

TEACHER EDUCATION POST-COVID: LESSONS LEARNED FROM THE EXPERIENCE OF TEACHER EDUCATORS

FORMAÇÃO DE PROFESSORES NO CONTEXTO PÓS-COVID: LIÇÕES APRENDIDAS A PARTIR DA EXPERIÊNCIA DE FORMADORES DE PROFESSORES

FORMACIÓN DOCENTE POST-COVID: LECCIONES APRENDIDAS DE LA EXPERIENCIA DE FORMADORES DE DOCENTES

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Abstract: The Covid-19 pandemic caught educational systems unprepared all over the world. In this paper we examine how teacher educators from Portugal and Norway expanded their learning during Covid times and possible continuities post-Covid. 10 teacher educators from each of the two countries responded in writing to a brief questionnaire exploring their experiences and perspectives on the future of teacher education. The findings are discussed in relation to existing literature. When planning for the future, we argue that there is a need to rethink how teacher education (structure and venues) should change in response to lessons learned from the lockdowns. A central question is what teacher educators need to learn to model teaching for an unknown future.

Keywords: Teacher Education. Covid-19. Teacher Educators, Change.

Resumo: A pandemia da Covid-19 apanhou os sistemas educativos impreparados em todo o mundo. Neste artigo analisamos o modo como os formadores de professores portugueses e noruegueses expandiram a sua aprendizagem durante a pandemia e as possíveis continuidades no contexto pós-covid. Os dados foram recolhidos junto de 10 formadores de professores em cada um dos países através de um questionário escrito centrado nas suas experiências e nas suas perspetivas sobre o futuro da formação docente. Os resultados são discutidos à luz da literatura existente, perspetivando-se a formação de professores a partir das lições aprendidas (nomeadamente quanto à sua estrutura e local de realização) sendo de destacar a importância da aprendizagem por parte dos formadores de professores para modelar o ensino para um futuro que é incerto.

Palavras-chave: Formação de professores. Covid-19. Formadores de professores. Mudança.

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Resumen: La pandemia de Covid-19 sorprendió a los sistemas educativos desprevenidos en todo el mundo. En este artículo examinamos cómo los formadores de profesores portugueses y noruegos ampliaron su aprendizaje durante la pandemia y las posibles continuidades en el contexto post-Covid. Se recogieron datos de 10 formadores de profesores de cada país mediante un cuestionario escrito centrado en sus experiencias y sus perspectivas sobre el futuro de la formación del profesorado. Los resultados se discuten a la luz de la bibliografía existente, examinando la formación del profesorado desde las lecciones aprendidas (a saber, su estructura y lugar de impartición) y destacando la importancia de que los formadores de profesores aprendan a configurar la enseñanza para un futuro incierto.

Palabras-clave: Formación del profesorado. Covid-19. Formadores de profesores. Cambio.

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Introduction

The Covid-19 pandemic affected various sectors of society and teacher education is no exception. The closure of colleges and universities dictated the need to develop online practices to fulfil the requirements of the teacher education programmes. Recent literature examines the ways in which institutions adapted to the online teaching scenario illustrating the challenges related to technology (QUEZADA, TALBOT, & QUEZADA-PARKER, 2020), to access, participation and engagement (SCULL et al., 2020) and to the importance of the social-emotional competencies (HADAR et al., 2020). What is clear from the literature is how established teacher education practices were challenged, particularly how the practicum experiences were curtailed with implications for developing alternative provision and supervision strategies. For instance, Sepulveda-Escobar and Morrison (2020) found that the virtual teaching experience entailed the opportunity to discover and learn new technologies, but also several difficulties related to the lack of direct interaction with learners, the sudden change of setting and the lack of preparation. Similarly, Flores and Gago (2020) discuss the role of practice and mentoring within the context of a virtual practicum illustrating the tension between a ‘real practice’ versus ‘an ideal(ised) practice’. Learning *about* practice while no longer *in* practice (KIDD & MURRAY, 2020, original emphasis) posed questions about curriculum, pedagogy and assessment but also implied more time for reading and reflection (LA VELLE et al., 2020). The provision of alternative modes and forms of professional learning encompassed a diversity of contextualised responses to meet the expectations and needs of student teachers to complete their programmes. Whilst the sudden shift to online environments entailed a number of challenges, it also represented an opportunity to rethink both the context and structure of teacher education programmes. This is also true for teacher educators’ learning and development as they had to adapt to a new teaching scenario and to deal with even more complex demands associated with being a teacher educator online.

la Velle et al. (2020), in England, examine the positive and creative response based on the acknowledgement of, and trust placed in teacher educators’ professional expertise and judgement. The development of an innovative stance to ITE practices is advocated by Ellis, Steadman and Mao (2020) drawing on a small scale study with teacher education leaders around the world. They concluded, amongst other features, that potentially sustainable innovations in

pedagogy were related to a significant increase in the amount of online teaching but also to the *quality* of teaching (original emphasis), including the development of placements in ‘virtual schools’. Scull et al. (2020) reporting from an Australian perspective also identify a range of innovative practices used by teacher educators, namely by engaging learners through making personal connections and using various tools to differentiate the curriculum. Kidd and Murray (2020) spoke of the ‘pedagogic agility’ of teacher educators exploring the sense of both sameness and difference in some of the innovative pedagogies developed. As the authors argue, the relocation of teacher education to the online environment was accompanied by the maintenance of many principles and ‘intentionalities’ of practice and orientating values from the part of teacher educators. In a similar vein, Smith et al. (2021) report on how a group of teacher educators worked from home and experienced it challenging to handle online teaching in accordance with their pedagogical visions. Teacher educators describe how they learned to manage the technical issues, and how they in the future would seek ways to incorporate ICT critically and reflectively to model good teaching in teacher education.

With the sudden change of teaching caused by the pandemic teacher educators, found themselves engaging in what Engeström (2001) defines as expansive learning. Existing practice and knowledge about how to teach teaching did not suffice in a new reality which imposed on-line meetings with the students, staring into a screen, often a black screen. Teacher educators’ professional learning could not any more focus on improving current practice, but to expand their learning in areas, such as ICT, establishing virtual relationships, collaborating with colleagues with their students. Engeström (2001) states that expansive learning pushes for changes in three aspects; practices are transformed, new theoretical understandings are developed, both of which often leads to an empowered sense of agency. The expanded learning, based on lessons learned during Covid-19 lockdowns, needs to be further expanded in the post-Covid-19 era.

The current paper expands existing recent literature by exploring the professional learning of teacher educators in two countries, and how they envisage change in teacher education as a result of their experience during the COVID-19 pandemic by framing the study within the basic questions of expansive learning (Engeström, 2001, p. 133):

(1) *Who are the subjects of learning, how are they defined and located?* The subjects of learning are Portuguese and Norwegian University-based teacher educators.

(2) *Why do they learn, what makes them make the effort?* Due to the COVID-19 pandemic teacher educators were forced to expand their learning.

(3) *What do they learn, what are the contents and outcomes of learning?*

(4) *How do they learn, what are the key actions or processes of learning?*

The answers to questions 3 and 4 form the two main questions in the study.

The context of the study

The Norwegian context

Norwegian teacher education has been subject to continuous reforms, and teacher educators have been engaged in continuous professional learning. Only the most recent reforms with an impact on the current programmes are mentioned here. In 2010 elementary school teacher education was still a 4-year programme, however the reform introduced in 2010 had a greater emphasis on teachers' content knowledge in teaching younger learners. Two different programmes were introduced for elementary school (grades 1-10), one educating teachers for classes 1-7, and the other educating teachers for grades 7-10. The two levels are separated, and a student cannot shift from 1-7 education to 5-10 education or vice versa during the education without having to start from the beginning. In 2017 all teacher education programmes in Norway (excluding pre-school teacher education) were upgraded to a master level, and in 2022 the first cohort of elementary school teachers graduated with a master's degree including a research based master thesis. The two separated programmes from 2010 continue, however, now with a fifth year and a master thesis.

Secondary school teacher education (8-13) has during this time mainly been at a master level. The students can take a 5-year master's education integrating subject and teacher education which qualifies for teaching in secondary and upper secondary school. It is also possible to become a teacher in secondary school with a disciplinary master's degree and a one year post graduate certificate in education (PGCE) programme. Teacher educators teaching in all these programmes are represented in the sample of this study.

Norwegian lockdown

The lockdown in Norway was quite dramatic, as on March 12, 2020 all educational activities stopped being physical and became online. There were few or no preparations for teachers or teacher educators, teacher educators just had to figure out how to do it. In higher education some physical meetings were allowed, but on the whole higher education, including teacher education, was online till the end of September 2021, and it was on and off, depending on local and national outbreaks of the pandemic until limitations for physical meetings were removed in January 2022.

The Portuguese context

As a result of the Bologna process initial teacher education in Portugal was subject to a significant process of restructuring both in its structure and content. A consecutive model was adopted and a Master degree is now required for all entrants into teaching (from pre-school to secondary education). Master degree programmes (90 credits for pre-school and primary school and 120 credits for all other programmes) were created in accordance with Decree-Law No. 43/2007, published after Decree-Law 74/2006, which regulates the organisation of study cycles in higher education. Student teachers need to do a first three-year degree (*Licenciatura*) on a specific subject (or Basic Education for kindergarten and primary school) followed by a Master degree in Teaching. Initial teacher education is regulated by the Ministry of Education which defines the teaching profiles, the length of the programmes, the curriculum components and the corresponding number of credits, the resources, the conditions for teaching practice, etc. It is up to the institutions to design and implement such programmes in accordance with the national legal framework currently in place (Decree-Law No. 79/2014, 14 May). The new configuration of initial teacher education at Master level implied a research component that was tacitly assumed by institutions and encouraged by external assessments (Flores, 2018).

Portuguese lockdown

The lockdown in Portugal included two major periods: on March 16 2020, all institutions of higher education were closed down and, therefore, all activities which included the presence of students were suspended. In January 2021 a new lockdown was announced and



all activities went online until April 2021. In September 2020 higher education institutions adopted a hybrid system, yet some courses were done online only as was the case of some participants in this study.

The study

This is a small qualitative study which seeks answers to *What and how teacher educators learned during the COVID-19 pandemic*, reflecting questions 3 and 4 of the core questions of expansive learning (Engeström, 2001) by analysing written responses to eight questions from 20 teacher educators, 10 from Portugal and 10 from Norway, the authors' respective countries. The sample in both countries is a limited convenience sample, we contacted teacher educators we knew of. The criteria for selecting the respondents were 1) representatives from various types/programmes, 2) diverse experience as teacher educators, 3) geographical spread in the two countries, and 4) representing universities and colleges. We would like to have a gender balance in the sample, however, most of the respondents are female, which is quite representative for the profession in our two countries. Table 1 presents the demographic information about the participants from both countries.

Table 1. Participants

Norwegian participants					Portuguese participants			
	Gender	Experience	Programme	Institution	Gender	Experience	Programme	Institution
1	Female	8	Primary	College	Female	20	Primary and elementary	University
2	Female	16	Primary (12) and secondary (4)	University	Male	20	Primary	College
3	Female	11	Secondary	University	Female	37	Primary	University
4	Female	26	Secondary	College	Female	38	Kindergarten	University
5	Female	14	Secondary	University	Female	35	Primary and secondary	University
6	Female	10	Primary	University	Female	27	Secondary	University
7	Male	15	Secondary	University	Female	7	Secondary	University
8	Female	26	Secondary	University	Female	25	Primary	College
9	Female	9	Primary/Secondary/Vocational	University	Female	33	Primary	College
10	Female	13	Upper secondary	University	Female	30	Primary and secondary	University

Both Norwegian and Portuguese samples include 9 females and 1 male. Their experience as teacher educators ranges from 7 to 38 years. In addition, 3 Portuguese participants work in colleges and 7 in the university setting and they come from different programmes including kindergarten, primary and secondary; three of them work in more than one programme. In Norway two work in colleges and 8 in universities. Both colleges and universities do primary education, but only universities do secondary education in both countries. All participants work in public institutions, and they were involved in online teaching ranging from three months to two full semesters.

Data collection and analysis

The participants were during the lockdown asked in an email to respond in writing to eight open questions and a few demographic questions (see table 1). The questions (see appendix) were developed through discussions between the two authors inspired by Engeström's (2001) work on expansive learning, building on their own and their colleagues' experiences during the Covid-19 pandemic, and relevant publications (DARLING-HAMMOND & HYLER, 2020; KIDD & MURRAY, 2020; SMITH et al., 2021; FLORES & GAGO, 2020). The invitation was accompanied by an information letter which explained the purpose of the study, the uses of the data, and the approval from of the ethical authorities (Norway, NSD; Portugal, CEICSH 123/2021). The participants were recommended to respond in English, however, the possibility to respond in their respective national languages was given. When this was done, the authors translated the responses to English.

The analysis of the written responses from the 20 participants was done in three stages. First, all responses were read and listed by both authors separately and shared. Next, each author categorised the responses for her respective country, and shared with the co-author. In the third stage a constant comparative method (STRAUSS & CORBIN, 1998) was used to compare the categories we had found in the two countries. Clusters were made based on shared themes noticed by the two authors as we were both familiar with each other's data. Thus, the process of data analysis was undertaken by an analysis of data gathered in the two countries separately, followed by a comparative or horizontal analysis (cross-case analysis) (MILES & HUBERMAN, 1994) to look for similarities and differences. The categories were obtained

through an iterative process which included separate coding, comparing results and reaching agreement. To illustrate the themes sequences of the written responses are presented.

Ethical considerations

As mentioned above, formal ethical approval in both countries were given before the respondents were contacted. In the invitation letter to participate information was provided about the purpose of the study, the right to withdraw at any time of the study, and full insights into the protection of their responses. In the reporting of the data we have done our utmost to safeguard anonymity, and this is also why we did not ask about extensive details in the demographic data. We acknowledge the bias by using a convenience sample, as some of the respondents might have been uncomfortable not to respond to us due to personal and collegial relations.

Findings

In this section, findings are described according to four main themes drawing on the interview questions and on emerging issues arising from the data: (1) the experience of being a teacher educator online is explored in light of the challenges faced during lockdown; (2) the strategies used to teach and to interact with students including in virtual and hybrid practicum; (3) the learnings arising from such experience are analysed both in terms of professional development and teaching practices and are mobilised to discuss (4) the future of teacher education. Quotations used to illustrate the main themes are drawn from the accounts of teachers participating in the study.

Challenges and benefits of online teaching

The forced and sudden shift from face-to-face to online teaching entailed a number of challenges, but also benefits. Both Norwegian and Portuguese teacher educators identified issues related to student participation and to changing teaching to meet the demands of the new scenario. Major challenges were to become familiar with online teaching and to master the online tools. However, teacher educators in both countries found it hard to confront black screens and to engage students in what was going on online. This has exacerbated issues of



communication and interaction with students as well as attendance and presence (TURCHI, BONDAR, & AGUILAR, 2020). In the beginning the participants adapted usual practices of teaching such as online lecturing, but realised they had to adopt different strategies to motivate the students.

My biggest challenge was to analyse strategies and methodologies already planned for face-to-face teaching and in less than a week adapted them to online teaching. (D8, Portugal)

I find that the main challenge in the beginning was student participation. It took some time before I learned the technical skills and digital ways of communication in an integrated way in my teaching. Many students were reluctant to ask questions, to speak up or have their camera on during lectures. (D1, Norway)

As the quotes illustrate, changing interaction patterns was one of the key concerns that has led, in some cases, to the adoption of a more structured, step-by-step orientation for students ‘not being lost’. This means the need to “intensify the quantity and quality of the formative assessment and to transform classes into smaller sequences of theoretical and practical instances” (D1, Portugal). While for Portuguese teacher educators formative assessment was an issue, in Norway teacher educators found it challenging to give clear instructions about how to work online. It is also interesting to note that teacher educators expressed concern with the affective aspects of online teaching. Issues of emotional support, attending and responding to students’ uncertainties, fears and “unaccomplished dreams” and the reinforcement of feedback were key aspects to deal with a sense of confusion and anxiety during the transition to online teaching:

In my classes I found the biggest challenge the different contact I had with my students. It was and is not easy to know how they feel, and it is not easy to express oneself online to your teacher as in person. I can’t read body language,



especially in larger groups where not everybody had their camera on. (D9, Norway)

My challenge was to keep a supportive relationship, supervision and even proximity with the students to fight a sense of confusion they felt as well as their fears in terms of health issues and of their future. (D7, Portugal)

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The relational and interactive dynamics of teaching were reiterated in teacher educators' accounts in line with the three presences identified by Garrison, Anderson and Archer (2000). They suggest that learning is the result of the interaction i) of the social presence, related to the ability of participants to engage affectively with a community, communicate purposefully in a collaborative environment, and develop interpersonal relationships, ii) of the cognitive presence, the construction of meaning through sustained reflection and communication in a community of inquiry and iii) teaching presence, associated with the design, facilitation and direction of social and cognitive processes with the aim of achieving meaningful learning outcomes (Anderson et al., 2001). The focus on providing students with effective learning experiences and creating a sense of community is at the forefront of the participants' accounts even if they recognise that their usual dialogic and practice-oriented approach has been challenged:

Online teaching somehow reduced the dialogical nature of my approach. (...) I've tried to maintain a learner-centred, dialogic, practical approach that engages students and supports their learning. (D3, Portugal)

The pandemic has contributed to a stronger focus on the students' psycho-social learning environment, and I have introduced different social activities in my online teaching. (D6, Norway)

What is clear from the data is the steep learning curve regarding the technicalities of using ICT in teaching and the exploration of the new tools and platforms for online teaching. Such a view may be related to existing literature which points to the relevance of flexibility in



teaching and learning and to the facilitation of online experiences through team teaching in the management process of the virtual environment and of student interaction (COOLICAN, BORRAS, & STRONG, 2020; SCULL et al., 2020).

I had to reorganise training strategies and reinforce my skills in technological literacy. (D9, Portugal)

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We were forced as a team of teachers to learn and try out new technology, we had to organise the teaching in other ways, and we managed to practice varied learning activities despite distance from the students and each other. (D4, Norway)

The benefits of online teaching relate to greater digital competencies from the part of both teachers and students but also to a more proficient use of a variety of tools and apps which enhanced, in many ways, the possibility to engage all students in break out rooms. It seems that the participants aligned with a comprehensive view of the pedagogy of online education that integrates technology to support teaching and learning (CARRILLO & FLORES, 2020). Both samples point to an increased use of flipped classrooms (in Portugal the use of Moodle and other platforms increased, and we see this as similar), more careful preparations of lectures and sessions, more varied teaching, stricter with time- frequent pauses, start on time. The Portuguese sample mentioned more lecturing as an issue, and in Norway it was not mentioned, but the increased use of flipped classrooms might point to the fact that the lectures were online and available to the students before the session, so they could watch them in their free time. In general, there were few differences, but the Portuguese sample emphasised the time and cost effectiveness because of less travelling and the possibility to invite foreign lecturers to the sessions, something not mentioned by the Norwegian sample.

Practice: Virtual and hybrid practicum and the challenges of online supervision

Whereas all Portuguese teacher educators were involved with the practicum, only five of the Norwegian sample were. Both Norwegian and Portuguese participants had mostly virtual supervision which the teacher educators found challenging: “moving suddenly the practicum

from the classroom to online teaching was very challenging” (D6, Portugal). They had difficulties in doing lesson observation online and they express that they had to rely on cooperating teachers/mentors as they “could not watch the activities that each student performed” (D4, Portugal). In both cases the students taught less than usual.

There was always the feeling that something could not be captured and resolved. The learning of future teachers fell short of their expectations and that of the teacher educators. (D8, Portugal)

My experience with digital practice experience is bad. I experienced that it was difficult to collaborate with the cooperating teacher, and in addition it was hard to get an impression of students’ teaching skills just by watching short extracts from their teaching put online. (D6, Norway)

The issue of feedback and the focus on lesson planning were reiterated by the participating teacher educators. The Portuguese sample claim that they spent more time on feedback, especially written feedback, and the Norwegian sample found providing feedback difficult as they did not observe full lessons. They focused more on the context of the school instead of the actual teaching. They also claim that supervision strategies were limited even though they took advantage of the digital tools and platforms to enhance the ongoing and reflexive interaction with the student teachers doing their practicum, either virtually or in a hybrid format.

I just reinforced the contact with the students using the digital means to do supervision and to promote the learning of student teachers regarding remote teaching, including resources and applications. I have also supported them in emotional terms. (D7, Portugal)

Some positive views were also identified. These relate to the rapid adaptation of student teachers to the online environment and their capacity to devise creative solutions to respond to the challenges of a virtual or hybrid practicum. In addition, the use of diversified and flexible

approaches to supervision and an emphasis on planning and reflection was identified which corroborates earlier work (LA VELLE et al., 2020) within the context of learning from the practice being no longer in practice (KIDD & MURRAY, 2020) and of an ideal(ised) practice (FLORES & GAGO, 2020).

Online didactical approaches were explored which (hopefully) will be useful for the students in their future careers when they meet their pupils and also have to use digital tools when teaching. (D3, Norway)

I was surprised that how in 2020 practicum students adapted and started rapidly online teaching. (D10, Portugal)

In other words, whilst the participants expressed concerns regarding the fact that practicum experience was curtailed during the COVID-19 pandemic, some of them spoke of positive views associated with flexibility in the supervision style and creativity and diversity of planning and pedagogical activities. Additionally, students started to use online teaching in their own practice, a likely method to be common in education post-Covid. Teacher educators and students will benefit from taking advantage of the learning potential as well as of the flexible, creative, and innovative solutions devised during the pandemic and to expand them through, for instance, supportive mentoring and collaboration (DARLING-HAMMOND & HYLER, 2020) and through new online and hybrid communities of practice (KIDD & MURRAY, 2020).

Professional learning: expansion of the digital literacy and ‘enhanced reflection’

The experience of online teaching, although tiring and demanding, represented a rich opportunity for professional growth. Again, there are more similarities than differences in the participants’ responses from both countries. Both felt the lockdown had taught them to become more open minded to new modes and variety in teaching. They developed an appetite and motivation to learn more due to the pandemic. This was related not only to the discovery of new digital tools and platforms, but also to the search for new ways of doing teaching in a changed scenario.

It is now easier to me to work virtually with the students. (D10, Portugal)

In this case it is an extreme change which evokes development. (D9, Norway)

The focus on flexible approaches linked to student autonomy and the development of creative responses to meet the requirements and demands of online teaching is reiterated in their accounts.

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I experience that my change- and development competence has been strengthened strongly during the pandemic. The fact that I was forced to think creatively and search for new approaches have contributed to development of my didactical competence. (D3, Norway)

This [experience] has required the adoption of flexible plans that help to adapt to new situations without losing sight on our main goals in teacher education. (...) this situation has shown me that it is possible to increase students' autonomy in many ways. I should assist my student teachers in understanding how they may develop teaching practices accordingly. (D6, Portugal)

The respondents acknowledge that they had opportunities to expand their digital literacy, but also to reflect on their practice as teacher educators and on their professional values. These were related to a student-centred approach and through an 'enhanced reflection' on our role as teacher educators' (D3, Portugal). The affective aspects of teaching were mentioned by both samples, pointing to the understanding of the importance of body language and physical communication and the awareness of the psycho-social environment.

The value of face-to-face teaching was brought up several times under several questions by both samples. Ljungblad (2021) states that teaching is relational, and developing relational competence is integrated in teaching competence. Teacher educators in the current study emphasise the importance of developing relations in their own practice, serving as models for student teachers.

The strengthening of their own digital literacy was mentioned by nearly all participants in both samples, as well as the discovery of a variety of tools and platforms, and the importance of providing clear instructions. The focus on technology gave rise to a focus on pedagogy, in

particular on how to strengthen student participation, engagement and autonomy. The Portuguese participants stressed the importance of and need to increase student autonomy, the need for a revolution in teaching and the fact teacher needs to be a “chameleon” showing the ability to adapt. This came up in the Norwegian sample under other questions, the need for flexibility and creativity. Both samples mentioned a deeper understanding of reflecting on their own teaching. All felt they experienced increased opportunities for self-evaluation of teaching and were constantly seeking improvement. The lockdown seems to have been a push for professional development. This is in line with existing literature which has shown how teachers educators responded to the challenge of the move towards the online environment by making use of their ‘pedagogic agility’ (KIDD & MURRAY, 2020) to rethink their practices in innovative and creative ways (LA VELLE et al., 2020; ELLIS, STEADMAN & MAO, 2020; SCULL et al., 2020) making use of their professional expertise and reflecting on the possibilities of the forced change of teacher education practices (SMITH et al., 2021).

The future of teacher education: A mandatory digital “revolution” and the revitalisation of face-to-face interaction

In general, there is a shared understanding that teacher education is not going to be the same after the Covid-19 pandemic. While the participants agree that a mandatory digital revolution has started with the use of more technological tools (e.g. gamification), they also spoke of the revalorisation/revitalisation of the face-to-face format, making the most of both worlds:

I cannot see for myself we move to only digital teaching. At the same time, I see unknown possibilities for how digital tools can complement face -to-face teaching. (D2, Norway)

This lived experience on the one hand allows to reinforce the capacity for us to reinvent ourselves. On the other hand, this experience has reinforced the preference for face-to-face models and these were revitalised. (D5, Portugal)

As this last quote illustrates, the capacity to reinvent themselves as teacher educators was linked to the idea of change as a key feature of teaching and of teacher education. The need to constantly adapt and improve was reiterated, particularly in face of uncertain scenarios.

The development of digital competencies was seen as a key component of teacher education, but not a sufficient one. Future teachers must learn to be able to handle complex situations in an unknown future. As such, there will be more online learning and teaching, but also physical meetings in teacher education, and therefore it will not be only online. Technology should be used as a mediator of learning and needs to be at the service of pedagogy, at the same time as there will be more online interaction, e.g. using of zoom for staff and other meetings. Such view requires the development of digital literacy of both student teachers and teacher educators, but also the awareness of their role in terms of agency and commitment.

There is a need to promote student teachers' commitment to the educational process and to their identity development focusing on the "inside and reflection". They need to feel as educational and change agents in face of the diversity of educational contexts. Teacher education also needs to promote the opportunity to build learning experiences that may be implemented in a diversity of scenarios: face to face, hybrid and remote teaching. (D7, Portugal)

I have become more appreciative and aware of the aesthetic aspect of teaching and learning. The use of senses, to allow multiple forms of expression- not just academic writing. (D1, Norway)

The Portuguese participants also stressed the need to adapt teacher education to diverse student groups, which is an increasing issue. Preparing student teachers to be able to work in different contexts and with heterogeneous groups was also seen as a key component of teacher education.

Teacher education needs to reinforce the dimensions of agency, commitment and professional development in order to promote teachers' competencies of

decision making, the distinction between the essential from the non-essential, reflexivity, adequacy and adaptation to the context. (D7, Portugal)

The Portuguese participants also question the narrow focus on technology and stress the need to resist seductive ideas of the “technology "lovers" (D9, Portugal) and of technology as the panacea and to include the interaction with the physical and social reality as well as feelings and emotions. They fear that “technology will be the focus and not the means” and they are worried about the attractiveness of the profession in the future, in light of change in the policy of initial teacher education due to the aging of the teaching workforce and the shortage of teachers. The prospect of student teachers spending less time in higher education institutions and more time in schools, with online supervision only, explains their scepticism in regard to the future of initial teacher education in Portugal which may serve “market needs at the expense of quality in teacher education processes” (D3, Portugal). One of the Norwegian participants mentioned the responsibility of the leadership in the unavoidable changes teacher education will be subject to. The question is not if there will be changes, but who and how they are going to be formed.

Developing teaching is a lonely job at a university. Therefore, I believe that the future of teacher education in terms of innovative teaching methods depends too much on the individual. Facilitating collaboration and expecting professional collaboration on teaching is something the leadership must take seriously. (D5, Norway)

Conclusion

The current study is small scale study both as regards the size of the sample (20 teacher educators), the convenient selection of the sample, and the data-collection instrument. We argue, however, that the participants are representative for the two contexts, and the open-ended questionnaire was framed by Engeström’s basic questions of expansive learning. Furthermore, the questions were developed in relation to existing literature and the authors’ experiences with teacher education during the lock-down.

The written responses suggest that the COVID-19 pandemic has entailed a forced transition to online teaching and learning and, in most cases, to virtual experiences of practicum. The responses reflect expansive learning outcome and processes. Practices were transformed, and new theoretical understandings were developed. The responses also tell about empowered sense of agency (ENGESTRÖM, 2001), that teacher educators themselves decide how and when to use technology.

The sudden imposed change has challenged teacher educators' usual practices of teaching in various ways, namely regarding interaction patterns, to the use of different tools and platforms and to the adaptation of pedagogy in a demonstration of their 'pedagogic agility' (KIDD & MURRAY, 2020). It is clear from the experience of both Norwegian and Portuguese participants that change is a key feature of teacher education in the post-Covid times. Such change is related to a greater use of technology ('a mandatory digital revolution') and a more proficient digital literacy from the part of both students and teacher educators but it goes beyond that. Whilst the development of digital competences is seen as a key component of teacher education beyond the pandemic, the need to enhance flexible and innovative approaches to teaching and creative pedagogies to foster student engagement is also highlighted which is in line with earlier empirical work (SCULL et al., 2020; ELLIS, STEADMAN & MAO, 2020). However, if change is a key word in thinking about the future of teacher education in the post-Covid times, there are also elements of continuity, specifically as regards the importance of in-person interactions and the place of professional values and pedagogic principles associated with dialogic, student-centred and flexible orientations to teaching and to teacher education. The value of face-to-face teaching has been strengthened and, in the participants' views revitalised, as they made sense of their experience of being teacher educators online. An initial focus on technology has given rise to a focus on pedagogy, and the importance of teacher-student interaction in its multimodal and dynamic nature is stressed. Moreover, affective aspects of teacher education and the students' well-being are likely to draw more attention in future practice. The experience of virtual practicum and online supervision entailed major challenges for teacher educators who have underlined the role of reflection about teaching contexts and lesson planning, but who also have questioned its effectiveness in terms of the practice of teaching and learning. Yet, they recognise the need to reconceptualise the role of student

teachers as they can be seen as an asset to think about teaching in different ways. Teacher education providers need to consider new contexts and spaces for professional learning during initial teacher education, and in particular in practicum, to strengthen the practical aspects of students' learning. When planning for the future, we argue that there is a need to rethink how teacher education (structure and venues) should change in response to lessons learned from the lockdowns. A central question is what teacher educators need to learn to model teaching for an unknown future. One possibility is to think beyond more contingent responses to external factors, such as the crisis resulting from Covid-19 and the closure of institutions, and to consider long-term consistent processes of change in teacher education.

References

- ANDERSON, T., ROURKE, L., GARRISON, R., & ARCHER, W. Assessing teaching presence in a computer conferencing context. **Journal of Asynchronous Learning**, 5 (2), 2001. pp. 1-17. doi:10.24059/olj.v5i2.1875.
- CARRILLO, C., & FLORES, M. A. COVID-19 and Teacher Education: a Literature Review of Online Teaching and Learning Practices. **European Journal of Teacher Education**, 43 (4), 2020. pp. 466-487. doi:10.1080/02619768.2020.1821184.
- COOLICAN, M., BORRAS, J. C., & STRONG, M. Argentina and the COVID-19: Lessons Learned from Education and Technical Colleges in Buenos Aires Province. **Journal of Education for Teaching**, 46 (4), 2020. pp. 484-496. doi: 10.1080/02607476.2020.1802204.
- DARLING-HAMMOND, L., & HYLER, M. E. Preparing Educators for the Time of COVID ... and Beyond. **European Journal of Teacher Education**, 43 (4), 2020. pp. 457-465. doi:10.1080/02619768.2020.1816961.
- Decree-Law 74/2006. Diário da República nr. 60/2006, Series I-A de 2006-03-24, pp. 2242 – 2257. <https://data.dre.pt/eli/dec-lei/74/2006/03/24/p/dre/pt/html>
- Decree-Law 43/2007. Diário da República nr. 38/2007, Series I de 2007-02-22, pp. 1320 – 1328. <https://data.dre.pt/eli/dec-lei/43/2007/02/22/p/dre/pt/html>
- Decree-Law 79/2014. Diário da República nr. 92/2014, Series I de 2014-05-14, pp. 2819 – 2828. <https://data.dre.pt/eli/dec-lei/79/2014/05/14/p/dre/pt/html>
- ELLIS, V., S. STEADMAN, & Q. MAO. 'Come to a Screeching Halt': Can Change in Teacher Education during the COVID-19 Pandemic be seen as Innovation? **European Journal of Teacher Education**, 43 (4), 2020. pp. 559-572. doi: 10.1080/02619768.2020.1821186.



ENGESTRÖM, Y. Expansive Learning at Work: Toward an activity theoretical reconceptualization. **Journal of Education and Work**, 14 (1), 2001. pp. 133-156. doi: 10.1080/13639080020028747.

FLORES, M. A. Linking teaching and research in initial teacher education: knowledge mobilisation and research-informed practice. **Journal of Education for Teaching**, 44 (5), 2018. pp. 621-636. doi: 10.1080/02607476.2018.1516351.

FLORES, M. A., & GAGO, M. Teacher Education in Times of COVID-19 Pandemic in Portugal: National, Institutional and Pedagogical Responses. **Journal of Education for Teaching**, 46 (4), 2020. pp. 507-516. doi:10.1080/02607476.2020.1799709.

GARRISON, R., ANDERSON, T. & ARCHER, W. Critical inquiry in a text-based environment: Computer conferencing higher education". **The Internet and Higher Education**, 2 (2-3), 2000. pp. 87-105. doi:10.1080/02607476.2020.1755205.

HADAR, L. L., ERGAS, O., ALPERT, B. & ARIAV, T. Rethinking Teacher Education in a VUCA World: Student Teachers' Social-Emotional Competencies during the Covid-19 Crisis. **European Journal of Teacher Education**, 43 (4), 2020. pp. 573-586. doi:10.1080/02619768.2020.1807513.

KIDD, W. & MURRAY, J. The Covid-19 pandemic and its effects on teacher education in England: how teacher educators moved practicum learning online. **European Journal of Teacher Education**, 43 (4), 2020. pp. 542-558. doi: 10.1080/02619768.2020.182048.

LA VELLE, L., NEWMAN, S., MONTGOMERY, C., & HYATT, D. Initial Teacher Education in England and the Covid-19 Pandemic: Challenges and Opportunities. **Journal of Education for Teaching**, 46 (4), 2020. pp. 596-608. doi:10.1080/02607476.2020.1803051.

LJUNGBLAD, A. L. Pedagogical Relational Teachership (PeRT)—a multi-relational perspective. **International Journal of Inclusive Education**, 25 (7), 2021. pp. 860-876. doi: 10.1080/13603116.2019.1581280.

MILES, M., & HUBERMAN, A. M. **Qualitative data analysis**. 2nd ed. Thousand Oaks, CA: Sage Publications, 1994.

QUEZADA, R. L., TALBOT, Ch., & QUEZADA-PARKER, K. B. From Bricks and Mortar to Remote Teaching: A Teacher Education Programme's Response to COVID-19. **Journal of Education for Teaching**, 46 (4), 2020. pp. 472-483. doi:10.1080/02607476.2020.1801330.

SCULL, J., PHILLIPS, M. SHARMA, U. & GARNIER, K. Innovations in Teacher Education at the Time of COVID19: An Australian Perspective. **Journal of Education for Teaching**, 46 (4), 2020. pp. 497-506. doi:10.1080/02607476.2020.1802701.

SEPULVEDA-ESCOBAR, P., & MORRISON, A. Online Teaching Placement during the COVID-19 Pandemic in Chile: Challenges and Opportunities. **European Journal of Teacher Education**, 43 (4), 2020. pp. 587-607. doi:10.1080/02619768.2020.1820981.

SMITH, K., ULVIK, M. CURTIS, E., GUBERMAN, A., LIPPEVELD, L., VISWARAJAN, S., & SHAPIRO, T. B. Meeting the Black Swan - Teacher educators' use of ICT- pre, during and eventually post Covid-19. **Nordic Journal of Comparative and International Education**, 5 (1), 2021. pp. 17-33. doi.org/10.7577/njcie.3974.

STRAUSS, A., & CORBIN, J. **Basics of qualitative research: Techniques and procedures for developing grounded theory**. Thousand Oaks, CA: Sage, 1998.

TURCHI, L.B., BONDAR, N. A., & AGUILAR, L. L. What really Changed? Environments, Instruction, and 21st Century Tools in Emergency Online English Language Arts Teaching in United States Schools during the First Pandemic Response. **Frontiers in Education**, 5, 2020. pp.1-13. doi:10.3389/educ.2020.583963.