Learning from Student Feedback – Developing University-Wide Guidelines to Support Distance Learning after COVID-19

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Abstract

Higher education institutions in Finland continuously develop the distance learning opportunities and delivery methods. Nevertheless, the sudden university-wide move to fully online implementations due to COVID-19 created many challenges for students and teachers alike. This study presents a case from Turku University of Applied Sciences, Finland. The study uses mixed methods and examines the results of an annual student feedback survey in 2020 and 2021 conducted with all currently enrolled students, focusing on their experiences of distance learning during COVID-19 and its impact on their studies. The results show the importance of using student feedback to reveal students' negative and positive experiences of the studies and the needs that arise from the experiences in different study years. The results reveal a high need from students to university-wide shared, common practices in terms of planning and implementation of teaching. In addition, several interesting categories rise from the open answers, ranging from poor quality of teaching, inadequate utilisation of educational technology and lack of joint planning in teaching teams to aspects of inequality in learning, feelings of isolation and lack of motivation. The implications of students' experiences to teaching are discussed. Also, through the students' eyes and experiences, an interesting insight into teachers' attitudes, behaviour and actions towards students is gained. The results are used to create university-wide guidelines to support teachers design quality teaching, materials, and guidance in moving towards hybrid education. Additionally, some suggestions are made to how teachers and the university could support the students better. The recommendations from the results include university-wide guidance needed for planning of teaching in the different modes of teaching: campus, hybrid and online, as well as for supporting the students in the selected mode of teaching. The results may be of interest to education designers, man-

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agers and teachers who are interested to utilise university-wide guidelines for distance learning that have been created using student feedback.

Keywords

Higher Education, Student feedback, Distance learning, Quality, Guidelines

1 Introduction

Finland ranks no. 1 in digitalisation of everyday life and society as well as proportion of people with above basic digital skills (European Commission, 2020). Digital learning paths and online degree programmes are developed in national collaboration (eAMK, n.d.). However, despite the on-going development work for online skills and study, the sudden university-wide move to fully online implementations due to the recent COVID-19 pandemic created many challenges for students and teachers alike.

Hofer et al. (2021, p. 15) found that emergency teaching during the pandemic has highlighted the need for agency and digital competence especially for the future, where "strategic digital infrastructure and support, and digital competence development are a shared responsibility". Adedoyin & Soykan (2020) suggest that the crisis response focused more on digital platforms than utilising pedagogical models for online teaching, and thus research community should aim for the development of a more uniform online learning model to solve problems of compatibility.

Hodges et al. (2020) conclude that emergency remote teaching (ERT) suffers from lack of quality due to rushed implementation, minimal features, lack of time and resources. They suggest that systematic planning and careful design processes are needed for quality online implementation. Moreover, they highlight that successful online programme design considers an investment in the ecosystem of infrastructure, online community, instruction, and support. These form the basis for this current study, where the aim is to support well-designed online learning for the post-COVID-19 education.

According to OECD (2021), Finland was among the slightly over 40% of countries where tertiary education institutions stayed partially open either in hybrid mode or open for certain grades. At Turku UAS, the decision was made to organise on-site teaching for the 1st year students to support their collaboration and orientation to the university.

This study presents a case from Turku University of Applied Sciences, Finland. The study uses mixed methods and examines the results of an annual student feedback survey in 2020 and 2021 conducted with all currently enrolled students, focusing on their experiences distance learning during COVID-19 and its impact on their studies. The results are used to create university-wide guidelines to support teachers design quality teaching, ma-

terials and guidance in moving towards hybrid education. Additionally, some suggestions are made to how teachers and the university could support the students better.

The implications of students' experiences to teaching are discussed. Also, through the students' eyes and experiences, an interesting insight into teachers' attitudes, behaviour and actions towards students is gained. The results are of interest to education designers, managers and teachers who are interested to utilise university-wide guidelines for distance learning that have been created using student feedback.

1.1 Context of the Study

Turku University of Applied Sciences (Turku UAS) is a multidisciplinary higher education institution (HEI) that offers higher education in the field of Technology, Communications and Transport, Culture, Health Care and Social Services, Business and Administration. In total, there are over 10,000 students in both Bachelor and Master level degree programmes, some of which are offered fully online and in English, and some as double degrees with international partners. Turku UAS is also developing the region actively through projects and applied research, and coordinates or participates in over 200 research, development, and innovation (RDI) projects yearly (Turku UAS, n.d.).

Studies at Turku UAS are working life oriented, combining theoretical studies with professional skills (Turku UAS, n.d.). Turku UAS follows a specific pedagogical strategy, innovation pedagogy, in all its educational services (Joshi, 2022). Innovation pedagogy is a pedagogical approach that aims to educate graduates who succeed in their professional and personal life by taking into consideration the needs of the changing world and society (Konst & Kairisto-Mertanen, 2020). Innovation pedagogy is implemented in the curriculum work through eight cornerstones that support the learning process. Figure 1 presents the innovation pedagogy in a nutshell.

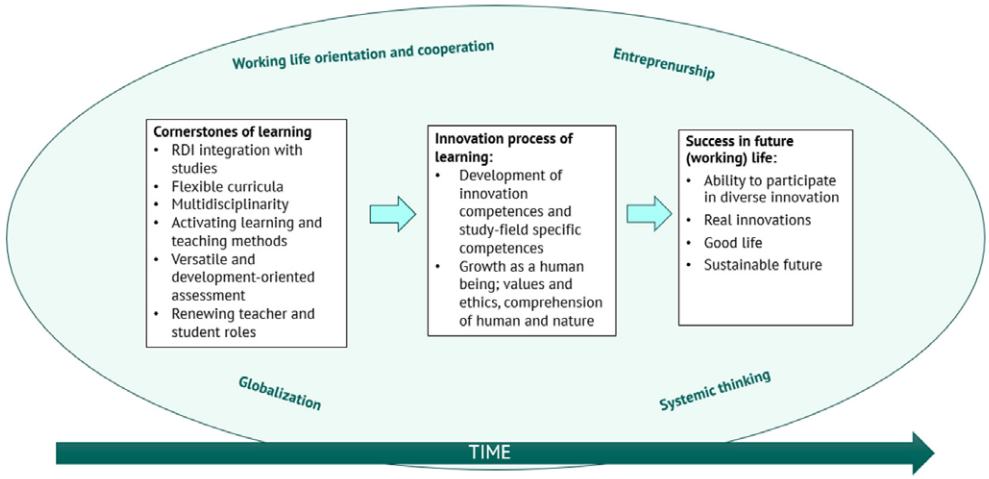

Figure 1: Innovation pedagogy in a nutshell (Konst & Kairisto-Mertanen, 2020)

Innovation pedagogy also supports the development of five innovation competences (networking, creativity, teamwork, initiative, critical thinking) that are gained alongside necessary study field competences during the learning process (Keinänen & Kairisto-Mertanen, 2019). The pedagogical approach is applied in both physical and online study contexts. The pedagogical approach is considered in the design of learning environments, where the collaborative learning and teaching spaces support the implementation of the cornerstones of innovation pedagogy and enable interaction and networking for development of innovation competences (Forstén et al., 2016).

Already prior to the pandemic, Turku UAS offered teachers support and training for online pedagogy and educational technology, and there were many good examples of online and blended implementations (see e. g., Tanskanen & Rännäli, 2016). Most teachers and students were used to having a mix of campus-based, blended, and online courses in their curriculum, so a sudden change to only online required a mental shift without sufficient preparation. Also, many courses were relying on a blended approach or campus-based teaching due to the practical nature of the subject, so the content or practical activities were not readily transferrable to fully online mode. The technical preparedness for online teaching was relatively good as most teachers had laptops and headphones as well as good internet connections, and the university allowed staff to borrow technical equipment from work to implement teaching from home during lockdown.

The staff and students at Turku UAS were familiar with certain online learning platforms and tools prior to the pandemic. However, in the autumn preceding the pandemic, the university had completed a tender for a new online learning platform to be introduced

in spring 2020. The new system *itslearning* is a learning management system (LMS) that gives the possibility to create customised courses, communicate and collaborate by using various tools of the LMS (itslearning, 2021). To start using a new platform for online learning during the pandemic was both a challenge and an opportunity, as it offered a modern learning environment with various tools for learning and tracking progress, but its introduction during the pandemic required significant effort as all user training had to be done remotely, with staff and students having to acquire new environment and its features from their own homes. Therefore, it can be concluded that although the general readiness for online learning was relatively high, it was challenged by the simultaneous use of old and new platforms affected by the staff and students' competence and accessibility.

The empirical data in this study comes from the National Remote Learning Survey and the annual Student Barometer Survey, which has been in use at Turku UAS since 2002. The barometer is part of Turku UAS quality system, and through it, extensive feedback is collected on teaching and teaching-related support services. The survey has been regularly updated according to the feedback and existing situation. The survey consists of two parts: a common part for all students that assesses general satisfaction and services and a part where students respond to different themes according to their year of study.

2 Background Literature

Ashwin (2020) suggests that excellent study programmes are well designed and are student-oriented in all actions. Also, quality is related to the educational purposes of higher education, which is to give students an understanding of their place and role in the world (Ashwin, 2020). In our study, we use student feedback as part of our university's quality process to find students' experiences of teaching quality during the transition from classroom to distance learning mode. We hope the results can aid to reach a situation where online education quality is equal to classroom-based education, an important objective recognised by Palvia et al. (2018).

Skaniakos et al. (2019) found that university students in Finland seem to be quite satisfied with study guidance and conclude that universities have been able to organise guidance for their students. However, they recognised disciplinary differences in students' study progress and the development of academic and generic skills and suggest that guidance be organised differently to support the progress of those progressing slower than expected. In sum, they found that the more satisfied the students were with guidance, the better their studies progressed, and the learning outcomes were also achieved (Skaniakos et al., 2019). In this study, we attempt to find out how satisfied students are with their studies during the pandemic, and therefore an interesting comparison between the two studies can be made.

Reunanen & Taatila (2021) researched the felt justice between students and staff, which refers to situations where staff feels fairness and justice from their leadership, translating to a same feeling amongst the students, and the feeling of being heard is one of the contributing factors to the experience of being treated well. They found strong indication of a connection between university staff's felt justice and student satisfaction. One of the suggestions is that if a university has a strong structural guidance, the individual aspects may stand out more rather than be indicative of student satisfaction. Our study can reveal students' feelings of fairness and equal treatment in distance learning setting and provide a further connection to teacher and student relationship and creating university-wide guidelines.

Eteokleous and Neophytou (2019) found that student-to-student and student-to-teacher interaction and collaboration is important but that teachers need guidance and training in giving the students the interactive and collaborative study experience needed in quality distance education. Their research focused on implementation and evaluation of an internal quality assurance procedure that was aimed at course development and delivery following a pedagogical framework of the organisation. They also examined how to support distance learning programs, staff, and students. Their results can be considered interesting for our study that is placed in the context of the pedagogical framework, the realization of which is evidenced in the student feedback and can in turn inform the support needed for staff.

Grabowski et al. (2016) suggest that those instructors teaching with technology must continuously keep their skills up to date and be prepared to make informed decisions regarding the planning and implementation of teaching and assessment strategies. They also state that learners who start studying online for the first time may encounter a culture shock in terms of different practices, expectations, ways of communicating and so on. Their list of competencies for online instructors and learners are relevant in the context of the societal and educational change, and when used appropriately, they can facilitate the design, delivery, and learning online. In our study, the focus is on supporting the learning through feedback to aid design and delivery for better satisfaction, and the results of this study may further complement their results.

Liesa-Orús et al. (2020) remind that the use of ICTs is important not only for the academic purposes but also from a global viewpoint to support sustainable education. They found the use of ICTs in the classroom to have a significantly positive effect on students' learning and therefore the use of ICTs is justified and beneficial. Their research concludes that educational institutions need to adapt and assume challenges with the aim of providing quality, where the use of ICTs is integrated in the pedagogical approaches. Our research aims to create guidelines for teachers using student feedback to further aim for sustainable quality education and therefore it is important to link the pedagogical use of technology as a background to our research.

According to Damşa et al. (2021), COVID-19 pandemic forced higher education to integrate various elements, including pedagogical, organizational and technological, and teachers would have to manage the integration. Moreover, in addition to placing stress on individual teachers, the pandemic also put pressure on infrastructure and technology of the educational organisation. They argue that whilst the emergency online teaching is the implementation an individual teacher's pedagogical solutions, the context of the organisation cannot be removed from the equation, where also technology plays an essential part. Their findings strongly suggest that teachers must be supported in the digital competence and pedagogical use of the technologies in the context of their own HE organisation, which affirms the need for the present study.

3 Methods and Materials

This study examines students' satisfaction with studies during the COVID-19 pandemic. This is further complemented by examining the perceptions that students in different study years have of quality of teaching in distance learning mode during the pandemic. The specific research questions are as follows:

1. *Are there differences between those who are satisfied and those who are dissatisfied with their studies during COVID-19?*
2. *Do the students' perceptions about transferring to distance learning mode differ in terms of their study year and quality of teaching?*

Mixed methods are used to examine the results of an annual student feedback survey in 2020 and 2021 conducted with all currently enrolled students, focusing on their experiences distance learning during COVID-19 and its impact on their studies. The next section presents the quantitative and qualitative methods and materials.

3.1 Methods

3.1.1 Quantitative Method

The first stage of the research was a quantitative analysis of student barometer survey 2021. First, questions related to COVID-19 and distance learning from all year groups 1–4 were selected. The students answered statements using a Likert scale where 1 refers to very satisfied, 2 satisfied, 3 not satisfied nor dissatisfied, 4 dissatisfied, 5 very dissatisfied. The data was combined into two categories: satisfied and dissatisfied students, where scale 1–2 formed the group satisfied and scale 4–5 dissatisfied. Scale 3 'Not sure' was left out from analysis. This was compared with the satisfaction levels in 2019 and 2020 to evaluate the change from pre-pandemic to pandemic.

The quantitative data was then examined to find statistically significant connections between different variables using Chi-Square test. Only those connections that were statistically significant (p=0,01) were selected. The themes that were selected are: General satisfaction; use of technology; quality of education provided; study progress; participating in exams; and participating in practical training.

3.1.2 Qualitative Method

In the Annual Student Barometer Survey, the students also had the possibility to share their views by answering one open question *"You can write here how the remote learning has influenced the progress of your studies"*. In total, 801 students answered the open question, making the response rate to the open question 27%.

The open answers were categorised into two groups according to satisfaction: satisfied answers (very satisfied and satisfied) and dissatisfied answers (dissatisfied and very dissatisfied). Answers 'Neither satisfied nor dissatisfied' were excluded from the analysis. The categories were used to find answers to the first research question about the level of satisfaction when transferring to distance teaching mode during COVID-19. The open answer results were further divided according to the different study year groups to find answers to the second research question about the differing perceptions of quality.

After that, a word analysis in Webropol survey tool was used to categorise the open answers into themes according to year group and level of satisfaction. The word analysis tool recognises automatic categories using text mining. After word analysis, eight of the most often mentioned words or word combinations were selected to create the following themes: Distance and campus-based teaching; teaching and competence; social relationships; teachers; motivation and focus; IT equipment and systems; stress and mental health; practical training; and graduation.

3.2 Materials

The empirical data consists of two data sets, National Remote Learning Survey and annual Turku UAS Student Barometer Survey both from years 2020 and 2021.

3.2.1 National Remote Learning Survey

The remote learning survey was created by a nationwide student organization of students in universities of applied sciences in Finland (SAMOK). SAMOK consists of student unions of 24 universities of applied sciences in Finland and supports local student unions to advance the interests of students at each university (SAMOK, n.d.). Each student union implements the survey independently, and at Turku UAS, the survey was conducted in cooperation with Student Union TUO and the Future Learning Design team that is responsible for pedagogical development and support for teaching processes at the university.

The survey was conducted in May 2020, when distance learning had only just begun. The survey was based on a common nationwide questionnaire template. The survey included questions about the effects of distance learning, exceptional teaching conditions during COVID-19, and social relationships.

The survey was conducted with the Webropol survey via an open link. In total, 1,298 Bachelor's or Master's degree students responded to the survey, making the total response rate about 14% out of a total of 9,000 students. However, as the survey is sent as an open link, it is difficult to estimate the exact total number.

3.2.2 Annual Student Barometer Survey

Turku UAS organizes an annual student barometer survey. The survey has been used since 2002 and is sent to all students as a Webropol survey and sent to each student by email. The student barometer survey is conducted every year at the turn of January and February.

The survey data presented in this paper was collected in the surveys conducted in February 2020 and 2021. It contains questions related to teaching, guidance, feedback and support services received by the students. Since 2019, a personal answer link has been used in the student barometer survey. This means that the students' background information of the respondent, e. g. gender, age and field of education have been entered into the Webropol system. In 2021, the questions of the national remote learning survey were added to the student barometer as a new section to give a better understanding of how the prolonged distance learning during the pandemic may affect the students. This survey also included the open answer question that was used in the qualitative research part of this study.

In 2020, the number of respondents was 2,996 and 2021 the total number was almost the same with 2,934 degree programme students responding to the survey, making the total response rate 34% in 2020 and 35% in 2021 (Table 1).

Table 1: Description of data set and total number of respondents

Data set	*2020*	*2021*
National Remote Learning Survey	1,298	*Remote Learning Survey included in Annual Student Barometer Survey*
Annual Student Barometer Survey	2,996	2,934
Total	**4,294**	**2,934**

Turku UAS offers education in four fields of study and altogether in over 70 degree programmes in both Bachelor and Master level. Data was collected from all Bachelor level degrees in all study fields. Figure 2 shows the distribution of all respondents (n=1280, 2020; n=2932, 2021) by field of study before processing the data.

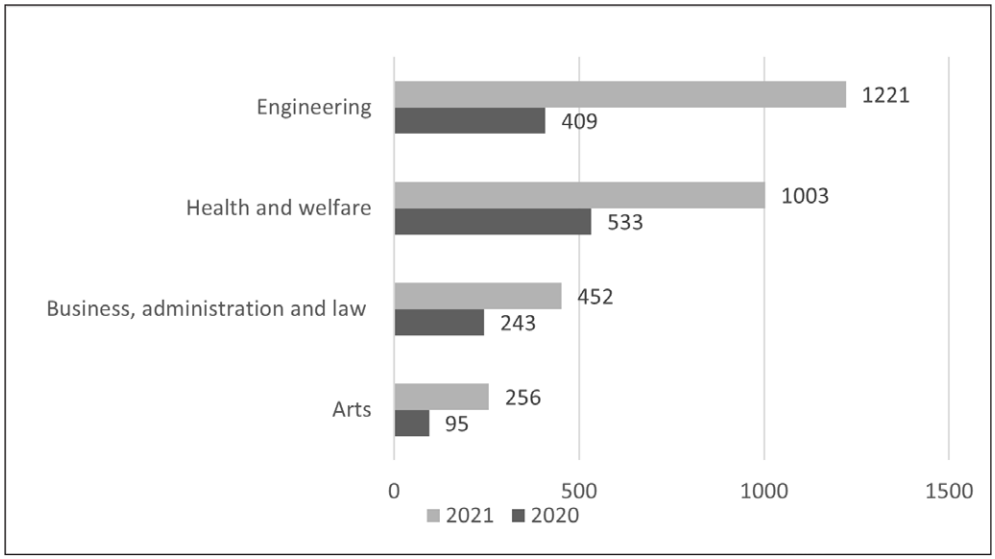

Figure 2: All respondents by field of education

The following section presents the results of the research, followed by a discussion and conclusion.

4 Results

The study attempts to reveal students' satisfaction level with their studies in transferring to distance learning mode during the pandemic by examining the results of an annual student feedback survey in 2020 and 2021. First, the results of the quantitative analysis of the electronic survey statements in the following themes are presented: General satisfaction; use of technology; quality of education provided; study progress; participating in exams; and participating in practical training. This is followed by the results of the qualitative analysis of the open answers in the following themes: Distance and campus-based teaching; teaching and competence; social relationships; teachers; motivation and focus; IT equipment and systems; stress and mental health; practical training; and graduation.

4.1 Quantitative Analysis

The quantitative analysis gave answers to both research questions by showing the satisfaction of the students with their studies and the differing perceptions. The following Figure 3 and Tables 2–4 present the results in the following themes: general satisfaction, use of technology, quality of education provided, participating in practical training, participating in exams and study progress.

General satisfaction

The general satisfaction level with studying at Turku UAS has increased despite the pandemic. Figure 3 shows the comparison between all years of study in the past three years.

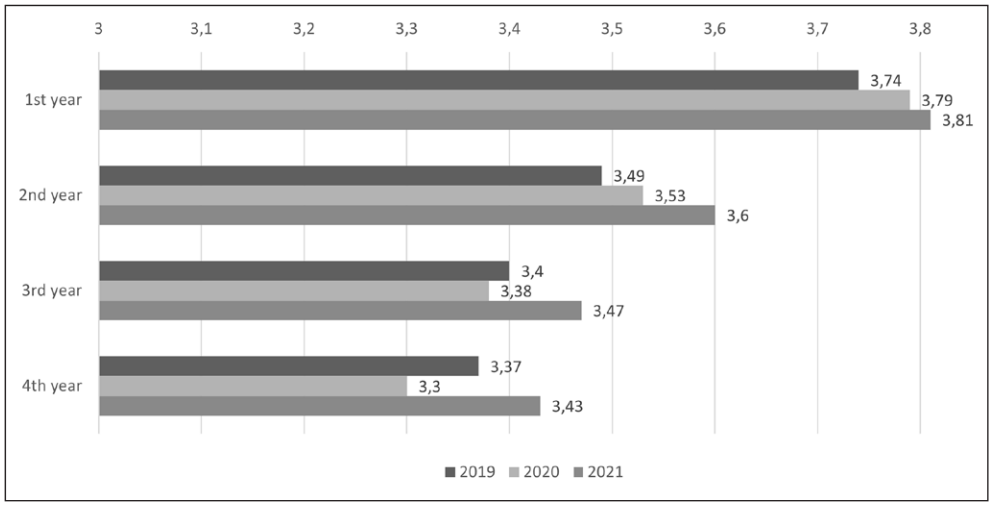

Figure 3: Student satisfaction level with studying at Turku UAS in general according to year of study in 2019–2021

Use of technology

Data shows that students are satisfied with the technology but dissatisfied with the quality (significance level p<0,001) in the transferring to distance studying. According to results, 68 percent of those who felt the use of technology was performing well, felt that the quality in distance studying was getting worse. This group represents 32 percent of the total number of respondents. (Table 2)

Table 2: Overall satisfaction level in terms of quality and use of technology during transition to distance studying

			Subjective experience on the use of technology in distance studying			**Total**
			Very weak – weak	Well	Excellent	
Quality during transition to distance studying	Worse	Count	300	859	105	1264
		%	23,7%	68,0%	8,3%	100,0%
	No change	Count	92	952	212	1256
		%	7,3%	75,8%	16,9%	100,0%
	Better	Count	13	106	64	183
		%	7,1%	57,9%	35,0%	100,0%
Total		Count	405	1917	381	2703
		%	15,0%	70,9%	14,1%	100,0%

*According to Chi-Square tests the connection between the variables is significant (p<0,01)

Study progress

Data shows that students' subjective experience of their study progress in the transition to distance studying is that 33,5 percent of first year students felt that COVID-19 had a very low effect on their study progress in the entire data set, whereas the corresponding figure for fourth year students is 18,6 percent. From all the students (N=2584) the majority, 77 percent, experienced low or very low effects on their study progress (Table 3).

Table 3: Year of study by the subjective effect of COVID-19 on study progress

			Subjective experience of COVID-19 effect on study progress				**Total**
			Very Low	Low	High	Very High	
Year of study	1st year	Count	279	414	96	44	833
		%	33,5%	49,7%	11,5%	5,3%	100,0%
	2nd year	Count	260	419	108	66	853
		%	30,5%	49,1%	12,7%	7,7%	100,0%
	3rd year	Count	181	275	100	57	613
		%	29,5%	44,9%	16,3%	9,3%	100,0%
	4th year	Count	53	108	68	56	285
		%	18,6%	37,9%	23,9%	19,6%	100,0%
Total		Count	773	1216	372	223	2584
		%	29,9%	47,1%	14,4%	8,6%	100,0%

*According to Chi-Square tests the connection between the variables is significant ($p<0,01$)

Exams

According to data, students' subjective experience of performing exams 14 percent of first year students felt that COVID-19 had a very low effect on performing exams in the entire data set, whereas 17,2 percent of second year students felt that it has a high effect. In overall, most of the students answered that COVID-19 had very low or low effect on performing exams, total 63,3 percent. There's notable difference compared to previous question concerning study progress (Table 4).

Table 4: Year of study by the subjective effect of COVID-19 on performing exams

			Subjective experience of COVID-19 effect on performing exams				**Total**
			Very Low	Low	High	Very High	
Year of study	1st year	Count	118	439	196	89	842
		%	14,0%	52,1%	23,3%	10,6%	100,0%
	2nd year	Count	142	366	208	110	826
		%	17,2%	44,3%	25,2%	13,3%	100,0%
	3rd year	Count	76	264	116	81	537
		%	14,2%	49,2%	21,6%	15,1%	100,0%
	4th year	Count	21	102	61	25	209
		%	10,0%	48,8%	29,2%	12,0%	100,0%
Total		Count	357	1171	581	305	2414
		%	14,8%	48,5%	24,1%	12,6%	100,0%

*According to Chi-Square tests the connection between the variables is significant ($p<0,01$)

Practical Training

According to data, students' subjective experience of performing practical training 54,4 percent of the first-year students felt that COVID-19 had a very high or high effect on performing practical training, and the trend is the same among other students. Compared to previous COVID-19 questions the subjective experience of performing practical training has the most considerable effect on students' education (Table 5).

Table 5: Year of study by subjective effect of COVID-19 on performing practical training

			Subjective experience of COVID-19 effect on performing practical training				**Total**
			Very Low	Low	High	Very High	
Year of study	1st year	Count	81	233	248	127	689
		%	11,8%	33,8%	36,0%	18,4%	100,0%
	2nd year	Count	80	245	248	204	777
		%	10,3%	31,5%	31,9%	26,3%	100,0%
	3rd year	Count	68	199	163	161	591
		%	11,5%	33,7%	27,6%	27,2%	100,0%
	4th year	Count	28	75	67	80	250
		%	11,2%	30,0%	26,8%	32,0%	100,0%
Total		Count	257	752	726	572	2307
		%	11,1%	32,6%	31,5%	24,8%	100,0%

*According to Chi-Square tests the connection between the variables is significant ($p<0,01$)

4.2 Qualitative Analysis

The qualitative analysis gave further information to the research questions regarding the satisfaction of the students with their studies and the differing perceptions in the different study years.

The open answers given by students (n=801) gave many concrete examples and suggestions for development in open answers to verbalise their satisfaction or dissatisfaction in different themes. However, eight prioritised themes according to year of study were identified after the word analysis using the text mining. The groups include both satisfied and dissatisfied students. Table 6 shows the themes according to year of study.

Table 6: Prioritised themes from word analysis according to year of study

Prioritised themes	**1st year**	**2nd year**	**3rd year**	**4th year**
Distance and campus-based teaching	1.	2.	2.	2.
Teaching and competence	2.	1.	1.	3.
Social relationships	3.	4.	5.	6.
Teachers	4.	3.	4.	5.
Motivation and focus	5.	5.	6.	–
IT equipment and systems	6.	6.	7.	8.
Stress and mental health	7.	8.	–	7.
Practical training	8.	7.	3.	1.
Graduation	–	–	8.	4.

Further explanations to the identified themes were sought by examining open answers for the different year groups, as there seemed to have been some differences in their satisfaction levels and priorities.

First Year Students

In general, first year students felt they don't really know what studying in higher education is like. Distance learning is an equally new situation and therefore it is difficult to know whether the challenges are caused by not being familiar with HE studies or distance studies. The study workload was experienced to be heavy by some during the distance learning, but nevertheless, they had difficulties concentrating on studying in distance

classes. Mobile phone was mentioned as a tempting distraction in working from home. Another disturbing factor mentioned was the teachers' lack of technical competence in using tools, such as Zoom or Teams, which resulted in lack of intensity in class. They also mentioned that teachers seemed stressed, which caused dissatisfaction amongst students.

Still, some of the first-year students stated that they enjoyed studying online, and distance studies suited their life situation well. There were also some students who were studying in a fully online degree programmes and for them the distance situation was as expected and a positive experience. Many students also expressed a wish for continued good practices post-COVID, such as use of lecture recordings.

Second Year Students

Second year students seemed to have experienced group work stronger than other year groups, as this was a new theme that appeared only in their open answers. Some students felt that it was difficult to work in multiple new groups online and trying to fit together multiple schedules, personalities or methods without proper support. They also mentioned that they were in close contact with their friends despite the pandemic, so it would have been easier to work in familiar groups rather than trying to get to know new ones. This was further complicated by the lack of shared practices, platforms, and communication channels amongst teachers. Some students also felt that there was pressure for students from the university not to contact the teachers, as they were experiencing a heavy workload already due to the pandemic measures.

Second year students were more concerned about acquiring the professional skills required for their practically oriented work and expressed a wish for more emphasis on practical skills during studies. Although studies progressed during the pandemic, it was felt to be more focused on theoretical than practical orientation. There seemed to be too much of a focus on independent studies and students taking too large of a responsibility of their own learning. Nevertheless, some second-year students stated, similar to first year, that they preferred online studies to what they called normal studies and mentioned they felt more motivated and were able to study independently. This was not the view of all, as some complained about lack of motivation as studying from home seemed to have multiple effects, including varying sleep patterns.

There were some mentions about the hybrid model, and how students would be able to respond to the expectations of studying on campus or online, depending on each teacher's and course's requirements. Many students felt hybrid was more stressful as there may be a mix of campus and online activities in the same day, which requires a lot of physical arrangements from the student. They also found it surprising that teachers would have the power to decide how their classes would be held, instead of following one common policy during the pandemic.

Third Year Students

For third year students, a common theme was practical training, which was heavily impacted by the pandemic. Things mentioned included difficulty finding placements, lack of guidance, lack of shared practices and difficulty completing studies because of incomplete practical training period. This seemed to have caused feelings of inequality amongst students from different backgrounds and varying levels of work experience. In addition, students lacked confidence in their own professional skills, and coping in working life with the skills acquired thus far. This was felt to be caused by the distance learning and not being able to follow the teaching as well as hoped. Similar to second year students, they felt that more responsibility was placed on the students to learn and complete the excessive amounts of homework, and there was a feeling that teachers expected students to dedicate more hours to studying than before the pandemic. Some students also complained about the lack of motivation and wellbeing, even if the actual transfer to distance mode was smooth. Some commented on the difficulty of separating school from free time and the line between home and school became too blurred, a view shared by especially first year students. This view was opposed by some who felt that, like first year, some courses could be offered online even after the pandemic.

Third year students made some comments on the quality of teaching, as they possibly felt they had had experience of studying prior to the pandemic to give a point of comparison. Some students felt that the quality of teaching had decreased significantly, but it was focused on specific teachers, not the entire study programme. Dissatisfaction also seemed to be related to the lack of contact teaching and excessive use of independent study materials that led to the feeling of not learning or preparing for profession. Some commented that the quality had only gotten worse from an already poor quality during the pandemic. Some comments were made to poorly designed courses without proper objectives. Students felt empathy towards teachers and understood that not everything could be done during the exceptional circumstances but still the wish was to have the teachers use technology in a more competent manner. Specific mentions included using several platforms and not having clear guidelines for the purpose and use of each, and this was a theme that came up in all year groups 1–3. They also commented that teachers were difficult to reach, something that was also mentioned by the second-year students.

Fourth Year Students

The open answers from fourth year students highlighted the importance of practical training and thesis work. The difference to third year answers was that the students seem to be aware of the effects of prolonged completion of the practical training to study progress. There were also answers from students who were near completion of the entire degree and only had thesis to complete, and both these groups commented on having to create new schedules and plans for graduation, which took a mental toll on them and also created some feelings of injustice. Some comments were also made by those who had children,

where studying at home became more difficult after the children's schools were closed because of the pandemic and they were also in the distance learning mode.

Next, the implications of students' experiences to teaching are discussed. Also, through the students' eyes and experiences, an interesting insight into teachers' attitudes, behaviour and actions towards students is gained.

5 Discussion

The results revealed a high need from students to university-wide shared, common practices in terms of planning and implementation of teaching. The same need was strongly expressed for the use of platforms, where shared guidelines could facilitate learning. In addition, several interesting categories were found from the open answers, ranging from poor quality of teaching, inadequate utilisation of educational technology and lack of joint planning in teaching teams to aspects of inequality in learning, feelings of isolation and lack of motivation.

It was interesting to note that the general satisfaction level with studying at Turku UAS has increased despite the pandemic. This may be because various actions have been put in place following the student feedback already in the pre-pandemic time. For example, university-level development actions for offering all services online were created for fully online degree programmes, and it is possible that these facilitated the pandemic operations but were not fully utilised by those students who are not used to using those services online. One possible interpretation is also that after the first year of pandemic (2020), students felt that it is possible to continue studies even if the implementation is online. An important finding is that the first-year students found it difficult to know what the so-called normalcy in higher education would be and therefore had no point of comparison. Many students also reported the positive effects of the distance learning, such as more time for studying through absence of commuting or blended study mode, being able to focus better or use online study materials, such as recordings. It is also an interesting thought to consider how much the implementation of the new online learning environment and its features may show in the results of especially the new students, who have no prior experience of the old system, which was felt not to be fully utilised.

It is important to note that some students felt their wellbeing suffered despite a smooth transfer to distance mode, and expressed lack of social contacts, difficulties in life management, low study motivation or increased workload. This indicates that even in the situation where the education and services are well designed for the context and mode, it is still important to provide support for emotional and mental wellbeing of students. Another worrying finding was related to feelings of inequality amongst students, which was felt in different situations and contexts, and this indicates that more efforts should be placed in ensuring inclusive and equal education. Reunanen and Taatila (2021) suggest

that student satisfaction is linked to teachers' felt justice. It is interesting to speculate how much the teachers' feelings during the pandemic may have influenced the student' feelings of fairness and quality, as Damşa et al. (2021) mention the stress levels of the pandemic on individual teachers. Another interesting comparison can be made in terms of being heard, which according to Reunanen and Taatila (2021) is one factor for feeling of fair treatment, and in our study the students expressed difficulties in reaching the teachers, which could in turn enhance the feeling of isolation and feelings of unfairness. This feeling of isolation may be reflected also in the blurred line between home and school. These should be considered in planning teaching that supports the inclusive and fair treatment and enables students to create a sensible schedule between study, work, and personal life.

The results show that the first-year students felt that COVID-19 had a very low effect on their study progress in the entire data set, whereas it seemed to increase in the older year groups. Although it seems that the effect of COVID-19 on study progress overall was relatively low, for those who felt the effect, it was significant. In the open answers, the students commented that although studies progressed during the pandemic, some courses were poorly designed without proper objectives or sufficient contact teaching, and there was a lack of practical element to the studies, which led to the feeling that their professional skills were not developed adequately during the pandemic. These results confirm the findings of Eteokleous & Neophytou (2019) who suggest that teachers need guidance and training in giving the students a quality study experience of interaction and collaboration in the distance learning mode. These findings confirm the need for the guidelines for teachers that will be created as a result of this study.

The lack of practical element in courses also influenced their practical training, where they expressed a feeling of incompetence due to lack of skills. When looking at the results for effects of COVID-19 on practical training, there seems to be a difference between year groups where second to fourth year students seem to have felt the effect of COVID-19 more than first year students. This may be related to the normal curriculum cycle where first year students don't tend to take practical training yet, but in the second year it is already part of many students' curricula. It is also important to note the flexible curricula practices in the local context of this study that extend to practical training, too, where students are encouraged to create individual study paths that are discussed and agreed with teacher tutors in personal development discussions. The strong need expressed for shared practices in practical training may reflect the fact that in the local context currently there are no university-wide shared guidelines, which may translate into feelings of unfairness and frustration, which highlights the importance of the guidelines created from the results of this study. Another interpretation is that the effect may be more severe for third- and fourth-year students as they may be dependent on the completion of the practical training for their planned graduation time. Skaniakos et al. (2019) found that it might be useful to focus on supporting those progressing slower, which may be something beneficial to be applied in the distance and hybrid learning mode, too.

According to results, great majority of students felt that the technology was used well, but quality is lacking, thus quality does not necessarily increase with the use of technology. This gives us the interpretation that when the technology doesn't work, the blame is put on the technology, but when the technology works, the lack of quality is related to something else: possibly lack of competent or suitable application of it. It seems we have the relevant educational technology but there is inadequate utilisation. Therefore, our findings support those of Liesa-Orús et al. (2020) and Damşa et al. (2021) of the need to integrate technology and pedagogical approach in the educational organization and training teachers in the pedagogical use of technology, an aspect especially relevant for the local context, where the entire university follows one pedagogical strategy. Another possible answer to the results is that students may have varying levels of technical skills, which may translate to their feelings of weak use of technology or decreased quality. One solution already implemented at Turku UAS is a course DigiStart, which enables students to get used to ways of working and tools used for studying already before starting their studies. However, more ways should be found to support students' competences in the use of technology, and one possibility could be to create a guide for students to follow the guide for teachers created as a result of this study.

In terms of performing exams, the results show that older year groups felt the impact of COVID-19 on their exam performance more than first year. This can be interpreted as a contextual matter in terms of study year, as the first-year students are not used to the study and exam methods of the university yet, and the older students' expectations may be higher in terms of teachers implementing certain types of exams in a particular manner. This follows the findings of Grabowski et al. (2016) regarding first year students' culture shock, and their conclusion of making informed decisions regarding teaching and assessment strategies. It is important to support teachers in using various forms of assessment, where exams and e-exams are just one form of assessing students' competence and progress. It is equally important to train students in the assessment methods of the university and inform them of the criteria to fulfil their expectations and thus achieve the desired satisfaction and quality level.

6 Conclusion and Recommendations

This paper presents a case from Turku University of Applied Sciences, Finland. Mixed methods were used to examine the results of an annual student feedback survey in 2020 and 2021 conducted with all currently enrolled students that focused on their experiences distance learning during COVID-19 and their level of satisfaction to studies when transferring to distance teaching mode.

The results highlight the importance of taking student feedback into consideration when developing the teaching in the post-pandemic era. Also, the study reveals the positive and negative student experiences of the actions in individual teacher and university level. The results will be used to create university-wide guidelines to support teachers design quality teaching, materials, and guidance in moving towards hybrid education. One interesting possibility is to extend the guide for students to benefit the entire community.

Specific recommendations

The following themes can be found from the results and are recommended for consideration when creating university-wide guidelines for distance learning using student feedback collected during COVID-19 pandemic. The themes are divided into two parts based on the evidence found in this study: 1. Planning of teaching and 2. Supporting the students. It is important to note that these are reflected in the selected mode of teaching and learning, which may in the future be a combination of campus-based, hybrid and online modes.

1. Planning of teaching in the selected mode of teaching (campus, hybrid, online) in terms of:

    a) teacher's workload, training possibilities and wellbeing

    b) common policy for implementation of teaching

    c) clear guidelines and jointly created timetables for the degree programme

    d) course design and objectives support the selected mode of teaching

    e) pedagogical use of technology in design and implementation of teaching

    f) purposeful selection of online platforms and clear guidelines for their use

    g) shared practices, platforms, and communication channels amongst teacher teams

    h) equal treatment, access, and support to all students

    i) utilisation of various forms of assessment

    j) shared practices for practical training

2. Supporting students in the selected mode of study (campus, hybrid, online) in terms of:
    a) students' emotional, mental, and social wellbeing
    b) balanced workload, clear scheduling, and motivation
    c) specific needs of each year of study and curriculum
    d) pedagogical approaches and technical solutions
    e) acquisition of practical skills
    f) easy and open communication channels to reach teachers
    g) group work and collaboration
    h) specific needs of slower study progress

All in all, it can be concluded that student feedback is essential in developing the quality of teaching and finding new solutions for education in the post-pandemic higher education. These results show that the experiences and feelings are supportive of a multitude of teaching modes, including online, campus-based and hybrid modes, provided that it is well designed, used by competent staff and sufficient support for motivating studies is offered in purposefully selected environments.

It is important to note that these results reflect the experiences of students in the context of one university of applied sciences in Finland, and therefore the results may not be directly transferrable into different national or local contexts. However, the process of collecting the feedback and using it to create university-wide guidelines can be adopted to find the guidelines that are relevant in that context. Also, since the results seem to support the findings in the literature, it seems that challenges and solutions are shared across borders and boundaries.

In the future, it would be interesting to compare the student feedback between different countries to find out if these experiences are shared between students of applied sciences across national or cultural boundaries, or do differences exist perhaps due to national higher education or curriculum structures. Also, as this research focused on applied university context, it would be interesting to see how the results compare to science universities and what kind of solutions and shared practices can be found. Also, another future research possibility could be to compare the student feedback against staff feedback and find shared challenges and create solutions for the entire higher education community. Finally, it would be important to further research the effect of low motivation and lack of social contacts on study progress and student wellbeing.

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