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Creating Opportunities From the Online Teaching and Learning Challenges of the Pandemic: Improving Teacher Education in a Post-Pandemic World

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Annotation. This article aims to understand students-teachers' and programme leaders' respective perceptions of the opportunities stemming from pandemic teaching and learning challenges for enhancing ITE in a post-pandemic world. The respondents viewed these opportunities mainly in terms of using digital tools to transform teaching and learning processes, and to build a community of learners. Tangible implications and recommendations are offered for improving teacher education in a post-pandemic world.

Keywords: *online teaching and learning, teacher education, pandemic, Poland, university leaders.*

Introduction and Background

Impact of the Pandemic on Teaching and Learning Processes in Teacher Education

The COVID-19 pandemic triggered a state of emergency which was unexpected and threatening for many of us (Qiu et al., 2020), impacting countless, intersecting spheres of our lives, and demanding the urgent development and implementation of

new problem-solving methods (OECD, 2020). In terms of higher education, traditional, face-to-face classes were suddenly replaced by online teaching and learning – a profound and abrupt change that affected universities worldwide, necessitating a radical transformation of daily teaching and learning routines across diverse disciplines, but without any substantial prior development or testing of the potential online teaching and learning solutions and tools available (e.g., Cobo-Rendón et al., 2022; Dang & Zhang, 2022; Leal Filho et al., 2022; Mishra et al., 2020). Indeed, as Bond et al. (2021, p. 1) explain: 'the special feature of emergency remote education is that it is an unplanned practice, with no option than to use any kind of offline and/or online resources that may be at hand'.

In the field of teacher education, the pandemic profoundly transformed the very fundamentals of teaching and learning processes (Kidd & Murray, 2022; Mutton, 2020; Quezada et al., 2020). Student-teacher were educated remotely, and pre-service practicums, which are a rich source of firsthand knowledge about teaching practice (Flores & Gago, 2020; Vieira et al., 2021), were either drastically reduced or suspended completely. Existing international studies have shown that this unexpected transition to online teacher education created many obstacles for students-teachers, teacher educators, and programme leaders: for instance, administrative, didactic, and emotional obstacles. On a didactic level, transferring the verification of learning outcomes and the conducting of formal assessments online also presented 'a major obstacle' to students-teachers in officially completing the academic year (Montenegro-Rueda et al., 2021, p. 3). Correspondingly, Czapiewska (2021) found that teacher educators had concerns about the reliability of tests administered online (for instance, they expressed worry about who, or indeed what, would be calculating their students' grades in the digital space), as well as the fundamental efficacy of the tests. Meccawy et al. (2021) found that anxiety about assessment format was also felt by students, who suggested postponing exams, or semesters altogether, after the crisis since they believed that online modes of assessment would be unfair and lead to cheating. Indeed, some studies suggest that during the pandemic universities struggled to belatedly fulfil the 2017 *European Framework for the Digital Competence of Educators*, namely: critically reflecting on the appropriateness of various digital assessment methods, and adapting an appropriate digital assessment strategy (Núñez-Canal et al., 2022).

As in many other countries, in Poland, where this study was carried out, the pandemic created many challenges and problems for teacher education institutions (Skura & Steinhagen, 2024). In the initial emergency phase of the pandemic, Poland's teacher education system faced the problem of, firstly, 'how to provide opportunities to observe, analyse, prepare, and teach a set of lessons in an authentic setting and second[ly], how to expose students-teachers to a variety of schooling or social contexts' (FRP, 2021, p. 3). Furthermore, course content that was usually discussed and debated by students-teachers during in-person classes had to be adapted for the digital tools

available on online learning platforms (Czapiewska, 2021; see also: Korzeniecka-Bondar, 2021). On a practical level, during this phase there was significant variance in the levels of willingness and ability of teacher educators and students-teachers to employ online teaching and learning technologies (Korzeniecka-Bondar, 2021), with resistance arguably rooted in lack of training (Pituła & Grzyb, 2021; Romaniuk & Łukasiewicz-Wieleba, 2021; Tomczyk & Walker, 2021).

In the Polish context, the pandemic – i.e., both the initial emergency phase referred to above and the longer-term lockdowns caused the quality of both teacher-student and student-student interactions to deteriorate significantly (Romaniuk & Łukasiewicz-Wieleba, 2021). Fundamentally, teacher education entails much more than the delivery of an academic curriculum; teacher education is, rather, a vital platform for building the cooperation and interpersonal skills of students-teachers. However, since these social contexts, e.g. coaching, mentoring, and team-building, are comparatively difficult to facilitate online, it was hard to create a positive, mutually trusting group dynamic between students-teachers who did not know each other prior to beginning their teacher education together (Romaniuk & Łukasiewicz-Wieleba, 2021). For teacher educators, introducing elements of group work and synchronous student-student collaboration into online classes required an investment of time and effort (Topol, 2020), as well as the digital competences needed for creating and facilitating virtual classrooms and breakout rooms (Klimowicz, 2020).

The Pandemic as a Trigger for Transforming Teacher Education

To date, researchers have mainly explored the negative impact of online teaching and learning on education (e.g., Bozkurt & Sharma, 2020; Hammerstein et al., 2021; Swanson & Gusev, 2022). Indeed, a plethora of existing studies focus on the challenges posed to teacher educators and students-teachers by online teaching and learning (e.g., Kaufmann & Vallade, 2021; Nguyen et al., 2020). However, very few studies explore the liberating, transformative potential of these shifts from in-person to online teaching and learning: namely to what extent they may serve as a source of innovation and potential for the future of teacher education (George et al., 2020; Zhao, 2020). In fact, it is possible to view the pandemic as 'an opportunity and an exercise for emergency remote teaching', both in terms of 'evaluat[ing the …] challenges [which emerge] during emergencies and develop[ing] a coherent online education strategy for any other emergencies or natural disasters that [could] potentially happen in the future' (Ferri et al., 2020, p. 2). Pendergast and O'Brien (2023) regard the pandemic as having the potential to lead to innovation in education on a more sustained basis too; i.e., following a sudden change that disrupts and displaces the existing status quo, a new space for transformation and reinvention thus opens up. Several studies in the field of teacher education seem to ratify this view with evidence of how the pandemic drove teacher educators 'to consider new ways of working, to adopt innovative approaches to

pedagogy, and to re-conceptualise the nature of their teacher education programmes' (e.g., Mutton, 2020, p. 439; cited in Burn et al., 2022; see also: Ellis et al., 2020) – going far beyond the initial, reactive shift to online classes and towards the careful integration of online teaching and learning into day-to-day teaching pedagogy post-pandemic (Burn et al., 2022). In other words, the pandemic, although destructive to education and life more generally in many ways, provided an opportunity to create new conditions for teacher education, including didactic and pedagogical solutions better able to respond to the urgent and important responsibilities allocated to teachers in contemporary Poland, such as supporting the wellbeing and learning trajectories of students from Ukraine. The importance of this unique period of development is highlighted by Hofer et al. (2021): 'The lessons learnt about online teaching and learning in crisis situations should not be forgotten, but kept in mind for other possible crisis situations, and used to develop and improve digital education in normal times' (p. 8).

However, regrettably, recent studies and policy reports carried out in Poland and internationally show that university authorities are largely focused on reverting to pre-pandemic norms, thus overlooking valuable lessons hard won during this period (e.g., FRP, 2021; Leach et al., 2021). Therefore, mindful of how profoundly difficult pandemic online teaching and learning was to navigate, as well as how invaluable these lessons are for the long term development of our teacher education systems, this paper centres on the aspects of online teaching and learning that can meaningfully be carried forward into the future of teacher education. More specifically, it seeks to harness this as yet underexplored, but rich and transformative, potential emerging within initial teacher education during the pandemic and now post-pandemic.

The study presented in this paper seeks to address the following research question: What opportunities do students-teachers and teacher education programme leaders perceive stemming from pandemic teaching and learning challenges for enhancing initial teacher education in a post-pandemic world?

Research Design

Procedure, Data Collection, and Sampling

The data was gathered in two phases from the initial teacher education (ITE) community of one university in the north-east of Poland, which provides ITE programmes for pre-school and primary school teachers: firstly, a survey-based study of prospective teachers, followed by an interview-based study with programme leaders responsible for the design and delivery of the ITE programmes. In response to national lockdown measures, the university ceased in-person teaching and learning in March

2020, switching to fully online teaching and learning until October 2020. From the beginning of the 2020/2021 academic year, teaching and learning were carried out in a hybrid format, and the university resumed its in-person teaching in October 2021.

The student-teacher survey was conducted by the first author across December 2020 and January 2021, and encompassed n = 104 first-year students from the university's pre-school and primary teacher ITE programme (all of whom were female, since there were no male students in that year group). The students-teachers had a mean age of 19.3 (min. 19; max. 22). None of them had any prior formal teaching experience, as, since 2019, there has been a requirement for all elementary school teachers to have a master's degree.

This survey is part of the first author's larger research project exploring students-teachers' opinions on the changes in how the education system operates brought about by the pandemic (Korzeniecka-Bondar, 2021; 2021a). The survey questionnaire included a total of seven open-ended questions about the changes students-teachers experienced as a result of the pandemic, organised around the following areas: the spatial and temporal organisation of their ITE (one question); teaching and learning interactions (two questions); and teaching and learning formats (three questions). Participants provided their demographics - i.e., age, gender, and teaching experience prior to participating in the study. For the aims of this study, we used student-teachers' responses to these last two survey questions regarding their perceptions of the teaching and learning they experienced during the pandemic as a potential space or stimulus for the transformation and re-invention of ITE: What are the teaching approaches you would like to see maintained after the pandemic? and How can ITE programmes be enhanced in order to better prepare students-teachers for entering their profession in a post-pandemic world?

To create a more complete picture of the potential benefits of remote teaching and learning, an interview-based study was also conducted among ITE programme leaders. The decision to include programme leaders in this study was made in light of Siddique et al.'s (2011) argument that if 'faculty members are well motivated and satisfied, then the university will be effective. Faculty satisfaction is important for the management because they want to retain and attract talented staff [...]'. However, a tension also seems to exist between students-teachers and programme leaders: 'students tend to avoid [them] due to perceptions that they will not understand the students' problems, care about the[ir] issues, or potentially make the student feel shamed or judged' (Rizzo et al., 2021, p. 53). Therefore, in an attempt to represent the co-existent perspectives of both parties in this perhaps problematic relationship, this study recognises these two perspectives as complementary: when taken together, they cumulatively offer an opportunity to paint a fuller picture of the benefits of remote education.

The interview schedule was organised around four main topics: 1) the benefits and 2) the negatives of online teaching and learning for planning, organising, and

evaluating students-teachers' learning (in the short term and in the long term); and 3) the opportunities and 4) the risks presented by online teaching and learning for transforming future ITE. Participants were also asked to provide details about their personal and professional background (i.e., gender, age, current position held, and years of leadership experience in higher education settings). For the purposes of this article, the programme leaders' answers are used to address the first and third topics outlined above, i.e., about the benefits and opportunities presented by the online teaching and learning of the pandemic for thinking critically about the future of ITE in the post-pandemic world. Three of these interviews were conducted in person at the university, and four sets of responses were received as written responses to the formulated questions.

The teacher education programme leaders in this study (n = 7) held the following professional positions: vice-rector (n = 1, male), dean (n = 1, male), and vice-dean (n = 3 female and n = 2 male). The programme leaders had a mean age of 52 (min. 41; max. 67), and an average of 7.42 years of leadership experience in higher education settings (min. 2 years; max. 20 years). Their interviews were conducted by the first author in early 2022, more than a year after the student-teacher survey, a time point chosen in order to gather data on the leaders' longer term perspectives of online teaching and learning. The aim of this phase of the research was to explore programme leaders' perceptions of the opportunities stemming from pandemic teaching and learning challenges for enhancing ITE in a post-pandemic world.

Data Analysis

Data-driven thematic analysis was used to analyse the students-teachers' responses to the open-ended survey questions and the programme leaders' verbal and written responses to the interview questions, in order to identify, report, and analyse patterns, i.e., themes, within the data in a nuanced and detailed manner (Braun & Clarke, 2006). Then, the three sets of written texts (i.e. the students-teachers' written survey responses to the open-ended questions, the programme leaders' written interview responses, and the programme leaders' verbal interview responses transcribed by the researchers) were coded in two phases. In the first phase, the researchers individually did multiple reads of the students-teachers' written survey responses and the programme leaders' written and transcribed interview responses, in order to initially assign descriptive codes to the excerpts they identified as being pertinent to the concerns of the research questions. During this phase, the researchers analysed the initial codes and the data multiple times: a process involving constant back and forth between the entire dataset and the coded data fragments in order to confirm the credibility and validity of the emerging codes and themes (Braun & Clarke, 2006). In the second phase, the researchers shared their initial list of codes and categories via a Google Drive folder, then discussed those lists together, before establishing categories and assigning them to a final theme list. An

integral part of this data analysis process was the writing of memos (i.e., short, analytical notes of thoughts, ideas, and questions regarding possible interpretations of the data). This memo-writing process began during the first phase of data analysis, with all three researchers noting down ideas and potential coding schemes based on the emerging data, and continued throughout the full data coding. Memos were helpful in critically considering the potential coding schemes, in line with how well they could address the research questions, before a decision was made to accept or reject them (Lincoln & Guba, 1985).

Ethical Issues

The study was conducted in accordance with the *Code of Ethics for Researchers of the Polish Academy of Sciences* (2017). In particular, the following ethical principles were applied: all participants were informed that their participation would be anonymous and voluntary and that they would have the right to withdraw their involvement or consent without stating a reason and at any point. The participants gave verbal permission for their responses to be cited anonymously in forthcoming publications.

3 Findings

In order to understand the perspectives students-teachers and programme leaders respectively have of the opportunities stemming from pandemic teaching and learning challenges for enhancing ITE in a post-pandemic world, the research findings are presented separately: the results of the student-teacher survey; the results of the semi-structured interviews with programme leaders.

Student-Teacher Survey

One main theme emerged from analysing the data generated from the students-teachers' responses to the open-ended questions: using online tools to transform post-pandemic ITE teaching and learning processes. A summary of the overarching theme and subthemes is shown in Table 1.

Table 1
Summary of Themes and Subthemes: Students-Teachers' Cohort

Overarching theme	Subthemes
Using online tools to transform post-pandemic ITE teaching and learning processes.	Integrating a range of online tools into teaching processes on a permanent and accessible basis (i.e. for use post-pandemic at any time and by all learners).
	Creating valuable online learning opportunities for students-teachers (i.e. that go beyond simple slideshows).
	Building a community of learners through and in online environments.

The students-teachers identified how online tools could be used to change and transform ITE post-pandemic teaching and learning processes, including: integrating a range of online tools into teaching processes on a permanent and accessible basis; creating valuable online learning opportunities for students-teachers; and building a community of learners through and in online environments.

Integrating a range of online tools into teaching processes on a permanent and accessible basis

The majority of students-teachers identified the use of a range of online teaching and learning tools as an element of pandemic teaching and learning processes worth incorporating into ITE on a more permanent and accessible basis, as well as viewing them as an important factor in its future transformation. What they emphasised most frequently was the accessibility of online teaching and learning tools, such as Zoom, Teams, and Google Meet, along with both programme leaders' and students-teachers' increasing abilities in using them for pedagogical purposes. The following citations are illustrative:

> ... we will continue using the platforms we have been using. The teacher educators have expanded their competences ... and it has taught them to have more positive attitudes [towards the use of modern technology in ITE]. [student-teacher 73]

> … certainly some teacher educators will continue to use the platforms to share materials for us to use when preparing for their sessions. [student-teacher 39]

> …, various modern technologies, i.e. multimedia equipment, will be used more often in ITE. [student-teacher 17]

Regarding specific devices used in the teaching process, the students-teachers mentioned interactive whiteboards and computers with internet access, identifying them as a means to diversify the ways teacher educators convey course content. One student-teacher explained:

> In the classroom, our teacher educators already use, for example, a multimedia whiteboard more often and more willingly than a regular chalkboard. [student-teacher 36]

Creating valuable online learning opportunities for students-teachers

Following the shift initially necessitated by the pandemic, the students-teachers perceived online teaching and learning as having become an opportunity and space for: hybrid classes (i.e. to optimise their timetables by avoiding gaps between sessions in their daily schedules); teacher educators sharing materials with and setting tasks for their students; teacher educators making their classes more interesting for their students; presenting exemplary student work as an example to peers; students-teachers' group work (e.g., joint presentations and projects); submitting papers; conducting mid-term tests; and teacher educators preparing whole modules for delivery online. The student-teachers viewed all of these opportunities as allowing teacher education communities to be ready to face future situations or emergencies where students-teachers are forced to be absent from their classes.

> … there will be more multimedia elements in ITE, teacher educators will use various forms of technology to make their classes more interesting, e.g. multimedia presentations, and continue their use of the interesting websites/educational channels they used during remote teaching. [student-teacher 35]

Indeed, the students-teachers stressed that this comparatively innovative and active approach to teacher education, as facilitated via the use of multimedia technology, was transformative in terms of making learning processes more attractive and interactive for them.

Building a community of learners through and in online environments

The students-teachers also spoke about using online teaching and learning tools to build a community of learners, specifically in terms of: communication between student-teachers; communication between students-teachers and teacher educators; and communication between student-teachers as future teachers and diverse education actors.

Most of the students-teachers noted that remote education had significantly expanded the range of digital channels and opportunities open for their own communications among themselves. For example, they explained that using social media platforms – naming Facebook, Twitter, Instagram, Snapchat, YouTube, Pinterest, and Slideshare as examples – enabled collaborative learning, enhanced their peer-to-peer interactions and relationships, and offered attractive ways via which to acquire and exchange information. On a pedagogical level, they noted that running learning activities via such digital channels provided opportunities for them to work in online groups, and to

create virtual learning communities of both students-teachers and teacher educators. Looking to the future, one student-teacher stressed:

> … online group work, even extracurricular online group work, should be sustained. [student-teacher 15]

In terms of indirect communication between students-teachers and teacher educators (i.e., not in-person), the former explained that using digital communication made it easier, faster, and less stressful to contact teacher educators, noting especially that email contact had become 'freer' [student-teacher 6]. Collectively, the students-teachers appreciated how the range of digital options facilitated communication on different levels (e.g., fast or slow, in-depth or brief), on the one hand, 'there may be increased contact with teachers through instant messaging, not only in-person, within the actual building' [student-teacher 1]; and on the other hand, 'there will be some notes or to-do tasks sent out by teachers via email for longer messages' [...] [student-teacher 20]. The students-teachers understood these modes of indirect communication as being an important replacement for direct communication, when the latter was difficult or impossible. One student-teacher explained:

> … the current situation has opened up many possibilities for us. We use a lot of software, we learn to communicate [in an online environment] despite obstacles. Even if our teacher educators initially do not want to use these platforms, we will do it willingly and apply it to our own professional practice. [student-teacher 25]

Another student-teacher further explained that:

> … maintaining student to teacher educator contact during periods of remote learning ensures 'a better use of both students' and teacher educators' time (e.g. when someone is off sick, there is no need for them to fall completely behind on the work). [student-teacher 20]

The student-teachers also reported that the digital competences they gained as a result of online learning will, in turn, expand their opportunities to make contact with not only their future students, but different types of education stakeholders. One student-teacher articulated:

> For the longer term, in my opinion, online meetings could be utilised for issues such as a meeting with parents, or with the pedagogical council, etc. In the future, teachers and everyone they are in professional contact with will definitely benefit from the technological knowledge they have gained in order to communicate during the pandemic. [student-teacher 18]

Semi-structured interviews with teacher education programme leaders

Analysis of the interview transcripts identified three key themes pertaining to the programme leaders' perceived benefits of online teaching and learning for future transformations in ITE: redefining the role and importance of online teaching and learning tools in students-teachers' learning processes; increasing teacher educators' sensitivity to their own and students-teachers' online teaching and learning needs; and managing teacher education institutions' resources more efficiently. A summary of the overarching themes and subthemes is shown in Table 2.

Table 2
Summary of Themes and Subthemes: Teacher Education Programme Leader Cohort

Overarching themes	Subthemes
Redefining the role and importance of online teaching and learning tools in students-teachers' learning processes.	Utilising online tools to create and nurture truly contemporary teaching and learning environments.
	Harnessing the accessibility and scheduling benefits online tools offer.
	Tackling the ethical issues accompanying their use.
	Enjoying long-term benefits of adopting them.
Increasing teacher educators' sensitivity to their own and students-teachers' online teaching and learning needs.	Promoting the value of familiar surroundings for students-teachers.
	Cultivating the benefits of communicating online.
	Strengthening relationships with students-teachers remotely.
Managing teacher education institutions' resources more efficiently.	Using online tools to address time and bureaucratic issues.
	Taking resource inventories and upgrading online teaching and learning resources.
	Becoming ready to tackle future needs and crises via employing online tools used during the pandemic.

Redefining the role and importance of online teaching and learning tools in students-teachers' teaching and learning processes

Our findings identified changes in the role and importance of online teaching and learning tools in educating students-teachers, covering: utilising online tools to create and nurture truly contemporary teaching and learning environments; harnessing the accessibility and scheduling benefits online tools offer; tackling the ethical issues accompanying their use; and enjoying long-term benefits of adopting them.

Across the board, the programme leaders acknowledged the value of technological devices (naming computers, smartphones, web cameras, microphones, etc.) in both facilitating the sudden shift to remote education brought about by lockdowns, as well as giving rise to ongoing opportunities to create and nurture truly contemporary teaching and learning environments. However, this sudden shift to remote education rendered such tools not only indispensable but commonplace in teaching and learning, thus now giving rise to ongoing opportunities to create and nurture truly contemporary teaching and learning environments. According to one programme leader, there has been:

> … a redefinition of the role and importance of modern technologies in students' learning processes. Their [students-teachers'] access to and increased familiarity with [such technology] has also contributed to the emergence of new and active teaching methods. They may now, and in the future, constitute not only an enhancement of traditional classes, but form an integral part of them. [programme leader 4]

Furthermore, in terms of delivering ITE to students-teachers, another programme leader pointed out the new 'ease of access to interesting teaching materials [and the] creation of platforms with accessible materials', which they described as 'multisensory teaching' [programme leader 5].

In terms of students-teachers being able to access ITE, some of the programme leaders reported a significant increase in the audience reach of lectures thanks to the use of online tools – highlighting in particular the lack of financial investment required in the process. As one of the interviewed programme leaders said:

> … the option to participate online or to use recordings increases access ... to events (such as seminars and scientific conferences) where real experts are present, as well as allows 'students to revisit the content covered in them' at a time of their own choosing. [programme leader 4]

The programme leaders' interview responses also highlighted the removal of spatial and temporal limitations facilitated by adopting online teaching and learning tools. This citation is illustrative:

> Remote education also provided the opportunity for students to organise their learning schedule and location on an individual basis: they decided for themselves where and when they logged in to participate in learning activities and whether they combined them with other activities they needed or wanted to do (e.g., walking, cooking, or doing house work). [Online teaching and learning] opened up the possibility of 'time dredging' – doing multiple activities simultaneously. [programme leader 2]

Simultaneously, the programme leaders stressed that this increased flexibility afforded by shifting ITE online should be matched by renewed ethical commitment from both students-teachers and teacher educators, specifically in terms of students-teachers not using access to online resources as a means to cheat in online

exams, and teacher educators not downloading exclusively ready-made classroom resources. One programme leader stressed:

> I believe that in a pandemic-free situation (as well as during a pandemic), participation in remote education requires honesty, maturity, and responsibility on the part of both the student and the teacher educator. [programme leader 3]

The same leader continued to explain that the ethical issues of online teaching and learning are so important that:

> ... it requires additional programmes and training [i.e., for both students-teachers and teacher educators]. [programme leader 3]

The benefits and challenges presented by the shift to online teaching and learning prompted all of the programme leaders to reflect on their own teaching practice from a longer-term perspective – in particular regarding the key benefit of improving their own competences and reconceptualising their taught subjects, encompassing course objectives and content, as well as their own teaching methods and the verification of learning outcomes. This programme leader's comments are illustrative:

> When education went remote ... the new [i.e. online] forms of education forced educators to improve their skills and broaden their competences. It also became necessary to update entire programmes and syllabuses, adjusting them to the emerging situation and to the changing expectations of students. [programme leader 1]

Similarly, another leader spoke of the innovative potential generated by the demands of shifting to online teaching and learning:

> The pandemic situation, which was sudden and unplanned, revealed the enormous potential inherent in both remote education and its participants (both students and teachers). It triggered, by way of necessity, a drive to master technological innovations that many of us did not know existed. [programme leader 3]

Increasing teacher educators' sensitivity to their own and students-teachers' online teaching and learning needs

The shift to online teaching and learning was viewed by the programme leaders as a means of increasing their sensitivity to their own online teaching and learning needs, as well as their students, spanning: promoting the value of familiar surroundings for students-teachers; cultivating the benefits of communicating online; and strengthening relationships with students-teachers remotely.

Some programme leaders highlighted how remote education has become an opportunity for students-teachers with specific emotional and psychological needs to learn in a reassuring and familiar environment. They explained this sense of comfort in the following ways:

> … remote education has also provided a safe learning environment for students with various types of anxiety or phobias. [programme leader 2]

and

> … for those [students-teachers] who have social anxiety, accessing education online has reduced stress … by implementing teaching activities in a friendly, homely environment. [programme leader 5]

The programme leaders also explained that teacher educators became more open to diverse forms of communication with student-teachers:

> … the situation has provided the impetus for many teacher educators to have a greater variety of ways of contacting their students, that is, via different channels of communication. [programme leader 2]

More specifically, one programme leader highlighted the value of being able to facilitate one-to-one consultations with students-teachers remotely. Although short in length, since these meetings could be arranged at a time convenient for the students-teachers, they allowed teacher educators to meaningfully respond to questions from students-teachers on a one-to-one basis, e.g., related to their thesis work, and to maintain their teacher-student relationships.

In terms of maintaining student to teacher educator relationships, one programme leader highlighted how the format of video calls allowed them to achieve good relationships with students-teachers in the online classroom setting. In particular, one programme leader mentioned that the simple fact of the students-teachers appearing on their screen with their name displayed at all times rendered them easier to address as individuals, rather than as an anonymous group, thus allowing her to be closer to her class [programme leader 6]. The following longer extract from a programme leader's interview transcript further illustrates this maintenance of teacher-student relationships via video call:

> Remote education provides opportunities for greater personalisation of the learning process, especially in terms of responding to the particular needs of individuals and groups of students-teachers. Online teaching and learning enables students-teachers who are outside the walls of the university (e.g., due to illness, unforeseen circumstances, or trips) to participate in classes or one-to-one consultations. Remote education offers the option of reacting quickly, such as intervening to support students-teachers in difficult or unforeseen situations. [programme leader 2]

The programme leaders also explained how this opening up of their own educational practice to online teaching and learning tools allowed them to better understand the virtual world in which young people readily function on a daily basis. As one programme leader noted:

> Awareness of inevitable technological changes can be a way of bridging intergenerational gaps, finding ways to fulfil students-teachers' expectations, and tapping into the potential of the next generation. [programme leader 1]

Managing teacher education institutions' resources more efficiently

The programme leaders spoke about how the shift to online teaching and learning made it possible to more efficiently manage the resources owned by or available to their teacher education institution, especially regarding: using online tools to address time and bureaucratic issues; taking resource inventories and upgrading online teaching and learning resources; and becoming ready to tackle future needs and crises via employing online tools used during the pandemic.

Regarding time as a resource, three of the programme leaders reported that running classes from home saved time for both teacher educators and students-teachers – additionally, they noted that not having to travel to the university campus offered a corresponding financial saving to all parties. Furthermore, the programme leaders explained that working remotely was less absorbing and tiring, allowing them to allocate saved time and energy to their research work [programme leader 6], and to their family roles at home [programme leader 4]. Overall, the programme leaders reported that remote teaching and learning enabled better utilisation of teaching staff potential. Regarding bureaucracy, one programme leader highlighted that as a result of teaching and learning online, 'bureaucracy was reduced (e.g. there was no need to print out class materials, class minutes, etc.)' [programme leader 4], since many documents previously circulated as hard copies were only circulated online.

Some programme leaders also spoke about how shifting teaching and learning online necessitated taking stock of and upgrading online teaching and learning resources in higher education institutions. One noted that:

> Higher education institutions were forced to take an 'inventory' of the quantity and quality of their equipment. [programme leader 2],

while another stressed the lasting importance of

> … retrofitting infrastructure, equipping classrooms with computers – ... the equipment will stay. [programme leader 7]

Furthermore, several programme leaders highlighted how the increased quality and availability of equipment brought about by the shift to working online has created opportunities for permanently integrating online teaching and learning into teacher education and university management, especially in terms of organising conferences, workshops, seminars, and professional meetings online or in hybrid form.

Lastly, many of the programme leaders also spoke about being prepared for future needs and crises by channelling the new flexibility of teacher education actors to meet the different needs of individuals and groups undertaking scientific or teaching activities. In particular, they spoke about how needing to meet the needs of one person (e.g., the need to isolate) led them to be open and adaptable for the whole group or class, in both the planning and implementation of their teaching. This programme leader's comment is illustrative:

> … we will retain greater freedom and flexibility in planning and organising teacher education processes: using our pandemic experiences, we will be able to react more quickly if there is ever another wave of infections (forcing us into a future lockdown). [programme leader 3]

Discussion and Implications

The aim of our study was to explore the perceptions that students-teachers and teacher education programme leaders have of the opportunities stemming from the online teaching and learning challenges of the pandemic for enhancing ITE post-pandemic. Although the study findings are necessarily limited by relatively small samples of students-teachers and programme leaders from one university in Poland, we believe that some fruitful implications arose that could also be of value for wider European and international contexts. Furthermore, given that in Poland and around the world teacher education is provided by higher education institutions, our results could also offer inspiration for other disciplines and departments.

As our findings demonstrate, students-teachers and programme leaders see an opportunity to increase the role of online teaching and learning in teacher education going forwards, echoing the findings in the existing literature (e.g. Van Nuland, et al., 2020; Tilak & Kumar, 2022). Indeed, treated as unusual – or even disruptive, and therefore often banned – in Poland's education system (Czerepaniak-Walczak, 2020), online teaching and learning was first introduced as a means of optional enrichment (e.g. Tanaś, 2005) or as an innovation (Jankowska, 2022). However, the pandemic subsequently rendered it indispensable (e.g., Madalińska-Michalak, 2020; Mazurek, 2021; Tsantopoulos et al., 2022). Correspondingly, our findings suggest that the digital competences acquired by students-teachers and teacher educators during this time have now created the possibility of expanding channels of communication between teacher education actors.

Although both groups of respondents agreed in terms of which approaches and strategies are useful and important in sustaining and developing teacher education post-pandemic, there were also some key differences between their views. While students-teachers referred primarily to the material and visual aspects of online tools that they think could be easily integrated into the ITE of the future, programme leaders stressed the ethical and axiological concerns pertaining to developing online teaching and learning post-pandemic. For instance, on the one hand, the students-teachers highlighted the value of online communications platforms and of being able to access online learning content at any time, as many times as desired or needed. On the other hand, alongside appreciating the importance of these platforms, the programme leaders reflected on: the honesty and integrity of students-teachers; the value of online

teaching in addressing their learning needs and expectations; and the need to more efficiently manage teacher education institutions' resources.

However, in order to convert the opportunities stemming from the online teaching and learning necessitated by the pandemic into a sustainable and desirable reality for teacher education institutions, more comprehensive efforts from diverse teacher education stakeholders are needed: i.e., teacher educators, university leaders, researchers, CPD providers, and policy makers. Indeed, as Kuzmina et al. (2024, p. 413) found in their case study of contemporary crisis management in the Ukrainian context, in moving forwards and developing such expansions following an initial crisis, there is a need to employ both 'flexibility and gradualism in onwards planning (i.e., where technology and pedagogy are understood as interconnected) taking [university community] members' feedback into account [...], with care devoted to: upholding members' psychological well-being; offering members ongoing technical support; and strengthening trust between members.' Our study findings suggest that it is not enough to equip teacher educators with basic knowledge about online teaching and learning tools. Rather, above all, they need the skills to meaningfully integrate online teaching into ITE, i.e., where it brings advantages not offered by offline solutions, as well as the skills to facilitate and nurture interactions between students-teachers in online spaces. These findings of ours are in line with Pyżalski and Walter's findings (2021, p. 10): 'while the upgrading of teachers' skills related to basic usage of digital technologies has happened quite quickly, even despite initial resistance and difficulties, the adaptation of teaching methods and the re-scheduling of classes is still a problem today'.

Going forward, from our study, it can also be inferred that online teaching and learning tools can be utilised and developed in order to create ITE programmes which are more attractive and accessible to wider demographics than at present. Indeed, our study findings demonstrate that online teaching and learning offers greater spatial and scheduling flexibility than in-person teaching and learning. Teacher educators are more able to tailor their teaching to students-teachers' personal lives, e.g., with schedule flexibility allowing them to fulfil care responsibilities at home, and meet their unique learning needs, e.g. with the ability to revisit lectures enabling them to work at their own pace. Additionally, the unprecedented option of working asynchronously afforded by online teaching and learning gives both teacher educators and students-teachers more autonomy to manage their time in ways that ensure their own well-being. This adaptation to and accommodation of the individual needs of each and every students-teacher contributes to a student-centred approach (Mantruk & Reavis, 2022) and may make teacher educators more able to support students-teachers who have diverse learning needs (Tilak & Kumar, 2022) thus, upholding an egalitarian approach to education, i.e., 'a truly inclusive and equitable education for all' (Doucet et al., 2020, p. 7).

In terms of facilitating and nurturing teaching and learning communities online, our findings revealed that programme leaders recognise the need to match the shift of teaching and learning online with a renewed ethical commitment from students-teachers and teacher educators alike, in particular signposting the need for targeted training on the topic. Their concern that online teacher education potentially creates a space for students-teachers to cheat in the context of assessments is reflected in Rudman's (2021) case study into the risks of online teaching which highlights: '[t]he number of disciplinary cases at universities across South Africa is increasing with charges of [...] copy and pasting from examples and using content sharing platforms and subscription services to cheat and get assessment answers'.. However, conversely, recent statistical analysis conducted in the US showed that cheating is not specifically an online problem since it was already quite present before the coronavirus pandemic (Rivera-Mata, 2021). Therefore, in order to nurture (online) teaching and learning communities where cheating is not a desirable approach, we support Rivera-Mata's recommendation that faculties 'engage more in continuous evaluations' and thus rely less on end-of-term exams in the first place. Simultaneously, we call upon those who design ITE curricula to take inspiration from 'constructivist learning theories, in which the learner is an active partner in the process of learning, teaching and assessment' (Struyven et al., 2003) – since doing so would allow students to value their learning more highly than their grades: for instance, by allocating greater weighting to non-exam modes of assessment, such as placement journals, observations, presentations, independent research, etc.

Ultimately, the programme leaders highlighted that the transition to online teaching and learning has helped them to become ready to tackle future needs and crises. They particularly appreciated mutual learning: i.e. sharing knowledge and skills with peers in managing the crisis presented by the pandemic. Indeed, in light of the ongoing crisis brought about by recent radical reforms (e.g. Jendza, 2020), crisis management is an important skill for leading any Polish higher education institution. Programme leaders who share their professional practice openly, as well as plan and make decisions in cooperation with their teaching staff, have the potential to reject a workplace culture of control and rigidly measured results, and to adopt a workplace culture of trust, communication, and dialogue (Sułkowski & Seliga, 2019).

Conclusion

The crisis of the pandemic unexpectedly and radically trialled the potential of online teaching and learning in facilitating initial teacher education. By reporting the perspectives of students-teachers and programme leaders, our study shows that the shift to online teaching and learning has brought opportunities for fundamental and historic

change with it, namely: a shift into a newly student-centred approach, which renders the discipline of teacher education more accessible to more diverse students-teachers than ever, and the beginnings of a profound shift towards student-teachers being able to value their overall learning over exam grades. In terms of further research, since the present study was carried out during and directly after the pandemic, a follow-up study at the same university could review if and how the opportunities identified here have been translated into concrete actions and practice. Furthermore, to draw a more comprehensive picture of the opportunities for the future of ITE arising from the online teaching and learning of the pandemic, similar studies could be conducted at other Polish universities, as well as abroad encompassing larger and more diverse groups of students-teachers and programme leaders, in addition to employing other methodological approaches, such as case studies or phenomenography.

References

Bond, M., Bedenlier, S., Marín, V. I., & Händelet, M. (2021). Emergency remote teaching in higher education: mapping the first global online semester. *International Journal of Educational Technology in Higher Education*, *18*, 50. https://doi.org/10.1186/s41239-021-00298-3.

Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to coronavirus pandemic. *Asian Journal of Distance Education*, *15*(I-VI), 1–6. https://doi.org/10.5281/zenodo.3778083.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa.

Burn, K., Ingram, J., Molway, L., & Mutton, T. (2022). Beyond reactive responses to enduring growth: the transformation of principles and practices within initial teacher education, *Journal of Education for Teaching*, *48*(4), 441–458. https://doi.org/10.1080/02607476.2022.2098007.

Cobo-Rendón, R., Bruna Jofre, C., Lobos, K., Cisternas San Martin, N., & Guzman, E. (2022). Return to university classrooms with blended learning: A possible post-pandemic COVID-19 scenario. *Frontiers of Education*, *7*. https://doi.org/10.3389/feduc.2022.957175.

Czapiewska, G. (2021). Zmiany w jakości kształcenia akademickiego w dobie pandemii COVID-19. [The changes in the quality of academic education in the era of pandemic COVID-19]. *Kultura i Edukacja*, *3*(133), 50–63. https://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.ojs-doi-10_15804_kie_2021_03_03.

Czerepaniak-Walczak, M. (2020). Jak zmienia się „gramatyka edukacji"? O przejawach i konsekwencjach (wymuszonej) edukacji [How the "Grammar of schooling" is changing? About phenomena and consequences of forced education]. *Forum Oświatowe*, *32*(1), 13–23. https://doi.org/10.34862/fo.2020.1.1.

Dang, M. Y., & Zhang, Y. G. (2022). The impact of the coronavirus (COVID-19) pandemic on education: A model toward technology-supported synchronous remote learning. *International Journal of Information and Communication Technology Education* (IJICTE), *18*(1), 1–20. http://doi.org/10.4018/IJICTE.292481.

Doucet, A., Netolicky, D., Timmers K., & Tuscano F. J. (2020). *Thinking about pedagogy in an unfolding pandemic an independent report on approaches to distance learning during COVID-19 school closures*. https://issuu.com/educationinternational/docs/2020_research_covid-19_eng.

Ellis, V., Steadman, S., & Mao, Q. (2020). '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), 559–572. https://doi.org/10.1080/02619768.2020.1821186.

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, *10*(4), 1–18. http://dx.doi.org/10.3390/soc10040086.

Flores, M. A., & Gago, M. (2020). Teacher education in times of COVID-19 pandemic in Portugal: national, institutional and pedagogical responses. *Journal of Education for Teaching*, *46*(4), 507–516, https://doi.org/10.1080/02607476.2020.1799709.

FRP. (2021). *Szkolnictwo wyższe a technologie*. [Higher education and technology]. Wolters Kluwer. https://www.frp.org.pl/images/publikacje/publication/raport_z_badan_szkolnictwo_wyzsze_a_technologie.pdf.

George, G., Lakhani, K. R., & Puranam P. (2020). What has changed? The impact of Covid pandemic on the technology and innovation management research agenda. *Journal of Management Studies*, *57*(8), 1754–1758. https://doi.org/10.1111/joms.12634.

Hammerstein, S., König, C., Dreisörner, T., & Frey, A. (2021). Effects of COVID-19. Related school closures on student achievement. A systematic review. *Frontiers in Psychology*, *12*. 746289. https://doi.org/10.3389/fpsyg.2021.746289.

Hofer, S. I., Nistor, N., & Scheibenzuber, C. (2021). Online teaching and learning in higher education: Lessons learned in crisis situations. *Computers in Human Behavior*, *121*. 106789. https://doi.org/10.1016/j.chb.2021.106789.

Jankowska, D. (2022). Edukacja w warunkach pandemii uświadomieniem konieczności systemowego kształcenia nauczycieli do edukacji zdalnej. [Pandemic education to raise awareness of the need for systemic teacher training for remote education]. *Annales Universitatis Mariae Curie-Skłodowska*, *35*(2), 9–27. http://dx.doi.org/10.17951/j.2022.35.2.9-27.

Jendza, J. (2020). *Kultury uniwersytetu*. [The university cultures]. Wydawnictwo Uniwersytetu Gdańskiego.

Kaufmann, R., & Vallade, J. I. (2021). Online student perceptions of their communication preparedness. *E-Learning and Digital Media*, *18*(1), 86–104. https://doi.org/10.1177/2042753020950873.

Kidd, W., & Murray, J. (2022). Educators' perspectives of online teaching during the pandemic: implications for initial teacher education. *Journal of Education for Teaching*, *48*(4), 393–406. https://doi.org/10.1080/02607476.2022.2082273.

Klimowicz, M. (2020). *Polskie uczelnie w czasie pandemii*. [Polish universities during the pandemic]. Fundacja Centrum Cyfrowe Projekt SpołTech.

Kodeks Etyki Pracownika Naukowego [Code of Ethics for Researchers]. (2017). https:// instytucja.pan.pl/images/2016/komisja_etyki/Kodeks_etyki_pracownika_naukowego_-_wydanie_II_-_2016_r.pdf.

Korzeniecka-Bondar, A. (2021). Absorbed by everyday life – students' experience of the changing grammar of schooling during the coronavirus pandemic. *Acta Universitatis Nicolai Copernici Pedagogika*, *1*(41), 147–170. http://dx.doi.org/10.12775/AUNC_PED.2021.007.

Korzeniecka-Bondar, A. (2021a). Czasoprzestrzeń uczenia się w okresie pandemii koronawirusa – doświadczenia studentów studiów nauczycielskich. [The temporal space of learning during a coronavirus pandemic - the experiences of teacher education students] In A. Korzeniecka-Bondar & Z. Gajdzica (Eds.), *Czasoprzestrzeń szkoły. Co warto wiedzieć o czasie i przestrzeni szkoły [School time-space. What you should know about school time and space]*. (pp. 183–199). Wolters Kluwer.

Kuzmina, S. L., Popova, O., & Bachurina, L. (2024). Contemporary crisis management in Ukraine's higher education system: A case study from the crises of the pandemic and the invasion. *International Journal of Educational Management, 38*(2), 413–428. https://doi.org/10.1108/IJEM-07-2023-0360.

Leach, M., MacGregor, H., Scoones, I., Wilkinson, A. (2021). Post-pandemic transformations: How and why COVID-19 requires us to rethink development. *World Development*, *138*. 105233. https://doi.org/10.1016/j.worlddev.2020.105233.

Leal Filho, W., Lange Salvia, A., Abubakar, I. R., Mifsud, M., Azadi, H., Sharifi, A., LeVasseur, T., Luetz, J. M., Velazquez, L., Singh, P., et. al. (2022). Impacts of the COVID-19 Pandemic on routines of higher education institutions: A global perspective. *Sustainability*, *14*(21), 14105. https://doi.org/10.3390/su142114105.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Madalińska-Michalak, J. (2020). Nauczanie zdalne i edukacja nauczyciela – wyzwania. [Remote learning and teacher education – challenges] In N. G. Pikuła, K. Jagielska, & J. M. Łukasik (Eds.), *Wyzwania dla edukacji w sytuacji pandemii COVID-19* [*Challenges for education in a COVID-19 pandemic situation*] (pp. 13–29). Wydawnictwo «Scriptum».

Manturuk, K., & Reavis, G. (2022). Pedagogical implications of COVID-19: A case study of what faculty learned about teaching well by teaching remotely during the COVID-19 pandemic. In J. S. McKeown, K. Bista, & R. Y. Chan (Eds.), *Global higher education during COVID-19: Policy, society, and technology* (pp. 154–166). STAR Scholars. https://starscholars.org/product/global-education/

Mazurek, E. (2022). Higher education during the COVID-19 pandemic in the opinions of students in Poland. *Tuning Journal for Higher Education*, *10*(1), 263–284. https://doi.org/10.18543/tjhe1012022 .

Meccawy, Z., Meccawy, M. & Alsobhi, A. (2021). Assessment in 'survival mode': student and faculty perceptions of online assessment practices in HE during COVID-19 pandemic.

International Journal for Educational Integrity, *17*(16), 1–24. https://doi.org/10.1007/s40979-021-00083-9.

Mishra, L., Gupta, T., & Shree, A. (2020). Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, *1*. https://doi.org/10.1016/j.ijedro.2020.100012.

Montenegro-Rueda, M., Luque-de la Rosa, A., Sarasola Sánchez-Serrano, J. L., & Fernández-Cerero, J. (2021). Assessment in higher education during the COVID-19 pandemic: A systematic review. *Sustainability*, *13*, 10509. https://doi.org/10.3390/su131910509.

Mutton, T. (2020). Teacher education and Covid-19: Responses and opportunities for new pedagogical initiatives. *Journal of Education for Teaching*, *46*(4), 439–441, https://doi.org/10.1080/02607476.2020.1805189.

Nguyen, M. H., Gruber, J., Fuchs, J., Marler, W., Hunsaker, A., & Hargittai E. (2020). Changes in digital communication during the COVID-19 global pandemic: Implications for digital inequality and future research. *Social media + Society*, 1–6. https://doi.org/10.1177/2056305120948255.

Núñez-Canal, M., de Obesso, M. M., & Pérez-Rivero, C. A. (2022). New challenges in higher education: A study of the digital competence of educators in Covid times. *Technological Forecasting and Social Change*, *174,* 121270. https://doi.org/10.1016/j.techfore.2021.121270.

OECD. (2020). *The potential of online learning for adults: Early lessons from the COVID-19 crisis*. www.oecd.org/coronavirus/policy-responses/the-potential-of-online-learning--for-adults-early-lessons-from-the-covid-19-crisis-ee040002/.

Pendergast, D., O'Brien, M. (2023). 'Teachers are rock stars!' Rethinking teaching and teacher education in a post-pandemic world: Innovative disruption and silver linings. *Education Sciences*, *13*(685), 1–20. https://doi.org/10.3390/educsci13070685.

Pituła, B., & Grzyb, B. (2021). Kształcenie zdalne studentów pedagogiki w czasie pandemii COVID-19 – rozważania empiryczne. [Remote learning of pedagogy students during the COVID-19 pandemic – empirical study] *Kultura i Edukacja*, *3*(133), 88–116. https://doi.org/10.15804/kie.2021.03.05.

Pyżalski, J., & Walter, N. (2021). *Edukacja zdalna w czasie pandemii COVID-19 w Polsce – mapa głównych szans i zagrożeń. Przegląd i omówienie wyników najważniejszych badań związanych z kryzysową edukacją zdalną w Polsce*. [Remote education during the COVID-19 pandemic in Poland – a map of major opportunities and threats. Review and discussion of the results of the most important studies related to crisis remote education in Poland]. Uniwersytet im. A. Mickiewicza w Poznaniu.

Qiu, J., Shen, B., Zhao, M., Wan, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General Psychiatry*, *33*(2), 1–3. https://doi.org/10.1136/gpsych-2020-100213.

Quezada, R., L., Christie T., & Quezada-Parker K. B. (2020). From bricks and mortar to remote teaching: A teacher education programme's response to COVID-19. *Journal of Education for Teaching*, *46*(4), 472–483. https://doi.org/10.1080/02607476.2020.1801330

Rivera-Mata, J. (2021). How to teach online? Recommendations for the assessment of online exams with university students in the USA in times of pandemic. *International Journal of Educational Research and Innovation*, *15*, 188–202. https://doi.org/10.46661/ijeri.5003.

Rizzo, S., Tribble, D. J., & Nadelson, L. S. (2021). Who are their leaders? College students' perceptions of and engagement with campus leaders and administrators. *Higher Education Studies*, *11*(3), 43–55. https://doi.org/10.5539/hes.v11n3p43.

Romaniuk, W. M., & Łukasiewicz-Wieleba, J. (2021). Crisis remote education from the perspective of one-year experience of academic teachers. *International Journal of Electronics and Telecommunications*, *67*(2), 213–219. https://doi.org/10.24425/ijet.2021.135967.

Rudman, R. J. (2021). Understanding the unintended consequences of online teaching. *South African Journal of Higher Education, 35*(4), 1-12. https://dx.doi.org/10.20853/35-4-4717.

Siddique, A., Aslam, H. D., Khan, M., & Fatima, U. (2011). Impact of academic leadership on faculty's motivation, and organizational effectiveness in higher education system. *International Journal of Academic Research*, *3*(3), 730-737.

Skura, M., & Steinhagen, A. (2024). Who supported teachers during the COVID-19 lockdown? Online learning amidst a changing Polish educational system. *Teacher Development*, *28*(1), 63-80. https://doi.org/10.1080/13664530.2023.2231900.

Struyven, K., Dochy, F., & Janssens, S. (2003). Students' perceptions about new modes of assessment in higher education: A review. In M. Segers, F. Dochy, & E. Cascallar (Eds.), *Optimising new modes of assessment: In search of qualities and standards. Innovation and Change in Professional Education*, vol 1. (pp 171–223). Springer, Dordrecht. https://doi.org/10.1007/0-306-48125-1_8.

Sułkowski, Ł., & Seliga, R. (2019). Profesjonalizacja zarządzania uczelniami w Polsce. [Professionalisation of university management in Poland]. In J. Woźnicki (Ed.) *Transformacja akademickiego szkolnictwa wyższego w Polsce w okresie 30-lecia 1989–2019.* [Transformation of academic higher education in Poland in the 30-year period 1989–2019] (pp. 297-311). Konferencja Rektorów Akademickich Szkół Polskich.

Swanson, D. A., Gusev, D. A. (2022). *COVID impact on higher education classrooms.* Association Supporting Computer Users in Education. Paper presented at the Annual Meeting of the Association Supporting Computer Users in Education (ASCUE). https://files.eric.ed.gov/fulltext/ED622462.pdf.

Tanaś, M. (Ed.). (2005). *Technologia informacyjna w procesie dydaktycznym* [*Information technology in the teaching process*]. Wydawnictwo „Mikom".

Tilak, J. B. G., & Kumar, A. G. (2022). Policy changes in global higher education: What lessons do we learn from the COVID 19 pandemic? *Higher Education Policy*, *35,* 610–628. https://doi.org/10.1057/s41307-022-00266-0.

Tomczyk, Ł., & Walker, C. (2021). The emergency (crisis) e-learning as a challenge for teachers in Poland. *Education and Information Technologies*, *26*, 6847–6877. https://doi.org/10.1007/s10639-021-10539-7.

Topol, P. (2020). Metody i narzędzia kształcenia zdalnego w polskich uczelniach w czasie pandemii COVID-19 – część 2, rekomendacje. [Methods and tools for distance learning in Polish universities during the COVID-19 pandemic – part 2, recommendations] *Studia Edukacyjne*, *59*, 103–117. https://doi.org/10.14746/se.2020.59.8.

Tsantopoulos, G., Karasmanaki, E., Ioannou, K., & Kapnia, M. (2022). Higher education in a post-pandemic world. *Education Science*, *12*(1856), 1–15. https://doi.org/10.3390/educsci12120856.

Van Nuland, S., Mandzuk, D., Tucker Petrick, K., & Cooper, T. (2020). COVID-19 and its effects on teacher education in Ontario: A complex adaptive systems perspective. *Journal of Education for Teaching*, *46*(4), 442–451. https://doi.org/10.1080/02607476.2020.1803050.

Vieira, F., Flores, M. A., Coelho da Silva, J. L., Almeida, M. J., & Vilaça, T. (2021). Inquiry-based professional learning in the practicum: Potential and shortcomings. *Teaching and Teacher Education, 105*, 103429, 1–13. https://doi.org/10.1016/j.tate.2021.103429.

Wing Yan Lee, V., Lai Chuen Lam, P., Tsiu Sim Lo, J., Lai Fong Lee, J., & Tik Sze Li, J. (2022). Rethinking online assessment from university students' perspective in COVID-19 pandemic. *Cogent Education*, *9*(1). 2082079. https://doi.org/10.1080/2331186X.2022.2082079.

Zhao, Y. (2020). COVID 19 as a catalyst for educational change. *Prospects*, *49*, 29–33. https://doi.org/10.1007/s11125-020-09477-y.

Nuotolinio mokymo(si) iššūkiai po pandemijos: mokytojų rengimo gerinimo galimybės pasauliniu mastu

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Santrauka

Straipsnyje pristatomas tyrimas, kuriame dalyvavo studentai, būsimieji mokytojai (n = 104), ir mokytojai – rengimo programų vadovai (n = 7). Apžvelgiama abiejų grupių požiūriai ir nuostatos, susijusios su galimybėmis, kylančiomis dėl pandemijos sukeltų nuotolinio mokymo(si) iššūkių, siekiant po pandemijos gerinti mokytojų rengimą pasaulyje. Remiantis

apklausos klausimynais ir interviu metu surinktais duomenimis, nustatyta, kad abi respondentų grupės šias galimybes iš esmės vertina kaip nuotolinio mokymo(si) priemonių panaudojimą mokymo ir mokymosi procesams keisti, taip pat besimokančiųjų bendruomenei kurti atsižvelgiant į pandemijos padarinius. Tyrimu nustatyta, kad studentai, būsimieji mokytojai, pirmenybę teikia materialiniams ir vaizdiniams internetinių priemonių aspektams, kurie, jų nuomone, galėtų būti lengvai integruoti į mokytojų rengimą ateityje, o programų vadovai pabrėžia etines ir aksiologines problemas, susijusias su nuotolinio mokymo(si) tęstinumu ir plėtojimu po pandemijos. Tai apima dabartinius iššūkius, su kuriais susiduriama rengiant mokytojus Lenkijoje ir už jos ribų. Taip pat šis tyrimas parodo, kaip tobulinti ir plėtoti mokytojų rengimą pasauliniu mastu po pandemijos.

Esminiai žodžiai: *nuotolinis mokymas(is), mokytojų rengimas, pandemija, Lenkija, universitetų vadovai.*

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