Developing a Digital Learning Community: How a Campus Lockdown Made Us Rethink Our Teaching

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Abstract

Norwegian universities cancelled all campus activity as a response to a nationwide increase in Covid-19 cases. Lectures were moved to online platforms. The pandemic regulations forced us to redesign our teaching for a group of adult learners at the vocational lecturer education. Moving away from traditional lectures and discussion seminars, we designed new collaborative 'work packages' accompanied with various practical tasks. Our analysis is based on our teaching material, written student feedback and in-depth interviews. A combination of asynchronous teaching, collaborative groups and online meetings with supervisors created a confidence-building learning community and a safe learning environment. The study shows how students mastered the situation during a national lockdown and took responsibility for their own progress in the course. In the discussion, we highlight how an active two-way communication can foster an online learning community that has a positive impact on students' learning experiences, and how our strategies led to student empowerment.

Introduction

The purpose of this article is to communicate lessons learned from having to digitalize all of our teaching due to Covid-19 regulations. Although debates on digital learning have been around for a long time (Warshauer, 2007), implementing digital teaching at the university level has had a slow development (Langseth et al., 2018). Tømte et al. (2019) discuss how the processes of digitalization are influenced by broader governance arrangements, institutional maturity and academic and administrative staffs. Recent discussions highlight how this has changed as schools and universities have shut down across the globe (Li & Lalani, 2020). National digitalisation strategies for Norwegian universities have tended to be top-down (Ministry of Education and Research, 2018), and somewhat technology-positive without offering specific solutions to how digitalisation can or should work in practice. This might have contributed to lecturers' reluctance to implement new ways of teaching, as digital platforms and tools are available but not essential for everyday teaching on campus. There is a high degree of academic freedom in Norway due to historical factors that are protected by strong unions (The Norwegian Association of Researchers, 2017). Digital tools have been used for years, and all courses at the

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Norwegian University of Science and Technology (NTNU) use a digital platform called BlackBoard (2020). BlackBoard is an online learning system consisting of virtual classrooms and mobile learning. Regardless, physical classroom interactions have been the preferred format at the university. Although international trends are pushing the Nordic countries closer to accepting international standards of quality measures (Education at a Glance, 2019), pedagogues and educational researchers oppose some of the presumptions associated with such a paradigm (Nielsen & Klitmøller, 2017). It is probably not a coincidence that the implementation of terms such as 'effective learning' generate debate in Norway, a country where the whole idea of a free public educational system is to ensure the whole population access to knowledge, democratic values and equity in all parts of society. Most lecturers are value-oriented towards these social democratic ideals that make them focus on inclusive teaching and students' learning as part of an emancipating process (Biesta, 2009), and all tools, whether digital or analogue, are simply understood as means to ensure students' learning.

The ongoing corona virus pandemic has now created new challenges for university lecturers, as they are forced to digitalise their classes. In Norway, a mandatory closure of all kindergartens, schools, colleges and universities took place in March 2020 (Christensen & Lægreid, 2020). Many campuses were closed, either by the universities themselves or by national or local governments attempting to prevent the spread of Covid-19 in society. Whereas we might presume that university lecturers like to consider themselves to be sufficiently digitally competent, the dramatic changes from classroom interaction to online platforms reveal a need to reflect on the purpose and effects of the normal learning setting, as well as look to the possibilities and limitations that come with online classes. It is critical that lecturers actively facilitate tasks so that students can witness scholarly thinking in action (Andersen, 2017). Our experience is that a lecturer cannot simply record their traditional lectures and hope for the best learning outcome for the students, as students need to engage with others in the same situation to discuss and make the teaching relevant for themselves.

The research question for this article is: *How can a digital learning community ensure a positive learning environment?* We are also interested in highlighting how we as university lecturers can work to ensure that students remain engaged in their studies in a time of crisis. In order to answer this question, we report from our module at the NTNU. Our case study is from the vocational teacher education, which builds on the students' vocational competence and work experience. The vocational teacher education is interdisciplinary consisting of students from the subject areas 'health and upbringing', 'electrical engineering', 'building and construction engineering', 'technical and industrial production' and 'restaurant and foods'. This university course this research is based on is taught during the second semester of a bachelor's degree. The vocational teacher education is gathering-based, consisting of adult learners. This semester was special for both lecturers and students, which in retrospect gave us a unique possibility to reflect upon our own educational values and different techniques to ensure good learning outcomes for our students in digital collaborative communities.

An Ambitious Course

At our university, every module has a description stating what types of learning outcomes the students are expected to have achieved after completing the module. They are separated by three categories: knowledge, skills and general competence. These descriptions form the basis for all learning activities that lecturers must follow when designing the course content. This is part of the evaluation system and ensures coherence and transparency for all parties involved in a course. At the same time, these descriptions may be perceived as written in an ambitious language, containing goals that are difficult to measure, which makes it difficult to establish whether or not learners have succeeded in accomplishing them. Nonetheless, they are ideally the main

framework to strive for, as the university should ensure high quality in its education and organisation. The course description for our module, amongst other things, states that the students should '*have knowledge of the concepts of knowledge, learning and education and how different approaches to these concepts have an impact on education and teacher professionalism*' (NTNU, 2020). They should also be able to '*reflect upon and express themselves on various issues related to knowledge, learning and education and participate in professional conversations and conduct professional reasoning about pedagogical practice*'. As for the more general competences, the course description states that the students should be able to '*analyse and relate critically to research in order to be able to apply this knowledge in the development of one's own professional practice*'. Even before we experienced a closed campus and transitioned to online teaching, we found the description to be very ambitious on the students' behalf. Our experiences as vocational teacher educators have shown us that this student group can struggle when presented with pedagogical theories that are not easily translatable into their own practices or experiences in the vocational profession (Tyson, 2016). This might be because they first and foremost have tacit knowledge from their vocational background (Polany, 2009). As university teachers, we need to take their practical background into account when designing the learning activities.

Presentation of Case

The class we report from in this article was taught at the vocational teacher education in the first semester of 2020. *Knowledge, Learning and Education in Teacher Profession* is an obligatory 101-class for all teacher students at NTNU (2020). It is taught in programme-specific groups, totalling around 500 students per semester. Our class consisted of 24 students from the vocational teacher education in the first year of their studies. The vocational teacher training students normally participate in three intensive 5-day gatherings per semester on campus. The closing of campus meant that only one of these gatherings was carried out physically. Therefore, normal activities for our on-campus-gatherings (i.e. lectures and workshops) were changed to digital learning activities, which we named 'work packages' (see Table 1 below). Compared to other students attending the same course, our students are significantly older, ranging from the age of 35 to 60. With a background in vocational professions, they often embark on their university degree after several years of working as professional practitioners. Their knowledge is based on practice and therefore many struggle with the academic demands of reading and writing complex academic texts, especially if it is not contextualised through their experience as practicing professionals and vocational teachers. Given that this specific course is standardised across student groups, our students have the same curriculum and the same written 6-hour exam at the end of the semester as the other approximately 500 students. Hence, we have little influence on the overall framework of the course content, and therefore our job as lecturers is to ensure that our students are well-prepared for the written exam at the end of the semester. As we see it, our job is to adapt the teaching to the specific group so that they are motivated to learn on their own terms. The loss of in-person lectures forced us to move the learning community we planned to develop on campus to a digital learning arena. The vocational teachers' need for a practical and reflective pedagogy generated a learning community where we rather facilitated and aided further development of the practical knowledge and experiences that our students had already acquired. Situated learning theory entails that you also learn in the context where you participate together with others in a learning situation (Lave & Wenger, 1991). By focusing on the students' prior experiences with learning situations, our new course design focused on taking something familiar and translating it in a new context to facilitate learning and development, asking ourselves how we could facilitate a digital learning community. In short, how to achieve student assertiveness and empowerment.

Reflective Pedagogy

Our basis of theory is informed by a critical and reflective pedagogy (Brookfield, 2017), emphasising the practical aspects of teaching and learning (Merriam & Baumgartner, 2020; Schön, 1987; 1991), and learning resources outside of the current educational system (Nilsen & Kvale, 2005). Critical reflection is the sustained and intentional process of identifying and checking the accuracy and validity of our teaching assumptions (Brookfield, 2017). We strongly believe in the value of students' experiences and knowledge, as well as collaboration as a practical and social way of learning. Through this pedagogical development project, we as lecturers are able to learn from our students' experiences concerning our teaching strategies, and about the students' self-governed responses. Most theories of recognition assume that in order to develop a practical identity, a person fundamentally depends on the feedback of other subjects (and of society as a whole) (Iser, 2019). According to this view, those who fail to experience adequate recognition, i.e. those who are depicted by surrounding others or societal norms and values in a one-sided or negative way, will find it much harder to embrace themselves and their projects as valuable (Iser, 2019). We believe that the connection between experience, shared reflection and group collaboration is a key to facilitating learning, be it digital or analogue.

Research Methods

Our research design was implemented before we knew about the forthcoming world pandemic. We initially set forth a research plan to track our own work in the newly designed course at the Department of Teacher Education. Hence the interview guide did not originally include questions related to digital teaching and focused on acknowledgement of prior competence and the experiences of being an adult learner in academia (see Appendix A). By employing a combination of qualitative methods (Denzin & Lincoln, 2011), we wanted to track our teaching and the students' progress by focusing on their experiences as new students. Our experience with similar student groups is that many struggle during their first year, as they are met by an academic culture (Dyste, 2002; Lisewski, 2020) remote from their everyday world of working either as vocational professionals, or in some cases already as teachers at schools (Loeb & Gustavsson, 2019). The module that is the subject of our study is standardised for all teacher students at the teacher education department, meaning that it is not designed with the vocational teacher training student group in mind. We wanted to compare different types of data collected through the semester, employing multiple qualitative methods (Biesta, 2010). The purpose of the research design is to enhance the students' voices, allowing us to further develop the course design in order to encourage students to be active learners and not mere receptacles of learning content (Anderson, 2017). To answer the research question, we have in the analysis of students' experiences chosen to combine written accounts with statements from our questionnaire to ensure a broad basis for the study, as well as ensure anonymity for our informants.

The study is registered at the Norwegian ethics committee (NSD) and follows international standards in ethical research. The students were all informed about our study at the beginning of the semester, and participation in our research project was voluntary. Even though we asked for critical feedback, there were few comments with negative remarks, which might indicate that those who struggled with the curriculum found it difficult to come forward. At the same time, our general impression of the class was that they were very candid about curriculum-related issues as well as situations on the home front as a consequence of the national lockdown. This has led us to conclude that the data material is representative of how the student group experienced the module and the Covid-19 situation, as well as the digital learning process. The data in this study includes: a) Semi-structured in-depth interviews with a selection of voluntary students (see Appendix A); b) the teaching team's own

evaluation and reflection notes; c) unstructured conversations with students during and after classes; d) written feedback from the students at the end of the semester via questionnaire (see Appendix B).

Four students volunteered for in-depth interviews. In addition, twelve students gave written feedback on a digital and anonymous questionnaire, while three groups sent their joint course evaluation to the lecturers. Students were asked to reflect upon how they had experienced their contact with the university over the past year, any particular challenges, and what they had experienced as positive. We asked if and how the module helped them prepare to become vocational teachers and whether they felt the content and organisation was appropriate to their particular context. Lastly, we asked if they saw a need to adjust strategies or the course content for the following semesters. The combination of data provides a broad perspective of the student group and their reflections and actions, showing the effects of our new strategy for teaching through a digital learning arena.

A key aspect of our research design is to include students' narratives through interviews and written feedback. This was employed to record how we meet them as lecturers, how they experience the group learning tasks and how they perceive the academic requirements at the university. Using Nvivo, the data was transcribed, thematically analysed (Terry et al., 2017) and coded into several main themes, of which three have been chosen here to highlight how, considering the Covid-19 pandemic regulations, students experienced the digitalised teaching. Two researchers together coded and categorised the interview data and written accounts to identify relevant themes (Saldaña, 2021). In the following analysis, we have first included a section describing our new measures for digitalising the course. This section is based on the course material, lecturers' notes and reflections, which was analysed manually through a reflective process (Rayan, 2013; Moon, 2006). Subsequently, we present students' experiences focusing on student-teacher communication, academic demands and culture as well as group collaboration and empowerment.

The New Teaching Plan

Here, we present our new teaching plan and describe how we designed the new module by making work packages (Table 1) accompanied by specific activities and explicit descriptions of their purpose. The students were free to choose how to solve the tasks in collaboration with each other. The students were assigned to eight separate work groups of three to four partners and were asked to contact us if anyone failed to contribute to the group's work and progress. This, however, did not appear to be an issue, as no students reached out to us about changing the group constellations. The group composition was decided by us, the lecturers, to ensure interdisciplinary collaboration. We actively utilised the interdisciplinarity of our vocational teacher students in student discussions about the teacher's social mandate and different views of knowledge in education and society. The way the course was taught manifested this vocational pedagogical interdisciplinarity.

In this specific module, the syllabus and course description are standardised, and the module is mandatory for all teacher students. The teaching, however, must be tailored to the various student groups. This may present a challenge as our vocational teacher-training students approach their 6-hour written home exam, during which they face a standardised text aimed at all of the 500 candidates. Thus, this creates a possible discrepancy for our students.

Upon the introduction of the new teaching plan, the students were informed that eight work packages (Table 1) replaced the existing plan. They were advised to start collaborating within their designated workgroups as soon as possible, and they were allowed to use their preferred digital platform. This allowed the students to

pursue their studies without being restricted by the schedule of others. We treated class assemblies as a luxury to be used at our discretion. Digital meetings with all of the groups were only conducted when the new plan was distributed and at the end of the semester. This meant more flexibility for those of our students who found themselves in difficult life situations; due to the pandemic regulations, many were at home with their children for large parts of the semester. In addition, the students who worked in healthcare and other critical societal functions had to work double shifts. This made student follow-ups more complicated as the various groups differed in progress. We solved this by asking students to check in with us if they had any issues or questions throughout the semester. Consequently, lecturers and students engaged in an ongoing process of guidance and evaluation. Some chose to upload their work to the shared platform, while others sent short messages, links to their written work or established interactive blogs.

The renewed semester plan shows how we designed the learning activities. Table 1 shows how we operationalised the teaching plan, separating themes, activities and most importantly, a section showing the purpose of the activities. The first gathering covers several themes, as well as various activities. The purpose of these were added to the semester plan after the work packages had been designed. Only two of the activities were mandatory (Work requirement 1 and Work package 8). All other learning activities were voluntary; they were constructed to facilitate and organise learning to meet the standardised requirements of the module as well as to act as a replacement for the on-campus teaching. We signalised that the work packages were relevant tasks to prepare for the exam at the end of the semester.

In the official message to the students, we stated the following:

> 'A work package is a preparation for the exam where we as supervisors have the opportunity to identify the need for supervision, and guide you based on your work progress and answers. This also gives you, as students, an opportunity to get acquainted with the syllabus and learn new study techniques. We are aware that you are a diverse student group with different prerequisites, and the exercises are intended to embrace this diversity. This means that not all group assignments will be perfect for you, but for your partner, it might be exactly what it takes to "crack the academic code."'

The plan was distributed to the students two weeks after the national lockdown on 12 March 2020 – combined with a joint class session which included reflections on how to collaborate digitally in groups. Through such a dialogue we opened for questions, ensured that our 'work packages' were comprehensible, as well as creating a shared awareness of group dynamics and possible pitfalls.

The tasks were meant to give them as much flexibility as possible. Some students chose to continue using the official university platform, BlackBoard, while others moved their communication to other channels such as Facebook Chat, Skype, Teams and Google Docs. This meant that "digitalizing the course" was more about encouraging the students to find their own digital means of communication. This empowered them in their own learning process (Brooks, 2017) as they were fully responsible for the progress of the collaborative group. We made sure to be able to follow the students' progression by being invited into their digital arena. Regardless of their chosen digital collaborative arena, the students were obliged to prepare, present and share their work through the official university digital platform, BlackBoard.

Teaching	Theme (s)	Activity (s)	Purpose
On-campus gathering	Bodily learning	Joint lecture	Introduction to forms of knowledge and physical learning
	Meetings between theoretical learning and practical knowledge: The role of the vocational subjects in society	Joint seminar across study program	Collaboration with other teacher programs, exchange of experience
	The school's social mandate	Work together in pairs	Write a discussion and 'decode' the syllabus
	Learning theories	Collaborate in creating a resource booklet on learning theories	Exercise in making the curriculum available
Work requirement 1	Your own vocation	Write a reflection note with three topics	Exercise in academic writing. Familiarise yourself with the curriculum.
Work package 1	Slow reading	Testing the 'slow reading' technique	Work with developing your study technique. Specialisation in the syllabus.
Work package 2	Follow-up work requirement 1	Group discussion on academic writing	Work systematically with writing and the writing process. Awareness raising and exchange of experience about the writing process and preparation for the exam.
Work package 3	Apprenticeship as a way of learning	Group work	Evaluate and discuss how the vocational subjects contain elements of master's teaching. Apply learning theory in your own reflection.
Work package 4	Science as a dominant form of knowledge	Discussion assignment	Examine and discuss together what evidence-based learning represents.
Work package 5	Formation/Norwegian conceptualisations	Find good references to discuss 'formation'	Work with concepts and text comprehension.

Work package 6	The renewal of education management documents and new curricula	Read and highlight key parts of the management documents	Practice working with national steering documents and assess the content related to your own teaching. Study technique.
Work package 7	Democratic citizenship	Make a group presentation	Practice discussing how to facilitate democratic learning processes.
Work package 8: **Work requirement 2**	Professional ethics	To document your discussion in a suitable way	From the course description: - students can participate in professional conversations and conduct professional reasoning about pedagogical practice - students can reflect on didactic issues in light of the school's values and societal mandate - students can identify ethical issues related to practice - students can reflect on children and young people's learning conditions in education - students can discuss ethical issues related to the teaching profession

Tabel 1. Renewed Semester plan

Student Experiences

In the following section, we present findings from our analysis of the student questionnaire, feedback and in-depth interviews. First, we found that students who felt confident regarding the content and requirements of the work packages described the university lecturers as available and supportive. The following extract represents a student's perception of the lecturer-student communication:

> *'My experiences [as a novice student] the past six months have been dominated by corona, which led to social distancing. This entails a number of challenges, especially with regards to a closeness in teaching that one is usually used to in a normal situation. In this module, the follow-up of the syllabus and plans for the teaching have been quite good. The lecturers have been available when we needed help. They have given us quick answers in different platforms.'*

Nonetheless, some express how the defined outcomes in the work packages helped them in relating to and understanding the curriculum:

> '*I find that the syllabus is a bit difficult to understand, the articles are high-flying. But I think the work packages have been more tangible and understandable, so that you teachers build good bridges between the big thoughts and the high-flying reflection [...] And then I think when you sit down and write and relate it to your own practice, it becomes a little more understandable.*'

Another student explains how they found the collaboration with other vocational education teacher training students at the university to be useful, as they share feelings of being challenged by the academic culture:

> '*It's been exciting to start at the university. Having graduated from my vocational program in 2012, it has been a long time since I was in school, which has made it extra challenging in terms of the academic level, theoretical subjects and the technological development that has taken place in recent years. It has been good to meet others with a professional background who feel some of the same feelings as me about being back at school. It has also been nice to meet others of all age groups and make new acquaintances.*'

Further, we find that emphasising learning communities through using collaboration in groups as a framework for learning had a positive effect on the students' experience of the module. Although some describe their entrance into higher education as 'a shock', the written feedback as well as the interviews also provide ample examples of students upholding group learning as a positive experience, while no one described specific downsides. One group wrote: '*There is much good learning through group work and through using different collaboration platforms.*' Another group wrote: '*To work in groups is crucial to ensure various perspectives, and to learn from each other*'. Although several students mention how they feel safe and satisfied, they also mention a loss of community as they are not able to participate in person. While the initial focus of our development project was to investigate possible challenges for vocational teacher students in academia (as evident in the interview guide), the overall data suggest that these students have a positive learning environment. Considering the digitalised group activities, several informants express a sense of community through how they are accepted by their own group members. As one informant says: '*I feel like I have learned to see my experiences in new perspectives. I definitely feel like I've been acknowledged*'. Hence, students express an adequate learning outcome despite learning challenges such as reading and writing in the academic context.

There were only a few meeting points between lecturers and the course participants. The student group was the predominant learning unit and arena. This leads us to believe that small digital learning groups contribute to a sense of empowerment and help create stamina and motivation despite adversity in a demanding module. In the following quote, an informant reflects upon how students learned from discussing in the collaborative group: '*I am a person who benefits greatly from discussing and talking with others. In a way, it was my work strategy when I was younger, too. Through dialogue I have managed to understand things, so I really appreciate a good dialogue and being able to voice my opinions, and especially dare to say something potentially wrong. To find out if you have figured it out...*'

We believe this collaborative effort is a decisive factor for the student's success. Students express that they felt they could share their reflections with others in a safe setting, and trial and error became a tactic to understanding the curricula better. This fosters a study technique where students alternate between arguments, both individually and in a group setting. They were not instructed to find the 'correct' answer, but to see if they

could manage to convey their own thoughts and experiences. We also found that students of different ages and/or backgrounds were able to learn from each other when they had to collaborate in an interdisciplinary environment. The following student participated in a group with a variety of experiences and professional backgrounds:

> 'My group has worked very well together; I was very happy to join a group with [name] and [name]. One of the reasons was that I felt that [Name], who is a little older than me, had a more theoretical understanding. He understood it somewhat differently and was able to convey this [...]. It was I who perhaps felt that I was the one who had the least to offer in the group, but the others were very encouraging and said that I also had a lot to contribute. So we kind of found a very good dynamic from the get-go and had weekly meetings [...]. So, even though we do not have the same vocational background, it was nice to get to know someone else that I have not talked all that much with, and I realised, wow, I have a lot in common with these people.'

We now see that ensuring a positive experience is essential in digital teaching. Maybe even more so when we are unable to meet in person and cannot recognise body language, supportive micro-communication or other aspects of being together in a teaching situation. The following quote illustrates how the learning process is described by a student:

> 'I feel like I have learned a lot about myself and collaboration. I feel that I am good at collaborating, and I do work all the time, but it is a little different when you come to university and have to collaborate on a written work, where I have had to work a little with myself [laughs briefly]. [...] I have received feedback from both lecturers and students on who I am. It is important to be recognised for who you are. I am someone who talks a lot and dominates the room. And while others sometimes find it annoying, I feel like I can be myself.'

We find that the new teaching plan empowered the students and their own study technique. A student learning success can be understood as a result of a positive learning environment. Establishing a new learning community shows us that structured collaboration practices bring quality to our digital teaching. The data shows that our local adaptations and teaching strategies met the needs of this student group, which is a prerequisite for the module to be useful and relevant. Upon the completion of the exam, the vocational teacher training students had a passing rate of 100%. While student feedback was almost exclusively positive, many students reported that the syllabus literature was complicated and difficult to connect to their own everyday lives as a teacher. Nevertheless, their feedback and passing rate give us an indication of an adept combination of teaching of the standardised course description.

Discussion

We believe that the adaptiveness of when and how the students could collaborate, and the shared experience of a new and demanding daily life, were beneficial for developing a learning community. This, combined with our translation of the abstract course plan into specific work packages, created possibilities for a student-driven learning community. While the groups were made independent from each other, the collaborative groups also had to be dynamic and capable. We therefore consider the new semester plan to be student-centred. We emphasise the importance of communicating clarified expectations to student performance in combination with showing a genuine interest in their learning outcome. We experienced that this generated trust from the

students and motivated to accomplish all the 'work packages'. To our surprise, although the semester was significantly altered with several new challenges, student feedback was almost exclusively positive.

We now broaden the view of our study and describe the findings in our local context. Since higher education is considered a common good in the Nordic countries, we have a strong culture of focusing on student learning and collaboration (Government, 2020). Here we call for a more practical and reflective pedagogy in higher education, but must acknowledge that in many cases it is difficult to ensure that good learning takes place (Brookfield, 2017). Academia can be a competitive arena and contains many mechanisms that might inhibit the individual from reaching their full potential. As lecturers of vocational teacher training students, we are confronted with how theoretical knowledge sometimes fails to acknowledge practical skillsets that are valuable in a functioning society. Therefore, we find that in some respects, we must be normative when designing our courses, ensuring possibilities to transfer practical experience into the learning environment (Merriam & Baumgartner, 2020; Nilsen & Kvale, 2005; Schön, 1987; 1991). We found that the connection between experience, shared reflection and group collaboration is a key to facilitating learning, also when digital teaching is the only available solution. Furthermore, we found that recognition embodies motivation. Recognition and recognition theory are at the heart of what happens when people encounter learning (Honneth, 1996). This is also a factor that contributes to a positive learning environment, and in our case a digital learning community. We find by recognising students for what they bring with them and stimulating their zone of proximal development (Vygotsky, 1978), lecturers empower students to overcome the seemingly insurmountable obstacles in the academic context.

Our experience in this specific semester is that we will benefit from continuing to develop digital interactive learning communities. The dialogue with our students tells us that lessons learned from organising the digital learning community can be transferred to in-person campus learning activities.

One of our main findings, however, can be said to relate to the long-established teaching practice of developing the students' agency to achieve their expertise. This embedded tradition, we find, must be made conscious and visible, and maybe even more so when moving the teaching and learning activities to a digital learning arena. Exploiting the flexibility of the standardised course description is vital in order to tailor a semester plan for the vocational teacher students. As university lecturers, we have a freedom in our methods, and although we were unable to change the method and assessment of the exam, or the curriculum, we were able to make choices on behalf of our students.

Conclusion

The purpose of this article is to communicate lessons learned from digitalising our teachings during a transitional time for both lecturers and students. The findings illustrate how a reconstruction of teaching and learning strategies, as well as the creation of a learning community, can ensure a positive learning environment using digital platforms, and how we as university lecturers can facilitate student engagement in times of crisis. In order to achieve a learning community like the one described here, we would like to highlight some key factors based on these experiences:

1. Maintain *a personal and ongoing dialogue* with students throughout the semester and the national lockdowns. Our dialogue consisted of a) checking the groups' progress on the official digital platform

(BlackBoard), b) organising digital meetings with all students attending and c) providing personalised guidance by email, video conference or phone.

2. Translate the abstract course description into a tangible set of *work packages* to create a useful overview of the material for the students. Our work packages encouraged different activities that could contribute to interaction and the exchange of knowledge between students.

3. Enable *the students to freely* decide both how to cooperate digitally, as well as deciding what each learning activity should entail and produce. Our students made interactive blogs, podcasts and various digital presentations that could be shared across the groups.

4. *Encouragement and awareness of group dynamics*. We pre-set the collaborative groups, but the students themselves decided *their methods and levels of* cooperation. Some were only able to cooperate asynchronously, which was possible as we did not intervene with their work methods. At the beginning of the semester, we openly discussed the challenges that group collaboration might bring about and told the students to contact us in cases of freeloading, overt competition or conflicts. We believe that pointing out these perspectives provided our students with a reflective basis. The semester turned out to be uncomplicated in this regard, and the students were focused on preparing for their exams.

5. *Defined outcomes.* As we prepared a new plan for the students, we explicitly explained the purpose of the various activities. They did not have to negotiate the outcome resulting from completing the various work packages. The data show that this specific pedagogical choice had a positive impact, as students felt they knew what our intentions behind each work package was.

Although the pandemic has created challenges for the university sector, it also represents an opportunity to critically evaluate our teaching, rethink our practices and investigate how they foster learning. Therefore, lecturers should evaluate and communicate their current experiences during digitalised periods. In order to succeed in digital learning, it is necessary to encourage student activity to a greater extent than for in-person lectures on campus. Our findings regarding the principles of a learning community for this group of students may be transferable and made applicable to larger student groups. The necessity of a reflective pedagogy is salient, as traditional teaching methods are challenged by circumstance. The move to online teaching, combined with experiences from traditional campus lectures, enables the creation of a hybrid approach to teaching for the future, utilising the advantages of both arenas. Developing lecturer agency within an established framework is perhaps the foremost type of resource we can muster and pass on to our vocational teacher students. In general, we conclude that a positive digital learning environment can be ensured if students experience recognition and are individually and collectively encouraged to be active learners.

References

Anderson, T. (2017). How communities of inquiry drive teaching and learning in the digital age. *North Contact*, 1-16. https://teachonline.ca/fr/node/92055

Biesta, G. (2009). Good education in an age of measurement: On the need to reconnect with the question of purpose in education. *Educational Assessment, Evaluation and Accountability (formerly: Journal of Personnel Evaluation in Education)*, *21*(1), 33-46. https://doi.org/10.1007/s11092-008-9064-9

Biesta, Gert (2010). Pragmatism and the philosophical foundations of mixed methods research. In A. Tashakkori & C. Teddlie (red.), *Sage handbook of mixed methods in social and behaviorla research. Second edition.* (s. 95–117). Sage Publications. https://dx.doi.org/10.4135/9781506335193.n4

BlackBoard (2020), About us, Official home page. https://www.blackboard.com/about-us

Brookfield, S. D. (2017). *Becoming a critically reflective teacher.* John Wiley & Sons.

Christensen, T., & Lægreid, P. (2020). Balancing governance capacity and legitimacy-how the Norwegian government handled the COVID-19 crisis as a high performer. *Public Administration Review.* https://doi.org/10.1111/puar.13241

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research.* Sage.

Dysthe, O. (2002). Professors as mediators of academic text cultures: An interview study with advisors and master's degree students in three disciplines in a Norwegian university. *Written communication*, *19*(4), 493-544. https://doi.org/10.1177/074108802238010

Education at a Glance (2019) OECD Indicators. Avaiable online. https://www.oecd.org/education/education-at-a-glance/

Government (2020), Higher Education, Home page of the Norwegian Government. https://www.regjeringen.no/en/topics/education/higher-education/id1415/

Honneth, A. (1996). *The struggle for recognition: The moral grammar of social conflicts.* MIT Press.

Iser, Mattias, "Recognition", *The Stanford Encyclopedia of Philosophy* (Summer 2019 Edition), Edward N. Zalta (ed.) https://plato.stanford.edu/archives/sum2019/entries/recognition/

Langset, I. D., Jacobsen, D. Y., & Haugsbakken, H. (2018). Digital professional development: towards a collaborative learning approach for taking higher education into the digitalized age. *Nordic Journal of Digital Literacy*, *13*(01), 24-39. https://doi.org/10.18261/issn.1891-943x-2018-01-03

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge University Press. https://doi.org/10.1017/CBO9780511815355

Li, C & Lalani, F. (2020). The COVID-19 pandemic has changed education forever. This is how. Web forum. Available online https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/

Lisewski, B. (2020). Teaching and Learning Regimes: an educational developer's perspective within a university's top-down education policy and its practice architectures. *International Journal for Academic Development*, 1-14. https://doi.org/10.1080/1360144X.2020.1831505

Loeb, I. H., & Gustavsson, S. (2019). Challenges and development in and of vocational lecturer education. *Nordic Journal of Vocational Education and Training*, *8*(3), iii-x. https://doi: 10.3384/njvet.2242-458X.1883iii

Merriam, S. B., & Baumgartner, L. M. (2020). *Learning in adulthood: A comprehensive guide*. John Wiley & Sons.

Ministry of Education and Research (2018) Digitalisation strategy for the higher education sector 2017-2021. Available online https://www.regjeringen.no/en/dokumenter/digitalisation-strategy-for-the-higher-education-sector-2017-2021/id2571085/

Moon, J. A. (2006). *Learning journals: A handbook for reflective practice and professional development*. Routledge.

Nielsen, K., & Kvale, S. (2005). The workplace—A landscape of learning. In *Learning, working and living* (pp. 119-135). Palgrave Macmillan, London. https://doi.org/10.1057/9780230522350_8

Nielsen, K., & Klitmøller, J. (2017). Blinde pletter i den synlige læring-Kritiske kommentarer til «Hattierevolutionen». *Nordic Studies in Education*, *37*(01), 3-18. doi: 10.18261/issn.1891-5949-2017-01-02

NTNU (2020), Online Course description LÆR1000, Norwegian University of Science and Technology. https://www.ntnu.edu/studies/courses/L%C3%86R1000#tab=omEmnet

Polanyi, M. (2009). The tacit dimension. University of Chicago press.

Ryan, M. (2013). The pedagogical balancing act: Teaching reflection in higher education. *Teaching in Higher Education*, *18*(2), 144-155.

Saldaña, J. (2021). *The coding manual for qualitative researchers*. Sage.

Schön, D. A. (1987). Educating the reflective practitioner. Jossey-Bass.

Schön, D. A. (Ed.). (1991). *The reflective turn: Case studies in and on educational practice*. New York: Lecturers College Press.

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. *The SAGE handbook of qualitative research in psychology*, *2*, 17-37.

Tyson, R. (2016) The didactics of vocational Bildung: how stories matter in VET research, Journal of Vocational Education & Training, 68:3, 359-377, doi: 10.1080/13636820.2016.1213762

The Norwegian Association of Researchers (2017) Academic freedom under pressure Key principles and trends. Available online https://www.forskerforbundet.no/Documents/skriftserien/2017-1_Academic_freedom.pdf

Tømte, C. E., Fossland, T., Aamodt, P. O., & Degn, L. (2019). Digitalisation in higher education: mapping institutional approaches for teaching and learning. *Quality in Higher Education*, *25*(1), 98-114. https://doi.org/10.1080/13538322.2019.1603611

Vygotsky, L.S (1978). *Mind in society. The development of higher psychological processes*. Harvard University press.

Warschauer, M. (2007). The paradoxical future of digital learning. *Learning Inquiry*, *1*(1), 41-49. https://doi.org/10.1007/s11519-007-0001-5

Appendix A

Interview Guide for Students

1. Tell us about yourself and your background.
2. Why did you choose to study to become a vocational lecturer?
3. Do you currently have a job? If so, where, and is it full time or part time?
4. What support do you find at your workplace and with family / friends for your studies?
5. What has been the most challenging part of starting your studies with us?
6. What has been positive with starting to study?
7. How do you experience the communication between course lecturers / the university and you as a student? What works well and what has been challenging?
8. Tell us about how you experience the course.
9. How does the syllabus literature work? Is it difficult / easy? Explain.
10. Which study techniques do you use?
11. Do you find there is a link between how the topic is described and the activities that are set up?
12. Is there anything you wish we had spent more time teaching you?
13. How do you relate to the course between the sessions?
14. Do you feel that what we teach here on campus is transferable to the field of practice? Are there things that we are discussing here that you find useful for you in your workplace? How / why?
15. If you could decide how the module should be structured, how would you want it to be done?
16. What do you think about academia / university as a learning arena for those of you who have a vocational background?
17. Is there anything you wish were different with the way you are met here at NTNU? Explain.
18. If you were to give advice to one of the first-year students next autumn, what would you have said to them?
19. Looking back on the past year, have your skills and qualities been recognised? How / why not?
20. Is there anything else you think we could have done better?

Thank you for sharing your experiences with us!

Appendix B

Qualitative Questionnaire for all Participating Students

Write in depth under each of the three points.
A) Describe how you have experienced your encounter with the university over the past year, what has been the most challenging aspect(s), and what have you experienced as good?

B) How has the course prepared you to become a vocational teacher? Do you find the content and organisation appropriate? Why / why not?

C) Is there anything you wish the teachers of this course did differently? Anything else to add? Describe in your own words.