaching design, to different uses of combinations of synchronous and asynchronous communication.

Communication can be divided into two categories: synchronous and asynchronous communication (Wagner, Hassanein, & Head, 2008). These ways of communicating will lead to different types of interaction in online teaching. Examples of synchronous communication are chat rooms, seminars and meetings via video conferencing in real time (Shi & Morrow, 2006), while examples of asynchronous communication are digital recording and communication via email.

We will in the following present different learning strategies that includes aspects of online or digital education; blended learning and "flipped classroom". Blended learning and "flipped classroom" include online activities which may be useful in an online educational setting, such as recorded lessons. In addition, we will point to socio-cultural learning theory as the online environment puts some constraints regarding socializing and learning from each other.

2.1 Blended learning

Blended learning refers to several ways of combining teaching (Deschacht & Goeman, 2015, p.83). Blended learning is a type of learning that integrates traditional face-to-face teaching with online activities. It turns out that many colleges have developed their own course packages that are based solely on online teaching, both with a small degree of face-to-face interaction between students and lecturers or between students. The interaction in online teaching can be synchronous or asynchronous. Video conferencing, as a digital tool, represents a range of possibilities in its ability to enable interaction between lecturer and students (Offir & Lev, 1999). Several studies show that the communication and interaction in online teaching is characterized by little interaction between the participants in the online teaching (McBrien, Cheng, & Jones, 2009). Teaching with the use of video recording turns out to contribute to increased student satisfaction because it helps students' overall learning and improves comprehension. Other studies of digital recordings have shown little or no positive impact on student performance (Bos, Groeneveld, Van Bruggen, & Brand - Gruwel, 2016; Franklin et.al., 2011; Leadbeater, Shuttleworth, Couperthwaite & Nightingale, 2013; Marchand, Pearson & Albon, 2014; Yoon & Sneddon, 2011). According to Salmon (2004), lecturers must provide students with training in the digital tools to be used in teaching before teaching begins.

2.2 Flipped classroom

Flipped classroom is a pedagogical model for learning where traditional teaching is "turned around", in that students are given access to digital recordings of lectures, which they can watch at home, and then the time at

the educational institution is used to work with the subject matter with lecturers and fellow students. Gotaas (2016, p.191) refers to flipped classroom, as reverse teaching. According to Krokan (2012, p. 157), the use of a flipped classroom can promote opinion testing and opinion formation, which in turn can help to improve the learning outcome (Krokan, 2012, p. 157). Flipped classroom is also a teaching design that has developed in parallel with the digital development. This teaching design calls for more student-centered teaching (Låg & Sæle, 2019). In the flipped classroom, pedagogy is student-active learning activities, such as seminars, presentations and various forms of group work (Government, 2013).

2.3 Socio-cultural learning theory

There are different perceptions about how learning should be defined, what characterizes learning and how learning takes place (Havnes & Prøitz, 2016; Shepard, 2000; Bråten, 2002). The socio-cultural perspective on learning emphasize that learning takes place both individually and through social interaction. Perspectives include the importance of participation, dialogue, and interaction (Shepard, 2000; Bråten, 2002). A sociocultural perspective views knowledge as constructed in and through interaction with other people (Cole, 2003; Dysthe & Igland, 2001; Säljö & Moen, 2001; Wertsch, 1991, 1998). Learning is here understood as something dialogical, where the individual participates in a social context, and negotiates and develops knowledge in relation to others (Hauge, Lund & Vestøl, 2007).

The use of synchronous communication online are good examples within a socio-cultural perspective, which shows the importance of student-active learning with reflection, interaction, dialogue and sharing of knowledge. From a socio-cultural perspective, the use of a video conference in synchronous meetings can be described as a cultural tool, because it opens opportunities for interaction, reflections and exchange of views and perspectives. (Kvåle & Rambø, 2015; Luehmann & Tinelli, 2008). Digital recording and asynchronous communication, on the other hand, do not open the same possibilities as the use of video conferencing systems in synchronous meetings does in teaching. The socio-cultural perspective emphasizes that learning takes place best when people interact and communicate together in a context based on community and physical proximity (Dysthe, 1999). Language makes it possible to share experiences, thoughts, and perspectives. Language as a tool is basically the mainstay that enables interaction. Social interaction and dialogue with others mean that you learn to use language as a tool. The interaction processes include both interaction between people who are to learn, and interaction between people and tools (Igland & Dysthe, 2001). In a socio-cultural perspective, therefore, the context is decisive for what is learned and how it is learned (Säljö, 2015, p.15). According to Bateson (1973), all communication presupposes a context to be comprehensible. All actions and all communication are situated and must therefore be understood within the framework of the activity they are part of. In a socio-cultural perspective, learning and development are understood as a context-dependent, social phenomenon (Säljö, 2013,2015, p.135). In a socio-cultural perspective, learning and teaching are seen as something that takes place in interaction with others, as part of a social activity. The socio-cultural perspective forms the basis for a dialogical form of teaching, where views and perspectives are shared between the parties. Dysthe (2013) argues that dialogue is a prerequisite for learning.

2.4 Recording lectures

Previous studies have shown that students' perceptions of the use of recording as a digital tool are seen as something positive, and they want more access to recording (Franklin et al., 2011). Dona et al. (2017); and Morris et al. (2019) found in their studies that the lecturers feared reduced attendance in the lectures and were unsure of the value of admission. However, other studies have concluded that admission may contribute to reduced attendance at the lecture (Bos, Groeneveld, Van Bruggen, & Brand - Gruwel, 2016; Edwards & Clinton, 2019; Holbrook & Dupont, 2009; Morris et al., 2019; Traphagan, Kucsera, & Kishi, 2010).

Digital recordings allow students to study when it is most convenient for them. It is believed that a digital recording enables students to learn better by allowing students to control the speed by listening to a recording (Dey, Burn, & Gerdes, 2009). A digital recording allows students to pause the recording, rewind, and reflect as they go through the content. Students therefore consider digital recordings as positive and as a valuable resource in learning (Toppin, 2011). A digital recording gives a feeling of knowing the lecturer (Hughes, 2009). Reisetter and Boris (2004) have stated how surprised they are at how well students feel they know the lecturers, for example in an interaction between lecturers in a digital recording that has been read in, and how grateful the students are for the efforts of the lecturers and a digital recording. Another advantage of digital recording is

that it provides an extra learning alternative for students instead of just reading academic content, which can help increase motivation (Choi & Johnson, 2005). A digital recording is always available, and they can be reused over several semesters (Allen, Bourhis, Burrell & Mabry, 2002). Several studies therefore show that many students are positive about digital admissions and that they want more of it. Admission can be a well-suited tool for self-study, preparation and rehearsal for exams. Furthermore, admission is a good substitute when students do not have the opportunity to attend the lecture (Bassili & Joordens, 2008; Copley, 2007; Morris et al., 2019).

A study conducted by Johansson and Nohr (2014) concluded that many students want more use of digital recordings, but then in combination with traditional teaching. Nevertheless, many lecturers are ambivalent and sceptical about the use of digital recordings, perhaps because, as previously mentioned, they assume that recordings can mean that students drop the physical lectures, and that there is thus a reduced academic socialization for the students (Maynor, Barrickman, Stamatakis, & Elliott, 2013). However, several international studies show that students do not drop physical lectures even if they have access to admission (Davis et al., 2009; Kushnir, Berry, Wyman, & Salajan, 2011; Lonn & Teasley, 2009). This is also something Fossland (2015) concludes by referring to a survey conducted at the University of Oslo, where as many as 77% of students state that they would not have missed a lecture even if they had had digital recordings available, and 56 % of students used digital recordings to gain a better understanding of the subject matter.

A review article by O'Callaghan et al. (2017) shows that there are several advantages to using admissions in teaching. No adverse effects of the use of recordings have been identified. Students view admission as positive for learning outcomes. This is not supported by the empirical findings of Edwards and Clinton (2019), who conclude that relying on excessive use of lecture recordings can be a pitfall and cannot replace attendance at campus lectures. Marchand et al. (2014) find that a recording combined with physical face-to-face meetings with a lecturer has a greater effect and impact on students' learning than traditional teaching.

Evaluations of the effect of the use of recording lectures in teaching have been limited (Nordmann & Mc George, 2018). Lecturers seem to be unsure of the role of admission in teaching. The students' physical attendance in the lectures, the interaction that takes place, as well as the students' involvement, are important aspects of the teaching, and the lecturers fear that admission will eliminate these important aspects of the teaching (MacKay, 2019). Research on the use of digital recordings in lectures in higher education has focused on the use and effect of digital recordings (Witton, 2017). Teaching with the use of admission contributes to increased student satisfaction because it has a positive effect on students' overall learning, and thus improves students' understanding. In addition, students value the flexibility of admission, in that admissions are always available (Franklin et al., 2011). Admission can thus lead to a more active learning in students, as well as it can improve student performance (Baepler, Walker, & Driessen, 2014), although it does not always lead to more satisfied students (Missildine, Fountain, Summers, & Gosselin, 2013).

However, other studies of digital recordings have shown little or no positive impact on student performance (Bos et al., 2016; Franklin et al., 2011; Leadbeater, Shuttleworth, Couperthwaite & Nightingale, 2013; Marchand et al., 2014; Yoon & Sneddon, 2011). According to Skylar (2009), a streamed recording of teaching can mean that communication and collaboration are not limited to a specific time or day. In real-time meetings, on the other hand, the leader lectures the teaching, and the students connect at the same time and can communicate directly with each other.

3. Method of inquiry

For this research we have chosen a qualitative approach (Creswell, 2007; Patton, 2002) where we have interviewed students. In this paper a strategic selection has been chosen (Creswell, 2007), which imply that the chosen informants have the qualifications and properties that are strategically relevant in view of the theoretical perspectives, terms and problem statement as they are adult students and attend seminar based education.

We have interviewed 16 informants. All the informants are students at the Inland Norway University of Applied Sciences, Norway, and they have all been a subject to digital (online) education during the COVID-19 pandemic from March 2020. These were chosen as we assumed, they would provide us with relevant information about their perspectives and perceptions about the experience of participating in digital education. The goal has not been to obtain a representative selection in statistically, but to choose informants strategically in order to obtain

relevant and trustworthy descriptions of the phenomenon (Johannessen et al., 2010). We are thus seeking to obtain information richness and variation regarding digital lecturing during the corona period.

We used a semi-structured interview guide in order to be able to follow up on interesting replies from the students. We then invited the informants by email to a physical meeting. Every interview lasted approximately one hour. Some interviews were done by two researchers where one took notes and the other handled the conversation. These interviews were transcribed by the researchers. Some interviews were done by one of the researchers alone and thus using a tape recorder in order not to miss out on information. These interviews were transcribed by an external transcriber. All interviews were analysed by all three researchers.

According to Postholm (2010) it will support gathering information to establish trust with the informants. We thus sent the informants information about the research, the different steps in the research, and asked them to sign an informed consent form and informed them about how their input would be confidential and their names would be anonymous.

Table 1: Overview of respondents - interviews

Study program	Number of resp.	Gender	
Music Management	1	M	
Digitization and management	1	M	
Organization, leadership and management (online) OLM	3	1.M 2. F	3 of these were also students in the HM module
Health management (HM)	4	1.M 3.F	3 of these were also students at OLM
Knowledge Management (KM)	6	1 M 5 F	

As the table (table 1) display, the respondents were chosen from five different study programmes; Music Management, Digitization and management, Organization, leadership and management, Health management, and Knowledge management.

4. Results and discussion

Here we will present and discuss the results from the data collection.

4.1 Preferred form of lecturing regarding learning outcome

The students were asked to about what the students would prefer; would they prefer to attend physical lectures, or would they rather stay at home and receive the lecture via zoom, and what they believe will provide them with the best learning outcomes. Our observations were as follows: At the Master Programme in Organization and Management there are approximately 100 students, and only a few of the students were actively participating with their cameras on. At the Health Management study programme, a part of the programme is about learning practical management skills in groups. During COVID-19 a hybrid version was offered the students with a combination of the opportunity to meet in person, as well as taking part via Zoom. At the Digitization and management, the Organization, leadership and management study programmes, many students turned off the camera and disappeared when breakout rooms were organized (group work). At the KM study programme, quite a few had their cameras on and participated actively when group work was organized. Hence, there are differences regarding participating and being active. Our experiences as well as socio-cultural learning theory confirm that cooperation and collaboration support an enhanced learning outcome. Also, supported by Dewey (1938) and Schön (1987) being active allows building one's own experiences as well as supporting reflections, something that will support the learning outcome.

Some prefer physical attendance at campus. Statements like "I prefer physical lecturing as it is easier to be active and speak when we meet in the classroom", "Digital lecturing is terrible as we do not see each other's body language and everyone has black screens during lectures", "It is 100% monologue and one way communication on zoom. Zero contact with the lecturers and only black screens" describe some of the frustrations that the students experience with online education.

Recordings, however, are welcomed; "we would like the lecturers to use recordings of the lectures as a supplement to physical lecturing". This is supported in a study by Johansson and Nohr (2014) where they

concluded that students want increased use of digital recordings, but in combination with traditional teaching, not as a substitute. Many lecturers are sceptical regarding using recordings of lectures as they believe students will prefer looking at the recording rather than attending the physical classes. However, several international studies show that students do not drop physical lectures even if they have access to recordings of lectures (Davis et al., 2009; Kushnir, Berry, Wyman, & Salajan, 2011; Lonn & Teasley, 2009).

Several of the students in our investigations claim that it is more difficult to be “on” and focused digitally than it is in the classroom. Some students claim this is due to disturbances either at home or “at work”.

One group that seems to divert from the rest of the students, are the students at the KM study programme. Although they are unanimous regarding best learning outcome from physical attendance, they still seem more appreciative of the online alternative. “I could not have attended this study programme if it was not offered online”, “my work situation does not allow me to travel, but when it is online, I can attend”, and “my family situation prevents me from travelling far from my home and the alternative of online classes has provided me with the opportunity of studying in spite of my situation” are all quotes from this student group. We have no substantial explanation as to why these students differ from the others. We do wish, however, that we had more demographic data for all our respondents.

Socio-cultural learning in the physical versus digital classroom

The students that take part online and do not “disappear” when groupwork is being facilitated, do experience a learning outcome. Statements like “I learn even more about the topic when we work in groups and are able to discuss the different approaches amongst each-other”, “I learn a lot from my fellow students when we discuss, and I get a clearer picture of what the issues mean to me” and “I would like the lecturer to organize more groupwork as I learn a lot from that as well as getting to know my classmates a little bit better” confirm what one wants to achieve through the groupwork; socializing, learning and establishing professional relationships amongst the students. These are also examples of how important participation, dialogue, and interaction is to the learning outcome (Shepard, 2000; Bråten, 2002). These respondents seem to be able to construct knowledge in and through interaction with other people (Dysthe & Iglund, 2001; Säljö & Moen, 2001; Wertsch, 1991, 1998). The learning seems dialogical, as the individuals participate in a social context, and negotiate and develop knowledge in relation with others (Hauge, Lund & Vestøl, 2007).

4.2 “Flipped classroom” and online education

During the pandemic, there were different types of supporting material that were made available, hence an approach that is closer to a “flipped classroom”- approach. There are, however, students that still do not participate in class. Upon asking them, they say that they are afraid that they have nothing to contribute with. Statements like : “I did not want to sit there as the only one that had not read the curriculum and could not contribute to the discussion”, “I knew I would feel stupid and as a “free rider” if I took part in the breakout room as I had not understood the topic we were to discuss”, and “I am not so good at expressing myself online and I do not dare take the word unless someone asks me directly” show that there are students that are reluctant to contribute for different reasons. The “flipped classroom” methodology more or less require that the students read up, and study provided material in beforehand and that most of the lectures are groupwork and discussions Gotaas (2016), and although this is supposed to be a student-centred approach (Låg & Sæle, 2019) it may not work in this way always, when it comes to online education.

The statements point to a very important issue: the students need more empowerment and encouragement regarding taking part in online education. In the physical classroom it is more difficult to “escape” and you are drawn into a conversation, but online it is easier to slip away.

Regarding the students that are active and do participate, some claim that there is a “delay” in the communication as it takes time to unmute. This “delay” is perceived as somewhat disturbing and makes the communication less spontaneous. “I could not find the button at once and before I pressed the button, someone else had started talking” and “There was a pause, almost awkward, before someone answered, and it was due to finding and hitting the unmute-button” are statements that show us how it is perceived with the students. The delays disrupt a *flow* in the conversation (Csikszentmihalyi, M 1990). How much this affects the learning

outcome of the discussions are difficult to answer, but we know that perceived *flow* supports the learning process.

5. Conclusion

The students differ regarding hybrid (combination of online and campus education) versus physical education. The ones that are positive towards the hybridity claim that they would be present in person if they could, but sometimes struggle regarding attendance due to for example work or family conditions. They claim that the combination of online and campus based has allowed them to continue studying. Even if an online setting does not provide the optimal learning outcome, they are grateful for being able to participate at all.

Other students much rather only have physical attendance. They claim to learn most from being in the classroom in person and that it is easier to work in groups and to socialise and that this contributes positively to their learning outcomes. This is in line with the socio-cultural learning theories as these confirm the enhanced learning from socializing with fellow students, reflecting and working together with fellow students on f. ex. assignments.

They experienced less cooperation and collaboration with the other students and felt less activated and even alienated if they were not able to read up prior to the online lectures as “flipped classroom” requires.

The students were satisfied with what the lectures made available online, hence the blended learning seemed to work well.

A weakness with our investigations were that we could have collected more demographic data about our students. This would allow us to determine if there were any differences in gender, age and geographical distribution.

5.1 Further research

At our university the decision is to return to face-to-face education, with some exceptions, such as the KM study programme. This study programme will continue being hybrid, whilst most of the other study programmes will be using “flipped classroom” and Blended learning, but only have face-to-face lecturing.

We will investigate if new insights into socio-cultural learning theory may suggest new ways of reducing the technological obstacles that our respondents have reported on. In other words, we will look for other supporting ways of including the online students better and facilitate for collaborative spaces, to see if we can better support the learning outcome both for the students in the classroom as well as the students online.

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