Students' Experiences with Study Engagement Formation in Different Learning Models During Their First Year at University

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Abstract

The transition to university studies is typically challenging for first-year students. This research examines the experiences of first-year university students studying applied natural sciences in three different learning models (distance, hybrid, and flipped-onsite) and their independent study practices during emergency remote teaching in Finnish higher education. The study identifies and explores pedagogical practices that improve or inhibit student engagement. The data was collected using the semi-structured interview method, and 10 first-year students were interviewed. The data was analysed using theory-oriented qualitative content analysis. The results show, as expected, that interactive pedagogical practices enhance student engagement regardless of the learning model. The importance of seeing students as active participants in teaching was emphasised in the students' experiences of engagement while lectures directed only by the teacher were perceived as less engaging. According to the students' experiences, the lack of opportunities for genuine interactions disengaged them in their studies. Although this study takes place in the context of emergency remote teaching, the learning models from that period are still widely used in contemporary university studies; hence, the findings illustrate pedagogical solutions that can also engage students in post-pandemic teaching contexts.

Introduction

The initial phases of university studies are crucial for student engagement (Krause & Coates, 2008). Most study drop-outs occur during this critical first year (Coertjens et al., 2017; OECD, 2019), underscoring the importance of a successful transition into university life (Brooman & Darwent, 2013). Students assess their expectations, suitability, and potential for success in their studies during the first year (Krause & Coates, 2008). Moreover, social connections, such as friendships created during the first year, play a pivotal role in easing students' transition into university (Koljatic & Kuh, 2001). Successful integration enhances students' academic and social engagement (Coates, 2007; Tinto, 1975).

The COVID-19 pandemic brought significant challenges to the process of organising education. In Finland, it forced the closure of all educational institutions from the end of March 2020 until the spring of 2021 (UNESCO, 2022). However, student engagement during the pandemic could not be taken for granted (Korhonen et al., 2023). Although digital tools and online and blended teaching were already part of university education before the pandemic, many teachers had to rapidly adapt to these ways of teaching.

This shift was so abrupt that it has been termed “emergency remote teaching” (Hodges et al., 2020). In practice, this exceptional period saw a shift from onsite teaching to mostly online teaching, which essentially amounted to home study and posed challenges for maintaining student engagement (Korhonen et al., 2023).

Studies in the field of natural sciences are known to be challenging due to high academic demands, lack of preparedness, and difficulties in social and academic integration, which increases the risk of students dropping out (Véliz Palomino & Ortega, 2023). This study focuses on students in the field of natural sciences, where the drop-out rate is relatively high (Statistics Finland, 2022).

Considering the exceptional circumstances, organising courses with minimal contact with others challenged educators. The opportunity to develop student engagement is greater in physical environments (Sjöblom et al., 2016). When moving to digital environments (Kocdar et al., 2018) and distance learning (Martin & Bolliger, 2018), ensuring students’ engagement can be challenging. Limited social interaction with peers and difficulties with focusing during online lectures threaten students’ engagement (Hollister et al., 2022). However, Green et al. (2020) indicate that students’ engagement in their studies during emergency remote teaching can be supported by structuring learning models around tools, social features, and tasks that lead to effective learning. Therefore, this study aims to investigate the formation of students’ engagement across various learning models in these exceptional circumstances. Even though the pandemic has subsided, the lessons learned from that period can be utilised in other contexts to further support student engagement.

This qualitative study explores first-year students’ engagement in university studies during the exceptional period of the COVID-19 pandemic. The specific focus is on how different learning models (flipped-onsite, distance, or hybrid) influence engagement from university students’ viewpoints. This study also examines students’ descriptions of their individual studying processes and engagement formation during that exceptional time.

Academically and socially constructed student engagement

Engagement in studies is formed by the interactions students have within the university environment (e.g., Krause & Coates, 2008; Tinto, 1975). Staying engaged in one’s studies and completing them requires a commitment from the student (Tight, 2019). Student engagement includes the effort and hours a student invests in academically beneficial activities within and beyond the classroom (Kuh, 2003). Students’ active involvement and the fulfilment of expectations are key factors in ensuring their engagement in higher education studies (Bowden et al., 2021). However, the strategies and practices that educational institutes implement to promote the learner’s involvement play a key role in guaranteeing their engagement (Kuh, 2003).

The many theories that define engagement include different dimensions such as behavioural, emotional, and cognitive (e.g., Alrashidi et al., 2016). In this study, students’

engagement is understood as a more holistic phenomenon that includes academic and social engagement dimensions. According to Appleton et al. (2006), academic engagement includes the idea of spending time on and accomplishing tasks, whereas social engagement is understood as students' involvement in academic communities (e.g., Astin, 1999; Tinto, 1975).

Students are responsible for their learning, for which the university provides resources and an environment that enables studying (Krause & Coates, 2008). Therefore, it is important to examine how students' engagement in university studies is formed under various learning models. According to Coates (2007), who studied engagement through academic and social features in teaching both on campus and online, engagement emerges as a result of teaching practices that stimulate student participation, active learning, and a sense of community. Additionally, engagement is fostered through communication with teaching staff (Krause & Coates, 2008), faculty, and peers (Fredricks et al., 2004), thereby supporting both the academic and social dimensions of student life (Coates, 2007).

According to the engagement model of Korhonen et al. (2017), which utilises Wenger's (1998) theory of communities of practice, students' engagement is constructed through social and academic relations. In this model, students' engagement with studies is influenced by both individual and collective practices, both academic and social, resonating with earlier definitions (i.e., Coates, 2007; Krause & Coates, 2008). It also encompasses social features such as social practices and participation in studies, as well as individual features like academic skills and the meaning of studies (Korhonen et al., 2017). Engagement is presented as a holistic process constructed throughout the students' university studies (Figure 1), with a focus on understanding how students adapt to university life from the perspectives of both the individual and the educational institution (Korhonen et al., 2017).

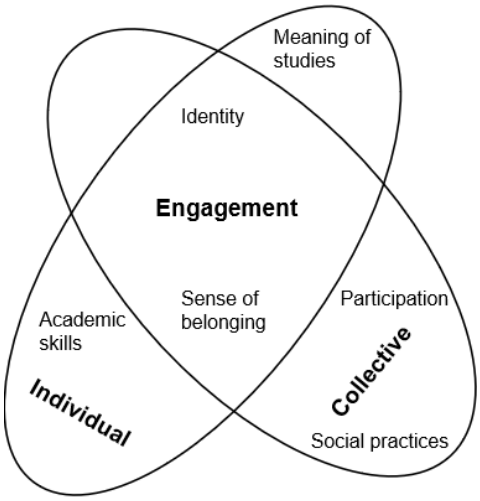

Figure 1. Study engagement model (Korhonen et al., 2017)

Learning Models that enhance students' engagement

The need for pedagogical designs that consider the learning environment has increased (Sasson et al., 2022). Learning environments should be understood as spaces where learning is acquired through an active relationship with the opportunities offered by the space (Carvalho & Yeoman, 2018). In this manner, learning interacts with the space's physical, epistemic, and social factors, which should be considered in planning teaching (Carvalho & Yeoman, 2018). With specific learning models in teaching, students' engagement may be well supported (Laasonen, 2022). For example, physical spaces that support active learning approaches and student-centred pedagogical practices increase students' interaction with peers and thus their commitment to studies (e.g., Parsons, 2018). Since this study examines distance, hybrid, and flipped-onsite learning approaches, the focus is on "learning models" instead of the learning environment.

The teaching in this study, which occurred during the COVID-19 pandemic, was arranged using distance, hybrid, and flipped-onsite learning models. Green et al. (2020) have highlighted the need to reconsider learning models in the learning environment during exceptional times. The different learning models should consider the learning tasks, digital and physical materials, and multiple arrangements through the possibilities of the space (Carvalho & Yeoman, 2018; Green et al., 2020). In addition, it is important to recognise that learning situations also include constructions of social and physical elements (Goodyear & Carvalho, 2014). The interaction among students and between students and teaching staff supports the social dimensions in the learning models (Minosky et al., 2022).

Traditional onsite learning environments are physical lecture-based learning spaces, such as classrooms and lecture halls (Usher & Hershkovitz, 2023). On the other hand, the distance model is defined as teaching where the instructor and student are physically apart from each other but are connected interactively through different digital devices (Moore & Kearsley, 1996; Saykili, 2018), while the hybrid learning environment combines distance and onsite teaching models (Eliveria et al., 2019).

The possibility of supporting students' engagement in their studies is more easily enabled in physical environments (Sjöblom et al., 2016). Environments that support students' agency in their studies promote their feeling of belonging to the community (Sjöblom et al., 2016). Although students enjoy autonomy in their studies, they also desire support from peers or teachers through tasks in the physical learning environment (Sjöblom et al., 2016). Support from peers (Fredricks et al., 2004) and teaching staff is key to engaging students with their studies and improving their sense of belonging (Krause & Coates, 2008).

In successful distance learning, learner-to-learner and learner-to-instructor interactions improve student engagement (Lear et al., 2010; Yates et al., 2014), and researchers see reciprocity and instructor support as key to connecting with learners and fostering community (Martin & Bolliger, 2018; Yates et al., 2014). However, the distance model presents challenges in enabling such interaction. Hollister et al. (2022) noted that

students struggled to stay connected during the pandemic. Establishing active learning opportunities, such as small group work scenarios, encourages students to form connections with their peers and enhances their engagement in their studies (Hrastinski, 2008). Hence, distance teaching should consider employing methods such as interactivity (Saikili, 2018) and opportunities for presence (Khlaif et al., 2021). The opportunity to participate in teaching and learning communities is directly related to student engagement (Korhonen et al., 2017; Tinto, 1997).

In the hybrid model, technical solutions play a central role in creating an interactive learning environment (Ahlgren et al., 2020). An important objective of hybrid learning is that distance and onsite learning reinforce each other (Eliveria et al., 2019). However, it is well known that, as a teaching method, the hybrid model increases teachers' workloads, as they must consider two groups (onsite and remote) during class (Raes et al., 2020; Zydney et al., 2019). The difficulties arising from operating between two groups can become an obstacle to students' engagement. For example, distance students may have fewer opportunities to interact than in-class students (Zydney et al., 2019). To increase student activity and engagement, Jusyf et al. (2019) recommend using the flipped classroom teaching method. Flipped classrooms require students to complete pre-lecture assignments, which can enhance the interactivity of the lectures (Linder, 2017).

This study examines students' engagement experiences in distance, hybrid, and flipped-onsite models during exceptional periods by exploring the following research questions:

1. *What pedagogical practices improved or inhibited students' academic and social engagement in their studies, based on students' experiences, in the distance, hybrid, and flipped-onsite learning models?*
2. *What academic and social engagement features did first-year university students experience in their independent studies during the emergency remote teaching phase?*

Methods and materials

Context and participants

This research focused on three learning environments: flipped-onsite, distance and hybrid. Each of these models requires a substantial amount of independent studying from students outside of teaching hours; therefore, the focus is also on students' independent studies. In this research, onsite learning occurring within the university's physical location is referred to as the flipped-onsite model. The flipped-onsite model is based on a process-oriented model that activates students in learning and promotes their social integration (Koskinen et al., 2018). Pre-class assignments were part of teaching in this model. In contrast, distance learning was conducted remotely, allowing students to attend classes from locations other than the university. The hybrid model combined elements of both onsite and distance learning. Independent studies refer to students' own study time outside of the classroom.

Students also had the opportunity to study cooperatively with peers on the university premises, provided that they followed safety guidelines. Students were encouraged by the teaching staff to meet with their peer groups either in person or remotely to form study groups. Most students studied face-to-face with other students outside of lectures, while a few collaborated only remotely.

The research data were collected from first-year students enrolled in the same applied natural sciences degree program at a Finnish multidisciplinary research university. Studies in this field emphasise collaboration and problem-solving. They started their studies in the fall of 2020 and thus participated in coursework during the COVID-19 pandemic. Students shared their experiences of studying during their first year via the three teaching models (distance, hybrid, and flipped-onsite models). At the beginning of their interviews, each student was asked to define these three learning models according to their understanding to ensure unified meanings of the teaching models between the interviewee and interviewer.

Participants were 10 first-year university students, five women and five men, born between 1994 and 2001. Nine of the participants were in their first year at the Bachelor level, and one of the participants had previous university studies. Three students said that their particular degree program was their first option. In total, there were 30 students in the degree program, but only 10 of them voluntarily agreed to be interviewed, meaning that one-third of the students participated in this study. All 10 students participated in the research voluntarily and were informed about the study. They were also made aware that they could withdraw their participation at any time. This study does not involve traditional comparative research. Instead, its goal is to gain a deeper understanding of how students' engagement with their studies is shaped based on their experiences in various learning models.

Methodological approach and analysis

A qualitative research approach was used to understand students' engagement in three different learning models. The qualitative method is suitable for studies such as this one in which the aim is "to produce knowledge that is practically relevant" (Flick, 2018, p. 8). In addition, engagement studies have primarily utilised quantitative methods (Bond et al., 2020; Mäkinen, 2012). Korhonen et al. (2024) have also recognised the need to study students' experiences regarding engagement with the university for the development of more effective teaching practices. Thus, a qualitative-oriented method was selected.

Research data was collected in the spring of 2021 using semi-structured interviews. Interviews are effective for examining human experiences (Galletta, 2013 because they allow for detailed questioning and further clarification when needed. The semi-structured interview is seen as flexible, making it easy to have a conversation, change the order of the questions (Dearnley, 2005), and smoothly move from one question to another (Åstedt-Kurki & Heikkinen, 1994). According to Flick (2018), interview situations can be seen as an interaction with the topic that brings relevant knowledge of the

phenomena. Saturation of the interview data was achieved in the early stage, and thus an extension of data-gathering was not needed (Rubin & Rubin, 2012).

All the interviewees were asked all 24 questions in logical order according to the flow of the conversation, and detailed follow-up questions were raised from the discussion. Nine of the questions asked about the background information of the students (such as degree of studies, earlier studies at the university level, etc.). Two of the questions concerned the definition of the learning environments. The purpose was to develop the definitions used in the study based on how students understood and described the environments. The other 13 questions asked the students about their experiences with study engagement in the distance, hybrid, and flipped-onsite models. The themes of students' study engagement were developed according to the theory of Krause and Coates (2008). The interview questions were based on the themes from the FYEQ (the First Year Experience Questionnaire) questionnaire, including transition, academic, peer, student-staff, intellectual, online, and beyond-class engagement. The learning models were included in the questions, and the interviewer ensured participants clarified which model they were discussing. In this way, the themes of study engagement and learning models were guaranteed to be included in the interviews.

Due to the COVID-19 lockdown and to prioritise participants' health, all interviews were conducted via Zoom. Two participants chose audio-only interviews. All interviews, which ranged from 28 to 74 minutes, were recorded and transcribed, with irrelevant content removed (Flick, 2014). Participants were anonymised with pseudonyms, and only the transcriptions were used for analysis after deleting the recordings. All information on the research data is presented in Table 1.

Total interviewees	10
Total interview questions (pcs)	24
Background questions (pcs)	9
Questions about teaching models (pcs)	2
Questions about engagement to studies (pcs)	13
Interview duration (min)	28–74
Transcribed data (pages)	98
Font	Times New Roman
Font size	12
Spacing	1,0

Table 1: Collected research data

Data analysis

A theory-oriented qualitative content analysis was used to examine the dimensions of social and academic engagement among first-year university students in different

learning models. A deductive or inductive analysis was conducted depending on the analysis phase (Bengtsson, 2016). In the initial phase, the data was collected, transcribed, and read several times. The content relevant to the research questions was highlighted, and irrelevant material was removed. Codes and sub-categories were formed based on the meaning units. The theory of academic and social engagement (Coates, 2007; Krause & Coates, 2008) and the learning models structured the analysis with an open scheme. This approach provided the possibility to analyse the data in interaction with theoretical perspectives and insights arising from the data. The analysis process in this study was iterative and thus did not linearly follow the analysis phases (Figure 2). The applied theory was included during the analysis process at the researcher's discretion (Creswell, 2009, 171). The analysis was conducted mostly by the first author, who consulted with other authors to ensure the validity of the research (Creswell & Poth, 2018). The research was conducted following the guidelines provided by the Finnish National Board on Research Integrity TENK (2012).

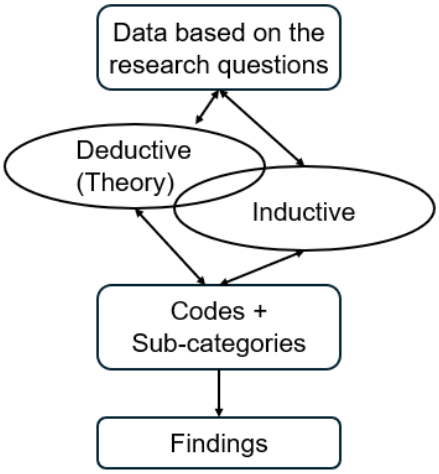

Figure 2: The analysis process

Results

The research questions in this study examined students' experiences with pedagogical practices that supported their study engagement in distance, hybrid, and flipped-onsite learning models. Regarding the second question, the features of academic and social engagement were examined comprehensively according to students' experiences carrying out their independent studies during the emergency remote teaching period. The features of academic and social engagement are presented in the results as mutually supporting dimensions.

Pedagogical practices that engage or disengage students in the different learning models

This study aimed to examine the first-year university students' experiences of engagement in their studies during emergency remote teaching. The results showed that the specific pedagogical practices afforded by and emphasised in each learning model are key elements in supporting students' engagement. These features are presented below in detail.

Engagement (experiences) in the distance model

In their interviews, students identified features that both inhibited and improved their engagement in their studies using the distance learning model. Primarily, students desired pedagogical practices that required active learning in their remote sessions. Seven of the interviewed students expressed the view that mass lectures and teacher-led lessons increased their passivity during distance classes. They described having difficulty concentrating during passive, distance lectures that amounted to a "teacher monologue":

> *But then in a distance, when it's pretty much like a [teacher's] monologue, you don't need to prepare beforehand. (Saara)*

Another source of passiveness that students experienced was the lack of genuine interaction when students were trying to participate in a lecture by asking or answering the teacher. Students said that they were uncomfortable answering questions in distance lectures where other participants were "hidden" behind their screens and their expressions were impossible to see:

> *In a distance [class], it's somehow a higher threshold for you to open the mic and say something when you can't see other people. (Olivia)*

In contrast, most participants (f = 7) reported that working in small groups promoted active learning in distance lectures. A few students said that their teachers separated students into breakout rooms during lectures to complete tasks. In the breakout rooms, students worked together in smaller groups, which in their opinion, increased their level of activity and willingness to participate in discussions with others about related tasks. In addition, a few informants said they hoped for more small-group activities in distance learning because they motivated them to study. They reasoned that small groups lower their inhibitions to participate in discussions compared to mass lectures. In addition, four interviewees felt that working in small groups enabled learning with peers, as the tasks were discussed and done together, which was felt to support deeper reflection among peers about the themes presented in the lectures. In the students' experiences, working in breakout rooms with smaller groups was something they wished happened more often:

In my opinion, the small groups in the distance learning model are useful. If the teacher asks something during the lecture, very few people like to answer in front of the whole class. But instead, if you divide into small groups, you can have good discussions about those topics. (Matias)

Students experienced receiving support from teaching staff in their distance learning studies. Eight of the students reported that their teachers offered support for them to deepen their understanding of the study contents. Some of the students said that the teachers themselves provided support in the breakout rooms when they were working in smaller groups. In students' experiences, they felt the teachers' actions were very useful when the teacher went between the different breakout rooms to ask if students had questions about tasks:

In smaller groups [in breakout rooms], when we are working on our assigned tasks, you can discuss them with your peers. The teacher also visits each group separately to see how things are going in the groups [with the tasks]. (Maria)

In addition, a few of the students said that the teacher reminded them of the possibility of remedial teaching by email, which created a feeling that their teachers are genuinely interested in the students' studies:

The lecturer also sent an email stating that if there is a need for remote tutoring, students should get in touch, and the teacher will set up a Teams meeting to clarify any questions. (Saara)

According to the students' experiences, distance teaching led directly by the teacher did not activate them in their studies. On the contrary, it only led to the experience of a lack of interaction that did not activate students enough to participate in the mass lectures. Moreover, students wished for more interaction in mass lectures and more opportunities for group work with peers in breakout rooms.

Engagement (experiences) in the hybrid model

In the hybrid model, onsite and online students studied together, and the instructor taught both groups at the same time. The results showed that students hoped for more opportunities to interact in the hybrid model. According to many students' (f = 6) experiences, interaction between the two groups (distance and face-to-face) was perceived to be difficult in the hybrid model. In the students' experiences, teaching was divided unevenly between the face-to-face group and the remote group. The main reason for that experience was that the teaching was technically challenging to construct in a way that the teacher could focus on both groups at the same time. Technical issues inhibited interaction between the distance and face-to-face groups when studying in this model:

As a hybrid, the dialogue between the face-to-face group and the distance group may not have worked so well. It's been a bit challenging to set up the devices in a way that everyone can hear and can talk to each other. (Petteri)

The results indicate the need for features that promote active learning between the two groups of students in hybrid teaching. The technical solutions provided by the learning environment were insufficient to facilitate real interactions between the groups, highlighting the technological challenges of the hybrid learning model (see Ahlgren et al., 2020).

Engagement (experiences) in the flipped-onsite model

The flipped-onsite meetings were organised for students once a week, allowing students to participate either face-to-face or remotely. All the students in this study stated that they participated in face-to-face meetings. Students described how the onsite meetings in the flipped-onsite model promoted active studying. A few of the students who experienced the onsite meetings said they were motivated to ask the teacher questions in the lectures. One student described how the flipped-onsite model enabled them to concentrate more on lectures as it was easier to follow the teaching. Another reported that the smaller group size in the flipped-onsite model supported students' active learning:

In these onsite meetings [face-to-face teaching], I am a bit more active, especially when there are smaller groups, and then I feel comfortable to ask even "stupid questions". (Anna)

In addition, three of the students stated that they prepared carefully for the flipped-onsite meetings by doing the pre-assignments to make sure that they could answer the teacher's questions and deepen their knowledge about the subject in the lectures:

Well, maybe you cover those subject areas a bit more in contact teaching. However, when you talk more with others, you want to put more effort into knowing exactly what you're talking about. (Olivia)

According to these students' experiences, studying in the flipped-onsite meetings increased their activity levels in lectures and their sense of responsibility towards their studies. For example, students felt the need to do their pre-class assignments, which can be seen as a factor promoting interactivity in lectures (Linder, 2017). In their interviews, students reported that the pre-assignments improved their readiness for interaction with others in the lectures. Thus, the opportunity for active learning supports students' social engagement and interactivity (Coates, 2007). Students' preparation for flipped-onsite meetings supports their engagement in their studies. The results of learning models are summarized in Table 2.

Learning Model	Engaging Features	Disengaging Features
Distance	Students' active role in teaching; Active learning with peers; Interaction with instructor and peers	Teacher-led instruction; No activities for students in teaching
Hybrid		Lack of technological solutions; No interaction between groups
Flipped-Onsite	Students' active role in teaching; Active learning methods such as pre-assignments; Interaction with instructor and peers	

Table 2: Summary of engaging and disengaging features in teaching

Engagement experiences in independent studies

During the COVID-19 pandemic, students collaborated with their peers in their independent studies. Despite the challenges brought by the pandemic, they found group work to be versatile. Distance learning primarily involved students doing small group work. Notably, students were encouraged by the teaching staff to create study groups at the beginning of their studies.

Most interviewees reported having studied with peers outside official lessons during the pandemic, four of whom reported actively engaging in small group studies during their free time. A few regularly studied with peers in small groups, either remotely or in person. To study remotely together, students set up meetings on platforms like Zoom or Teams and used chat and call apps like WhatsApp, which were convenient due to smartphone compatibility. This peer collaboration, even under exceptional circumstances, was seen as crucial in enhancing their subject knowledge.

> *We do assignments together, either at a friend's house or the university premises if we follow the safety guidelines. Distance learning has gone well for me. When you discuss a theory or a task with a friend, you get so much more out of it than if you are alone in some dark room. (Roope)*

One of the respondents mentioned that they studied entirely remotely with another student. The respondent claimed to be an independent student and thus wanted to study with a few peers instead of a bigger group. However, all students agreed that collaborative study was beneficial. It boosted their confidence and competence, thereby supporting their learning process. Co-studying allowed them to discuss tasks and develop a deeper understanding of the content.

I have found this one person with whom I always go through the tasks together before the calculation exercises. If we have the same solutions, it's nice to be sure that the tasks are correct and not have any doubts. (Maria)

Although some of the students' experiences felt that the applications used for remote study were suitable for cooperating with peers, a few of the students opined that they had challenges feeling a genuine interaction with peers in distance meetings. Their answers indicated that doing tasks together and communicating remotely with peers was perceived as difficult. More specifically, co-learning situations in which their conversations at a distance involved using various applications (WhatsApp, Snapchat, Teams) did not support enough genuine interaction. In students' experiences, the applications do not fully replace genuine interactive learning situations with peers. In their opinions, it is easier to verbalise and illustrate their thoughts about the tasks to others face-to-face; thus, their answers indicated the limitations of the rigid technological applications:

In remote [learning], I feel that teamwork doesn't work. There should be a group, but it's hard to coordinate through WhatsApp, like saying, "Well, you're doing this part and I'm doing this part", and then figuring out how to combine those [tasks]. I think that communication is the biggest challenge. Distance learning doesn't work if you don't have conversations and exchange ideas. Communication is a bit tricky remotely; you should always have voice contact because it's difficult to explain your ideas with just messages. (Kaisa)

Three of the students said that they would stay at the university to do their studies after the face-to-face, flipped-onsite meetings by taking safety guidelines into account. This opportunity was felt to be meaningful as the students had the opportunity to meet other course members and have genuine interactions. Two of the students expressed how these opportunities enabled deep discussions about the tasks and shared learning with peers:

When there's an onsite meeting every week, the face-to-face group often stays together afterwards, or at least part of the group stays to work on tasks together... I think it's nice that once a week there's such interaction with other students, and you can think about the tasks together. (Matias)

It is important to observe that the students managed to form group work opportunities with their peers in the exceptional period when working independently, and thus promoted their social integration in their studies. Having the support of one's peers is known to be beneficial, especially in terms of helping students to persist in their studies (Fredricks et al., 2004). Thus, engagement in studies can be seen in the construction of academic relationships that focus on shared learning between peers (e.g., Coates, 2007; Tinto, 1997). Thus, in the context of this study, social engagement is central to the formation of engagement in studies. The features of independent study practices are summarized in Table 3.

Independent Study Model	Engaging Features	Disengaging Features
Face-to-face	Studying with peers in smaller groups outside of the university; Staying and studying with peers at the university after lectures	
Distance	Studying with peers	Applications (WhatsApp, Snapchat, Teams) lack genuine interaction

Table 3: Summary of engaging and disengaging features in independent studies

Conclusion and Discussion

This study examined first-year university students' engagement in flipped-onsite, distance, and hybrid learning models as well as individual studies during the COVID-19 pandemic. The qualitative method provided deep insights into engagement in different learning models (Flick, 2018), highlighting the importance of providing student-to-student and student-to-staff interactions and active learning approaches in all learning models. The findings align with previous studies (e.g., Coates, 2007; Korhonen et al., 2017; Krause & Coates, 2008).

Based on the students' experiences, engagement in studies in the distance learning model occurred through teacher-provided support and possibilities for small group work during classes. In small groups, students could interact and solve tasks with peers and get to know each other. In addition, the teachers provided help in the breakout rooms during class and after lectures through emails. These elements contributed to the formation of social engagement and a sense of belonging. The results are consistent with previous findings emphasising opportunities for interaction, interactivity, and support in teaching (see Hrastinski, 2008; Martin & Bolliger, 2018; Saikili, 2018; Yates et al., 2014). The support shown by the teaching staff is helpful to the construction of a sense of belonging and, subsequently, engagement in studies (see Krause & Coates, 2008; Sjöblom et al., 2016).

According to the students' experiences, teacher-led distance lecturing did not engage students in teaching and made them passive listeners. Therefore, this approach poses a threat to the construction of students' social engagement and sense of belonging (Martin & Bolliger, 2018; Sjöblom et al., 2016; Yates et al., 2014). The lack of practice activities in teaching may also diminish students' engagement in their studies (Hrastinski, 2008; Lear et al., 2010; Yates et al., 2014). The results indicate that pedagogical factors that lead students to participate in teaching promote the construction of academic and social engagement in the distance model. Opportunities for participation offered in teaching and learning communities are related to student engagement (Korhonen et al., 2017).

Analysis of the interviews also showed that the use of the hybrid model resulted in poor interactions between the distance and onsite groups. Teaching in this model was clumsy as the teacher was only able to pay attention to one group at a time, which frustrated the students who were learning onsite. The missing interaction therefore, threatened engagement formation in teaching (Hrastinski, 2008; Lear et al., 2010; Yates et al., 2014; Zydney et al., 2019). In addition, it was challenging to implement effective pedagogical practices because the technical solutions available in the hybrid learning model were insufficient (see Ahlgren et al. 2020). These results are similar to previous studies (e.g., Raes et al., 2020; Zydney et al., 2019).

In the interviews, students indicated that the flipped-onsite model increased their study activity, particularly because the preliminary tasks prepared them for the lectures and discussions. The enhanced engagement reported by the students aligns with previous findings on the effectiveness of flipped learning in promoting active participation (Linder, 2017; Martin & Bolliger, 2018). These results imply that the preliminary tasks offered in the flipped-onsite model improve students' academic and social engagement.

The participants in this study were able to form informal study groups even during exceptional times. The teaching staff encouraged students to form study groups at the beginning of their studies, which may have influenced the formation of groups. Consequently, the role of the teaching staff may be important, and it might lead students to engage more actively with their peers (Krause & Coates, 2008). Relationships formed with peers are central to social engagement (Korhonen, 2017; Koljatic & Kuh, 2001).

In summary, the findings suggest that pedagogical practices that involve students in teaching may foster their academic and social engagement across all three learning models. The results are similar to previous studies (Coates 2007; Laasonen, 2022; Parsons, 2018) The results of this study indicate that different teaching methods to activate students and support interactivity in teaching could be considered depending on the teaching model and its offerings (see Carvalho & Yeoman, 2018; Green et al., 2020; Sjöblom et al., 2016). These teaching practices engaged students in their studies using the various learning models as they allowed students to participate in teaching (Bowden et al., 2021; Kuh, 2003). Although the teaching in this study was conducted during emergency remote learning, the findings provide insights into organising contemporary education with approaches that engage students.

Research on student engagement using qualitative methods has not been widely conducted (Bond et al., 2020; Mäkinen, 2012). Therefore, this qualitative study provides unique perspectives on learning through different teaching implementations, particularly those in which pedagogical practices are intended to activate student participation. Additionally, the study illustrates how students organise their independent studies in non-formal contexts. It demonstrates how qualitative research can contribute to a comprehensive understanding of study engagement.

Lastly, this study provides a new perspective on how the academic and social dimensions of engagement are built when teaching using community-based features (Korhonen et al., 2017). While social practices implemented in teaching promote the formation of academic and social engagement, students should also be encouraged to form study groups and thus support themselves in the process of improving their engagement in their studies. These features should be considered when designing lessons in different learning models, which require pedagogical competence from teachers. The results of this study provide insights into contemporary teaching implementations and how the various learning models can incorporate specific pedagogical approaches to engage students.

This study has limitations. First, the small sample size of ten participants limits the generalizability of the findings. Additionally, since all participants were from the same university, the results may not apply to other institutions. The specific context and culture of the studies in this study program could also have influenced the findings. Future research should include a larger and more diverse sample from multiple universities to enhance the generalizability and provide a broader understanding of the phenomena.

The results highlight how specific pedagogical practices from the learning models support and build engagement. This finding emphasises the need for further studies on different learning models and a deeper understanding of individual needs to enhance student support across various learning models.

Future research should focus more on blended models of learning as modern learning environments commonly involve multiple simultaneous spaces (Lamb et al., 2022). Additionally, we cannot overlook the roles of learning analytics and artificial intelligence, which are becoming more prominent in higher education contexts (cf. Hirsto et al., 2023). It is important to explore how engagement is formed both digitally and physically, and how innovative pedagogical solutions can enhance student engagement across these models.

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