



Digital distance learning

A question of flexibility in time and space?

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Abstract

The Covid-19 pandemic has forced higher education institutions to adapt to digital learning and teaching modes. Hence, the pandemic might be regarded as a large-scale experiment of digitalization, leading possibly to flexibilization of higher education and professional development. With unique data surveying in-service teachers undertaking professional development during the pandemic, this study critically investigates possible relations between digital distance learning and (increased) flexibility. Taking in-service teachers in professional development as an example, we ask if and under what circumstances the transition to digital distance education means increased flexibility for this group of adult students in particular. We use data from a survey conducted in Norway in the spring of 2020. We analyse data from open questions, applying qualitative techniques with a view to examine in what manner digital distance learning spells increased flexibility. On this basis, we argue that digital distance education does not equal flexible education, understood as putting the individual learner at the centre, for this group of adult students.

Keywords

Digital distance learning, flexibility, Covid-19 pandemic, adult students

Introduction

In contemporary society, there is a need for lifelong learning and professional development for working adults. This might call for more flexible provision of learning activities, compared to traditional education with fixed time schedules and mandatory attendance in class (OECD, 2019: 236). In-service teachers, attending a professional development programme, are the focus of this article. They are in the following analysed as a case of adult learners on a more general level. Adult learners are assumed to have specific needs with respect to their life situation (e.g., Arrosagaray et al., 2019). They might, for example, face time constraints and conflicts, which might be due to competing demands and responsibilities related to their work and family, as well as the learning activities (e.g., Lundberg, 2003). At the same time, there is support that flexible learning programmes, among them digital distance education, require high self-regulation skills among learners (Wollscheid, Bergene & Olsen, 2020).

The spring of 2020 can be regarded as a social experiment for digital distance education. Institutions of higher education all over the world had to adapt their learning activities to the Covid-19 lockdown, which implied a reduction of on-campus activities. The outbreak of the pandemic immediately led to transitions from physical classes to online learning (OECD, 2021). Such online learning has for quite a while been assumed to offer students flexibility (Collis & Moonens, 2002). From our point of view, analysing the way in-service teachers experienced digital distance learning during the first phase of the pandemic offers a unique possibility to inform the discussions of the pros and cons of these ‘digital transformations’ (DT) (Laterza et al., 2020). Taking a holistic stance, Laterza et al. (2020) suggest a pluralistic and systemic understandings of DTs considering the complexity related to the processes studied. They refer to three analytical dimensions in the study of DTs, the contextual dimension, mediators at the system level and effects associated with the adaptation of digital platforms and technologies in HE.

In this paper we ask: How do in-service teachers perceive digital distance learning in terms of temporal and geographic flexibility when participating in professional development courses?

To address this research question, we apply qualitative content analysis of data from an open-ended question in a survey, distributed to teachers attending professional development courses in Norway the spring of 2020. Core findings are discussed in light of the current literature, in particularly a systematic review of flexible education and life-long learning (Wollscheid, Bergene & Olsen, 2020).

Contribution to the field

In general, Scandinavian countries are labelled ‘early adopters’ of digital innovations in education (Rogers, 2003). Choosing a Scandinavian country as a context, our research is ground-breaking as it studies the complexity and challenges of flexible learning among in-service adult students, from the backdrop of a ‘disruptive event’ like the Covid-19 pandemic (Fassin, 2021) and a strong tradition for lifelong learning, where full-time workers have specific rights to further education or professional development, including the provision of time to study (OECD, 2019). Furthermore, selecting in-service teachers participating in a professional development programme as a case for adult learning allows us to explore the gendered issue of balancing family, work, and professional obligations. In-service teachers are a professional group, with a high share of women. Thus, our article contributes to the literature on work-life balance of teachers in times of change.

Core concepts

While the concepts flexible learning and digital distance education are deeply intertwined, self-regulated learning is often regarded as being a prerequisite in some sense for succeeding in flexible learning and digital distance education (Wollscheid, Bergene & Olsen, 2020).

Flexible learning

Individual *choice* is at the core of ‘flexible learning’, which implies a focus on increasing for the freedom of learners to decide *what, when (time), where (space) and how* they learn (Collis & Moonens, 2002; Veletsianos & Houlden, 2019). With an emphasis on individual choice and control, flexible learning has been regarded as a particularly apt measure to satisfy the diverse needs of adult learners. Furthermore, flexible education has been linked to emancipatory ideals of inclusiveness and equality (Veletsianos & Houlden, 2019) through its effect

on accessibility (Jonker, März, & Voogt, 2020). Alternatively, the increasing salience of flexible learning might be understood as partly a response from higher education institutions, as service-providers responding to ‘market needs’, to the demands of learners-as-consumers (e.g., Guzman-Valenzuela & Barnett, 2013). In a fully flexible environment, where learners can choose freely the design of their own learning, there is a stronger emphasis on the *malleability* than on the *accessibility* of flexible education, particularly when it comes to the questions of *what* and *how* of learning (Jonker et al. 2020).

Flexibility and time schedule during the pandemic

As a reminder, students today increasingly face a greater flexibility in their learning, and at the same time they face a greater responsibility for controlling the time, place, and way to study (Bunn et al. 2019). However, temporal flexibility constitutes a double-edged sword, as it might create tensions between individual agency and social structure as learners are only able to maintain a limited ‘strategic flexibility’ towards their learning (Selwyn 2011, Bunn et al. 2019). Selwyn (2011) points out that this ‘strategic flexibility’ is affected by structural factors such as gender, life-stage and occupational status. How ‘flexible’ students perceive online learning activities to be, might thus be assessed in relation to the negotiation between students and their ‘significant others’, for example colleagues at work or a partner at home, and their power in these negotiations. For instance, a student whose partner has a more rigid schedule or more social power in the relationship in terms of income, might have a severely curtailed strategic flexibility. In other words, the studies might lose some of its flexible character by being put up against external boundaries. Furthermore, recent studies show that the Covid-19 lockdown has exacerbated gender inequalities between working women and men (e.g., Czymara et al. 2021; Landivar et al. 2020).

Digital distance education

Historically the terms ‘flexible learning’ or ‘flexible education’ have often been used interchangeably with the concept ‘distance education’. In this respect, the major impetus has been providing students improved access to education and learning by minimizing the cost of education and the disruption to students’ daily lives. During the last two decades, innovations in information and communication technologies have meant largely equating flexible education with digitalization and e-learning (Li & Wong, 2018). In digital distance education, which is the topic of this article, students may make individual choices about when and where they learn, but not decide the content, progression and assessment of their education. Still, control of learning has, at least to some extent, shifted from the educational institution to the individual student with the onset of digital distance education (Wong, Khalil, Baars, de Koning, & Paas, 2019).

As mentioned introductorily, there is increasing evidence that flexible learning programmes, among them digital distance education programmes, require high-level self-regulated learning (SRL) skills (Wollscheid, Bergene & Olsen, 2020). SRL can be defined as ‘an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate and control their cognition, intentions and behavior, guided and constrained by their goals and the contextual features of the environment’ (Pintrich, 2000, p. 453). Sáiz-Manzanares et al. (2022) argue for designing teacher training programmes to address the use of digital devices for strengthening the development of self-regulated learning (SRL). Further, Wong et al. (2019) found evidence of a significant positive relationship between SRL strategies, including time management, and academic success in online courses. Demirbag and Bahcivan (2021) found that self-regulation skills, digital literacy and

epistemological beliefs were closely related to each other. We assume, that certain aspects of SRL, particularly the contextual environment and external dynamics, are relevant to our case.

The Norwegian context

Scandinavia is usually regarded as ‘early adopter’ of digital innovations in education (Rogers, 2003). Norway has a relatively strong tradition for lifelong learning. Given a low power distance, a digital infrastructure of high quality and high trust in professionals (Nerland, 2022), full-time workers, among them teachers, have specific rights to further education and professional development, including the provision of time to study (OECD, 2019). This tradition is also reflected in different governmental strategies, for example, a strategy addressing life-long learning and the updating of the competencies of the working population in general (Ministry of Education, 2019-2020). Further, several national strategies on the professional development of teachers have been established in Norway. The main strategy, ‘Competence for quality’, was introduced in 2009, and a revised version will be in effect until 2025.

Implementing these strategies means that several courses have been devised specifically for this purpose, and a large share of teachers have either attended or is currently attending such courses (Gjerustad & Pedersen, 2019). Most courses last one year and gives the participants 30 ECTS credits.

Research has shown that the participants regard the quality of these studies as high (Gjerustad & Pedersen, 2019). Further, their perception of quality may to a large extent dependent on the flexibility in time and space the study offers. We can assume that in-service teachers need to balance studies with other obligations, such as work and family. According to Gjerustad and Pedersen (2019), the total workload, comprising both work, studies, and family responsibilities, is the decisive factor for study completion. As a rule, attending campus-based courses put demands on employers to facilitate the professional development of their employees. So far, most teachers who attended such campus-based courses have, however, been satisfied with the way employers facilitated their studies (Gjerustad & Pedersen 2019).

Methods

The data used in this paper is derived from a research project commissioned by the Norwegian Directorate for Education and Training. The project includes a large scale- population based survey sent to all teachers who participated in professional development provided by the “Competence for quality” strategy (N = 6 391). The electronic survey was distributed in May 2020, near the end of the study that started in 2019. Similar surveys have been conducted annually since 2009. The response rate was 57 percent in 2020. The survey included an open-ended question where respondents were asked to describe their learning experiences during the pandemic, which is the data source for our analysis. A total of 907 respondents, or 14 percent of the original population, answered the question, using their own words to describe how the pandemic had affected their professional development. When we compare the sub-sample used in this paper to all participants in the study, we see that the age distribution is nearly identical, with the age group 40 to 49 being the largest, comprising 44 percent of both samples. We find a slight difference in the gender distribution, with 77 percent women among all participants and 81 percent in the sub-sample.

Analyses of open-ended responses from a survey

As recognized by Thorne (2000), qualitative data may be gathered by other means than qualitative methods and subjected to qualitative analysis. Heeding Jackson and Bazeley's (2019) call to increasingly consider making use of open-ended comments in quantitative surveys, we subjected the 907 open-ended responses of in-service teachers to qualitative content analysis to address our research question. We received large numbers of responses to these questions. Compared to interview transcripts, which are based on oral language and thinking out loud, such written answers are often more to the point, especially when they form part of a larger survey with several other items and open-ended questions. This meant that although we were able to obtain the experiences from a large number of respondents the task of scanning through their responses was not more daunting than reading interview transcripts. The length of the responses varied from 8 to 2,026 characters, and the average response was 248 characters.

Based on this scanning, the main author inductively coded the responses into thematic categories derived from the theoretical framework and selected the topics for further inquiry based on our research question, more specifically the relation between digital distance learning and/or spatial or temporal flexibility. The responses grouped under the selected topics were then more thoroughly coded, again according to the research literature. We were particularly interested in exploring linkages between the digital distance learning activities provided and the students' experience of flexibility; the codes were developed with a view to bring these forth. The authors discussed the codes during the analysis, and as we used them in the analysis and discussion of findings.

We employed the NVivo 12 software to efficiently and systematically process the data. Although we started out from reading all 907 responses, it is important to emphasize that the selection of quotes is done neither on the basis of representativeness, nor on the basis of generality. Rather, the selection of quotes was done with a view to capture a variety of important sentiments and ensure saturation as usual in qualitative research. This means that we have sought a diversity of sentiments, some of which are unique while others are more widely felt and expressed. Since our purpose is to gain a nuanced understanding, we have selected responses which shed light on whether respondents explicitly reflect on the linkages between digital distance learning and flexibility according to our research question. Our analyses of these statements will thus contribute the students' self-expressed *experience* of (missing) linkages between the digitalization of professional development and flexible learning, in a situation in which flexibility is called for being, as they are, in-service teachers and adults with familial and other obligations.

As this was an open-ended question, respondents replied in their own words. Responses are in their nature verbatim, and to stay close to the participants' own experiences we have mostly chosen to translate verbatim from Norwegian to English and quote directly. We only paraphrase where necessary to help the reader understand the meaning content of the description.

The qualitative data were collected through a survey with a relatively low response rate and for a different purpose, which is a limitation of the study. Furthermore, the data captured the experiences of in-service teachers with digital distance learning only for the first phase of the Covid-19 pandemic, in the spring of 2020. As the pandemic continued into 2022, updated research might conduct more elaborated teacher interviews by exploring the meaning of digital distance education over a longer time-period. We assume that experiences with digital distance education have changed for some teachers over the course of the pandemic with two incidents of lockdown.

Findings

Our respondents seemed preoccupied with precisely how they perceived their role as adult learner in relation to other different, and potentially conflicting, roles and responsibilities, such as in-service teacher, partner or/and and/or parent.

They had to do their teaching work from home, while simultaneously caring for their own children and potentially share the home office with partners. For the in-service teachers taking professional development courses in our study, the situation was further exacerbated when they had to study on top of all the other activities. This meant, as one respondent put it, that they had to ‘wear several “hats” at once’, as it became necessary to work and ‘simultaneously be a student, teach my children, be a partner and do housework’. When it comes to the learning context, it became ‘challenging to concentrate on the studies when the whole family of five had home school/home office’ and it was ‘difficult to find time for studies and work/home lecturing, and at the same time having a child at home’. In other words, to what extent online courses offer temporal flexibility is, in addition to a question of compulsory attendance, also a question of other activities within the students’ time schedule.

Combining work and studies can be a challenge in the best of times. Our data also suggests that digital distance education during the pandemic raised a more fundamental question about the (blurring of) boundaries between work and leisure. Students were compelled to constantly redraw the work/study frontier, encroaching on leisure, meaning spending ‘a lot of time catching up on seminars on evenings/during weekends’, and for them life became reduced to a rhythm of ‘sleep – eat – work’. The respondent who experienced wearing several ‘hats’ stressed that this was ‘very demanding and challenging, as it was difficult to wear just one “hat” at a time’, meaning that ‘for most part of the day, all the hats were on, which lead to a lot of stress for me’. Another respondent stressed difficulties of establishing clear boundaries between different activities. We argue that this might constitute a general challenge for students enrolled in temporally and spatially flexible education, as it entails a risk of studies becoming omnipresent and ‘invasive’ of other activities. Navigating time for different tasks in self-regulated learning requires skills, if focus, concentration and motivation are to be maintained. Such skills need to be acquired, and their lack leads to frustration:

It was difficult to combine home office with studies and family life and it was demanding to adjust to digital education overnight. I [...] felt that it was difficult to focus on my studies since work, home and studies permeated each other and I felt at work all the time.

Others pointed out they did not have sufficient temporal flexibility, as some of the online lectures were not held as according to the original schedule laid out for the physical seminars, but rather distributed over several afternoons. For one student this meant not being able to utilize the arrangement with a substitute teacher, since this was planned for the three original days.

In accordance with this, the freedom to choose when to study, and thus potentially having temporal flexibility, figured prominently among the identified advantages of digital distance education, as it rendered it ‘possible to combine this course with work, family and everyday life’. Similarly, another respondent expressed that (s)he was ‘[v]ery satisfied with being able to attend online further education so that I may simultaneously work 100 % at school’. More specifically, several respondents pointed out the advantages of access to asynchronous digital recordings of learning activities. It was regarded as ‘very useful’ having the opportunity to ‘return to and watch the lectures several times’, and some stressed that, in general, ‘[l]ectures ought to be accessible on [the online learning platform], where students themselves were responsible for watching’.

Even though one aim of distance education is to provide equal access and reduce inequality between different student groups, our data indicate that new inequalities might *Flexibility: for better or worse?*

Norway being no exception, the pandemic resulted in two general lockdowns, including institutions of higher education. This meant that the question of *where* to study was largely given: students had to do so digitally from their own homes. Here, our data is most strongly influenced by the exceptional case of the pandemic, as it leaves no room for choice, thus, strictly speaking, curtailing flexibility.

This has often entailed freedom to choose both when and where to study. As we have already pointed out, the situation facing our respondents during the pandemic was *not* spatially flexible, as physical, campus-based learning was not an option. However, the spatial dimension of digital distance education might still be the area in which inequalities might be reduced. This is because digital technologies allow students to attend on more equal terms, geographically:

It was much better with lectures on Zoom. It meant that that I did not have to get up 04:30 in the morning to attend the lecture the first day, and I did not have to come home at 20:00 the next day.

Similarly, another student argued that the pandemic had revealed certain potentials for improvement for particular groups:

Courses which are exclusively online is well suited when you live in rural Norway. [Living there means] a lot of time is spent travelling to seminars. This worked particularly well when one could cooperate locally and online. Moreover, I would like to mention that the opportunities for professional development in general have been much improved during the Covid-19 situation, since courses which were normally arranged during the afternoon in one of the larger cities, are now available online through the country.

Digital distance education was in other words by some regarded as ‘more convenient and family friendly than physical seminars, so that part is better than before’. The study also found improved access to studies for students from rural areas. The issue of travel was also mentioned by several students in our study:

I have put in an application for further education next year (teacher leader within a subject). But all the courses are solely based on physical seminars (for example 3 seminars per semester – 3 days each!). I would prefer online. I think it is a total waste of both time and money [...] For my part it would entail 2 flights and two nights of accommodation in each direction (that is, 6 flights per semester in addition to transportation to the airport). This pays scant attention to both the environment and finances. Greetings, science teacher.

Similarly, another student expressed that it was ‘[m]uch more expedient to be allowed to do home exam rather than make an appointment with a university or go all the way to [campus]’. An experience made during the pandemic was thus that ‘Covid-19 made it much easier to attend further education’, because ‘[t]ravel time to work was freed up, the lectures went from being physical lectures to online, so that I could attend’.

However, as we have argued, an exclusively online course is not flexible as such, since it does not allow students to choose according to their preferences. While many appreciated

the online accessibility of digitally recorded lectures, others stressed that they could never fully substitute physical attendance, and they would hence have chosen to attend personally if that option was available to them.

Self-regulated learning and experiences of learning outcomes

We received indications that some students were not sufficiently skilled in self-regulated learning, as they found it ‘difficult to structure the day’ and experienced that ‘[o]nline teaching becomes too strenuous in the long run’. Still, we also find students perceiving the need to gain skills in self-regulated learning as an enrichment, as illustrated by the following quote:

I am happy with online seminars, as this is a good way to learn and share experiences. I found this a useful strategy of learning and there should be more online seminars to capture the whole curriculum. For students in professional development, written assignments, interesting lectures and online seminars would suffice.

In our study this was probably most notable on the question of physical attendance, in the words of one of our respondents: ‘personal attendance is important for the teaching to be useful for me’. It here becomes clear that relying solely on digital distance education does not spell flexibility, as this latter student would prefer attending personally, but were not given that opportunity due to the lockdown.

Different preferences, diverse learning activities – pointing towards more flexible learning?

Both higher education institutions and students were abruptly thrown into a situation where they had to adapt quickly, mastering both online teaching, digital learning and to acquire the necessary skills in self-regulated learning to reach their goals. Some stressed that studying during the pandemic lockdown was in itself instructive:

There is a huge difference in how I relate to the subject matter before and after Covid-19. Physical master’s seminars mean that we may discuss, think, cooperate with each other and the lecturers. Digital seminars/lectures place natural limits in this regard. At the same time, I see a huge difference between the first seminar (where everything was new) to the next (where we had more experience in how to attend digital seminars). Because of this, I have actually concluded that parts of the curriculum can be dealt with digitally (some lectures, for instance)

As is hinted at this is also partly a matter of pedagogies and learning activities, where it seems that most students agree that digital distance education is suitable for lectures and to some extent seminars, but not for teamwork and oral exams. However, as we have seen, quite a few were stressed that their learning outcomes were negatively affected by not attending lectures and seminars physically, for instance that digital lectures are ‘dealing too quickly with difficult matter’.

The necessity and desirability of physically meeting lecturers and other students to communicate, discuss and ask questions was emphasized by several. One of the students maintained that ‘the spontaneous, direct communication that appears in a physical classroom’ disappears in digital distance education. As such, ‘digital seminars are okay when it comes to traditional lecturing, while physical seminars give much better learning outcomes’. As pointed out by Moore (1973), if learners are not prepared and supported in their engagement in the specific ways of the mode of delivery, a *transactional distance* might arise. The

existence of such a transactional distance was pointed out by one of the students in our study, arguing that ‘[d]igital lectures will never be the same as having the lecturer in the same room’. Overall, the students in our survey agree with this student that physical attendance is of value, regardless of whether they are satisfied with digital distance education. This is because ‘[l]ecturing online means [...] loss of communication with lecturers and fellow students, which are vital to the learning process’, and as pointed out by another student, physical seminars ‘with committed and good fellow students and professors is extremely supportive of processing experiences and theory’. In particular, the students stress the motivational aspects of interaction and cooperation, and they are critical of courses relying too heavily on online lectures and independent work:

Even though the last seminar was online and was okay, physical seminars are definitely preferable. Teamwork and social contacts are very important when it comes to further education. It is this part which account for 60 per cent of the inspiration and joy of studying.

For some, there are digital solutions to these challenges, among them video chat and/or breakout rooms, which could both foster dialogue and interaction. Additionally, our data suggests that the different higher education institutions chose different digital solutions, and that this led to diverse student experiences. More specifically, some pointed out the necessity of a minimum of common structures and routines, as full flexibility results in too many options and solutions, and one of the students pointed out that it was necessary to ensure that ‘not every lecturer has his/her own channel to communicate with students’.

Additionally, as we have seen, several of the students appreciated the opportunity to return to recorded lectures and watch them over again. However, this could also entail an easy way out for the lecturers, who may record a lecture and choose to reuse it across courses and for many years thus reducing the time spent on preparing and giving lectures. The students regarded this negatively:

When university colleges have online courses, they should not base them on something that was developed more than five years ago, and not follow the students up. In course evaluations, many students have complained about the same matters for over two years, without seeing any improvements. For instance, errors in assignments or lectures which we point out, but which are not subsequently corrected.

To avoid this, one of the students suggests that even though the lectures are online, they should be held in real time, also because then students could ask questions and not passively watch a video.

In this paper, we examined how digital distance learning is perceived in terms of flexibility. Drawing on open-ended responses by in-service teachers experiencing a shift from campus-based to digital education in a professional development programme during the pandemic, we see that what constitutes flexible learning is nuanced. The teachers point to several challenges related to digital distance education that shed light on flexible learning. We argue that these pertain to being held increasingly *responsible* for learning outcomes, which place demands on their self-regulating learning skills. As we have seen, the students in our study, first of all experience challenges negotiating their time schedules and handling different roles. The possibility to fully control one’s own time seems to affect student engagement positively, and we argued that this varies across gender and life-stage/situation. Having freedom to choose and a flexible schedule was appreciated by some of the teachers in our

study. Several mention the possibility to combine studies with work, family and everyday live. At the same time, we saw that flexible studies might become the subject for negotiation between different actors, who in turn have their own time schedules in different spheres, and thus, might lose some of its flexible character for some. Even though one idea behind flexible education is democratization of education, we find indications that the further education programme addressing teachers was perceived to increase inequalities, for example between teachers having children, and thus having more family obligations, and those without children with less conflicting obligations in different spheres.

In recent years, scholars have been questioning the concept of flexibility and its malleability. Selwyn (2011) found tensions between individual agency and social structure for adult distance learners. These tensions seem to corroborate learners' experience, in particularly mechanisms in how most of them managed to maintain just a limited 'strategic flexibility' towards their learning — especially with respect to negotiating time, space, place and social roles. Further, the extent to which learners were able to study smoothly seemed to be affected by structural factors like gender, life-stage and occupational status.

Concluding remarks

In general, our findings show that the concept of flexible learning is associated with individual choice and malleability. However, how many, and which dimensions of any given study programme, such as time, place, content, that need to be open to individual choice and malleable for it to be termed 'flexible learning', is an open question.

Drawing on our findings, we argue that the pedagogical dimension needs to occupy centre stage. Thus, reflections on pedagogical designs might inform which dimensions can and should be flexible. Examples of such dimensions are time, place, content, interaction and formalization. Our findings relate to a 'disruptive event' (Fassin, 2021), the Covid-19 pandemic, which made digital distance education necessary for *all* students, and, thus, strictly speaking non-flexible with respect to place. When it comes to the dimension of time, our findings are more complex, as the pandemic probably complicated the learning environment for students with high requirements for balancing work, study, and private life. Thus, our study could inform further (post-)pandemic studies on digital transformations in higher education and professional development for diverse student populations with different needs in terms of flexibility.

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