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# Teaching practicum for primary teacher education students during the COVID-19 pandemic

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**Abstract:** The paper presents results of the research on pre-service student teachers' assessment of the usefulness of their distance teaching practicum during COVID-19 for their professional development. The sample included 238 student teachers in the 3<sup>rd</sup> and 4<sup>th</sup> years of the bachelor's degree programme as well as those in the master's degree programme at the Faculty of Education, University of Ljubljana. The students answered the online questionnaire after completing their teaching practicum in spring 2020. The results show that the majority of the students spent more than half of their time during the teaching practicum preparing various teaching materials for the pupils. About a fifth of the students provided individual help to pupils, while only a small share of them conducted their lessons via videoconferencing. The 3<sup>rd</sup> year students rated the usefulness of preparing teaching materials and the overall usefulness of the distance teaching practicum statistically significantly lower than their senior colleagues. Whether the teaching practicum is implemented in an online environment or "live", it is important to insist that student teachers assist their pupils in all phases of the teaching process and adapt it to their individual characteristics and needs to the greatest extent possible.

**Keywords:** pre-service teacher education; student teachers; distance teaching practicum; COVID-19; professional development.

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\* **Dr. Irena Hergan** (corresponding author, [irena.hergan@pef.uni-lj.si](mailto:irena.hergan@pef.uni-lj.si)) is an Assistant Professor of Social Studies in Education at the University of Ljubljana, Slovenia.

**Dr. Mojca Pečar** ([mojca.pecar@pef.uni-lj.si](mailto:mojca.pecar@pef.uni-lj.si)) is a Teaching Assistant of Social Studies at the University of Ljubljana, Slovenia.

*More information about the authors is available at the end of this article.*

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## I. Introduction

Adapting the mode of work to learning in the online environment due to COVID-19 occurred quite rapidly in spring 2020. In Slovenia, future primary school classroom teachers are educated according to the Bologna study system, the so-called 4 + 1 year model. The Faculty of Education of the University of Ljubljana includes practical pedagogical training in all four years of the bachelor's degree and one year of the master's degree programme. During their active inclusion in an authentic educational environment, pre-service student teachers (hereinafter: students) have the opportunity to learn more about the profession and assess their professional aspirations, their theoretical knowledge and its connection with practice, and their own qualifications, while gaining practical experience and various skills as they encounter the challenges of teaching. The active involvement of students in the teaching practice and the scope of their work increase with each year of their studies. While fully realising the utmost importance of direct contact with the pupils in the classroom, we had to find an alternative way of implementing the teaching practicum to allow students to continue and complete their studies despite the pandemic. This paper presents a study which provides insights into experiences that the 3rd and 4th year students of the first level and the 1st year students of the second level of the Primary Teacher Education study programme acquired within the distance teaching practicum during the COVID-19 pandemic in April 2020.

Throughout the world, many studies on the education and the teaching practicum of future teachers during COVID-19 have been conducted and experiences relating to how students were supported to develop their professional learning have been shared (Assuncao Flores and Gago 2020; Ferdig et al. 2020; Kidd and Murray 2020). Some studies stress the importance of collaborative professional learning and development both in times of crisis and calm (Alexandrou 2020), while others focus on the actual implementation of distance education. In Germany and some other European countries, such as France or Italy, many schools lag behind with respect to the expected information and communication technologies (ICT) transformation progress (König et al. 2020); there were no such problems in Slovenia (Rupnik Vec et al. 2020). An extensive national survey on distance education during the COVID-19 epidemic was carried out among teachers, pupils and headmasters in Slovenia in May and June 2020 (Rupnik Vec et al. 2020). The Slovenian schools reported that four weeks after the epidemic was declared, distance learning participation in primary schools was at 99.5% and just slightly lower in upper secondary education schools (Cedefop 2020). During their teaching practicum in 2020, all students of the Faculty of Education of the University

of Ljubljana had the appropriate ICT equipment to participate in online videoconferencing and were involved in the telecommunication network for teleworking. Primary schools responded flexibly to distance teaching: in some cases, they ensured daily lessons via videoconferencing, in others, students met occasionally in online groups, but in some cases, no videoconferencing took place and lessons were held only by providing online teaching materials to pupils. In these diverse conditions, students also had to adapt when implementing their distance teaching practicum at schools.

## II. Emphases of the teaching practicum at the Faculty of Education in Ljubljana

The emphases of the teaching practicum in Slovenia are consistent with the European trends. The practicum in school “is considered an essential and integral part of teacher education in several European countries, and is planned with incremental degrees of difficulty throughout the programme, under the joint supervision and assessment of university and schoolteacher educators; the final year often entails student teachers experiencing the full range of teaching responsibilities” (Caena 2014, 12). Across Europe, there is a trend towards “remodelling Initial Teacher Education to ensure that student teachers learn in a school setting, so that they can get into real classrooms early in the programme, spend more time there, and receive stronger support in the process” (EC 2015, 4).

One of the earliest researchers in the field of teacher professional development, Fuller, emphasised the importance of the student teaching practicum and placed it in the initial phase of teacher professional development (Conway and Clark 2003). The more than 20-year-long trend of emphasising the significance of teacher education becoming more defined in the practicum (Allen 2009; Evelein et al. 2008; Korthagen et al. 2006; Zeichner 2010) also raises questions among experts as to what the practicum should be like in order to enable the development of an effective teacher with sufficient professional knowledge, reflective skills, and practical capabilities for teaching (Jenset et al. 2018; McDonald et al. 2014; Toom et al. 2019). The results of an American study (Ronfeldt 2014) showed that students who are included in a high-quality teaching practicum, closely related to what they are learning in the programme, feel better qualified in their independent work. Greater success in coping with demanding teaching work is also linked to perseverance in the profession and a lower teacher dropout rate and their leaving the profession. Goodnough et al. (2016) pointed out the importance of integrating and connecting theory and practice to most effectively support

student learning and development. They present a teaching practicum at a Canadian faculty of education where they use a variety of student-centred and active pedagogic approaches with the embedded practicum model that allows for gradual classroom participation and ensures explicit connecting between university courses and practicum experiences.

Some authors (Antoniou and Kyriakides 2013; Toom et al. 2019) emphasise the importance of teachers knowing how to use their knowledge and effectively handle complex and unpredictable situations in teaching before the occurrence of the COVID-19 pandemic. De Corte (2010) explains this as the ability to adapt, which is the goal of lifelong learning and teaching. It develops and upgrades routine expertise and represents an ability to use, in various situations, the acquired and meaningful knowledge and the developed skills in a flexible and creative way. Since the adaptation of teaching to the individual needs and characteristics of pupils represents the most complex teaching competency and can be fully developed only in the latest stages of teacher professional development (Van der Lans et al. 2017), it is even more important for students to plan, implement and reflect on teaching adaptation during their studies. In Finland (Darling-Hammond 2017), teacher education thus places special emphasis on learning how to teach pupils who struggle to learn. This is justified by the assumption that a teacher who understands and can respond to the individual needs of such pupils will be able to successfully teach all pupils. Special attention is paid to developing students' pedagogical thinking, exploring the process of the teacher's teaching and the pupil's learning, which also applies to exceptional circumstances during the COVID-19 pandemic. This is not possible without reflective thinking about their attitudes, conceptions, behaviours and their professional roles (Jay and Johnson 2002; Jensen et al. 2018; Korthagen and Vasalos 2005).

In recent decades, there has been frequent talk of reflective teachers, reflective practices, and reflective teaching. The American philosopher Dewey (Zeichner and Liston 1996) laid the foundation for reflection in education already in the 1930s by distinguishing between the routine and the reflective behaviour. This is important for teaching because the teacher's behaviour should be reflective based on the theory and experience they have. Later, Schön (1983) provided a more detailed definition of reflection on practice as a key element in the work of professionals, providing a clearer understanding of the teacher's reflection on their own practice, which leads them to a better understanding of what is happening in the classroom. Schön (1983) highlights reflection time as an important goal of reflection on the teacher's practice.

Today, the Faculty of Education in Ljubljana still gives great importance to reflection throughout the study programme and especially through the

whole teaching practicum process. Reflection is also one of the most important learning habits students can acquire. The reflection process should be deliberate, purposeful, and planned. Particularly important is the in-depth reflection of triggering incidents in the teaching practicum (Jay and Johnson 2002; Korthagen 2004; Marcos et al. 2011; Toom et al. 2019), whereby the more effective reflection is the one that is systematic, guided and narrowly focused on an area or a problem (Antoniou et al. 2011; Marzano et al. 2011; Toom et al. 2019). Finally, the way students and teachers reflect on the teaching practicum is effective when we understand its importance, not when it is done just because it is necessary (McIntosh 2010). Therefore, the reflection on the teaching practicum, which has already become a familiar practice, needs to be critically analysed several times to determine if it still serves its purpose and has not become a mere routine task.

The diverse ways of working tested by students during their studies provide them with a variety of experiences and expand their knowledge, capabilities and adaptability. In all their activities, teacher mentors should encourage and support them with quality feedback and by prompting them to reflect on their own work.

In the study of six teacher education programmes in Finland, Norway, and California, Jensen et al. (2018, 187) pointed out eight dimensions of good coursework based on practice: “plan for teaching and the teacher role(s); practice or rehearse teacher role(s); analyse pupils’ learning; include teaching materials, artefacts, and resources; talk about field placement/ student teaching experiences; take pupils’ perspective; see models of teaching and find a connection to the national or state curriculum.” Under normal conditions, the teaching practicum would contain all elements of the above-mentioned dimensions. When researching an adapted (distant teaching) practicum, we highlighted only those that we believed could be implemented in collaboration with mentors at a distance. We were interested in the extent to which students had the opportunity to gain as many different experiences as possible by teaching different subjects, implementing different types of pedagogical work, and, in particular, creating instructional materials and analysing pupils’ work and students’ own work.

### **III. Adaptation of teaching practicum due to the COVID-19 pandemic**

Under normal circumstances, the 3<sup>rd</sup> year students of the bachelor’s degree programme Primary Teacher Education would carry out a three-week teaching practicum at primary schools in groups of three, with each of them teaching one third of the teaching programme (1–2 lessons a day). Students in

the 4<sup>th</sup> year of the bachelor's degree programme would spend all three weeks of the practicum in the same classroom individually, teaching all the lessons. Students of the master's degree programme could choose to perform their three-week practicum as teaching in a classroom or as pedagogical work with a group or an individual primary school pupil. All students would be under the guidance of primary school teacher mentors during the practicum.

When schools and faculties closed on 16<sup>th</sup> March 2020, the established practices changed quickly and educators showed 'pedagogical agility'. At the faculty, we looked for options to enable students to gain pedagogical experiences even without direct work in an authentic school environment. We all agreed that this particular situation could provide opportunities for acquiring new knowledge and experiences in the field of new learning approaches in distance learning and in the preparation of teaching materials for such study processes. Since this kind of pedagogical experience can only be gained in cooperation with primary school teachers involved in the practice, they were invited to participate. We proposed that students help find or prepare materials, activities or learning content for distance teaching, provide individual distance support to pupils and cooperate in all areas where teachers need them. We were aware that such cooperation should help teachers rather than be an additional burden. Therefore, each teacher and student agreed on which areas and how the student's help would be most meaningful and necessary. Some lead members of the primary school staff or individual teachers agreed to cooperate. Students also made direct contact with teachers and offered their assistance in distance teaching. The teaching practicum to help teachers in distance teaching lasted uninterruptedly for ten working days. In many cases, students helped teachers longer and even when pupils returned to schools.

In a normal teaching practicum, students would prepare a portfolio containing lesson preparations, analyses and evaluation of their own work. In the modified implementation of the teaching practicum, students who provided at least twenty hours of assistance in distance teaching kept records of the content and scope of their work, and evaluated their pedagogical experience afterwards.

Problems with the teaching practicum were also encountered elsewhere in the world and were solved in different ways. For example, the Canadian province of Ontario (Van Nuland et al. 2020) closed all educational institutions when COVID-19 emerged. Students had to stop their teaching practicum at primary schools and thus could not carry out the entire scope of practice envisaged for completing their studies. Similar to Slovenia, various learning and skill developing opportunities, which in the past did not need to

be applied, opened up to students who, even during this time, wanted to learn from teachers in a teaching practicum setting (Van Nuland et al. 2020, 7):

- helping teachers navigate learning with technology that they may not have used before;
- communicating with, encouraging, and providing support to students virtually;
- developing relationships with students in a virtual environment;
- learning about new online digital platforms.

The current state of the education segment and new challenges that arose during the COVID-19 pandemic were also considered by La Velle et al. (2020), who stressed the importance of an appropriate balance and connection of theory and practical experiences for students. They described the experiences of four faculties of teacher education in England and pointed out that the loss of a third of the time intended for the practical training of undergraduates will have consequences in their continued work. The authors explained that during the period when they were unable to practice in schools, students devoted more time to studying and reflection, which however will not compensate for the lack of practical experience. The very lack of experiences in a classroom will put additional pressure on the support and assistance from colleagues in the school environment where they will be employed. In England, the scope of practical pedagogical work is significantly wider than in Slovenia and can be compared to the period when our graduates work at schools as teachers before they take their teacher certification exam, usually during the first year of employment.

#### IV. Research

Until the emergence of the COVID-19 pandemic, students had no experience in the field of distance teaching; so, during their regular studies, educators did not offer them a set of methods for distance teaching. Shortly after the closure of the schools in March 2020, educators were looking for solutions on how to make the teaching practicum period as beneficial as possible for all the actors involved and how the technology-based environments could provide students with a teaching practicum experience. We did not know if students would adapt appropriately and how they would cope with the role of a teacher in distance teaching.

Our study was carried out in order to gain an insight into how the adapted practicum would be conducted and obtain a more detailed view of the content of the distance teaching practicum. Before COVID-19, Lawson et al. (2015)



realised that many research studies on the teaching practicum with pre-service teachers as the main participants comprised relatively small-scale studies since they were mainly focused on the quality and the findings derived from a relatively small sample. This suggests that more large-scale studies are needed in the field in order to provide greater insight into the teaching practicum. This study is a large-scale study and uses both quantitative and qualitative approaches.

The COVID-19 pandemic has raised awareness about the need to future-proof through resilient educational responses and sustainable educational offerings. The reactions of teachers and students play a key role in ascertaining what measures need to be in place and what adjustments could facilitate the guarantee of continuity and quality in the future (Greere 2022). With insight into selected details of the teaching practicum from the student's point of view, this study should contribute to the progress in this field of higher education. In this study, we were interested not only in the individual opinions of the students but also in the differences between students of different academic years of study since their experience with "independent" teaching in the previous academic year, i.e., before COVID-19, was different.

#### *IV.1. Research questions*

In the given situation, when only distant teaching was possible, we tried to find out the key characteristics of the teaching practicum during the COVID-19 pandemic. With regard to Jensen et al. (2018, 187) and the previously mentioned eight dimensions of good coursework based on practice, we wanted to pay special attention to the following dimensions: students practicing the teacher roles; including teaching materials, artefacts and resources; observing models of teaching; talking about students teaching experiences and analysing pupils' learning.

We wanted all the students to be able to successfully overcome technical problems with abundant online teaching experience and to progress in a teaching practicum in a way that was feasible. The general scope of this study was to get insight into selected segments of the teaching practicum during COVID-19 from the students' point of view and to find out what improvements would be needed in case of a potential repetition of the distance teaching practicum. It could help educational stakeholders evaluate the effectiveness of the distance teaching practicum.

In collecting students' opinions of their pedagogical work during the distance teaching practicum, we were interested in:

- how often students helped teachers in different primary school subjects during the distance teaching practicum;

- the share of all their work within the practicum taken up by particular types of work (the preparation of teaching materials, individual support to pupils, etc.);
- how much of the teaching material was prepared by students themselves and how much material they found online and then used in their work;
- how and how many times during the practicum they analysed pupils' work and their own work;
- how students assess the usefulness of each type of work for their professional development and the overall usefulness of experiences, gained from the distance teaching practicum;
- what differences occurred among students of different years of study.

#### *IV.2. Participants*

The survey included 238 students of the Primary Teacher Education at the Faculty of Education at the University of Ljubljana. This was the number of all the students who participated in the 3<sup>rd</sup> and 4<sup>th</sup> year of bachelor's and master's degree in this programme in the 2019/20 study year. Among them, 79 were the 3<sup>rd</sup> year students (33.2% of 238 students), 93 were the 4<sup>th</sup> year students (39.1% of 238 students), and 66 were the master's degree students (27.7% of 238 students).

#### *IV.3. Research method and structure of the survey instrument*

The study was based on a descriptive causal-non-experimental method of pedagogical research. A survey questionnaire designed for the purposes of this research was used to collect data on the types and quantity of work carried out by students, their assessment of the usefulness of the work performed and the usefulness of all experiences gained.

In the Primary Teacher Education Programme, we have been regularly monitoring the opinions of students after the teaching practicum for many years using a designed tool (and annually revised). We use it for the purpose of continuous evaluation and improvement of the study process. During the COVID-19 period, we wanted to continue this monitoring, but it was necessary to adapt the questionnaire to the current situation.

The questionnaire was built on the basis of author-composed closed-ended questions with one or more answers, combined type questions, 4-point descriptive and numerical grading scales, and an open-ended question which were used for data collection. The estimated Cronbach's alpha was 0.732 (for 31 items), which corresponds to acceptable reliability (Pallant 2007).

We used an online survey questionnaire which was a part of students' regular evaluation report after completing their teaching practicum. In advance, the participants were informed of the general purpose of the study in terms of getting the feedback of this year's teaching practicum and in terms of continuous improvement of the further pedagogical process. As part of the regular evaluation, the students were informed (each year of studies as a separate group) about the results of the research by giving them oral feedback and presenting graphs. Individual students were able to view and compare their teaching practicum with that of their peers. With students of the 4<sup>th</sup> year of the bachelor's and the master's degree programmes, it was possible to compare the implementation of this "COVID-19 teaching practicum" with the previous year of the "pre-COVID-19 teaching practicum". With the 3<sup>rd</sup> year students, this was not possible since these students had the teaching practicum in the form of direct work with pupils for the first time and the comparison with the previous year was not possible. In the research, we followed the ethical principles of pedagogical research. The anonymity and confidentiality of the data were ensured. The data were collected after the completion of the distance teaching practicum in June 2020. The students were informed also of the use of data in the research purpose.

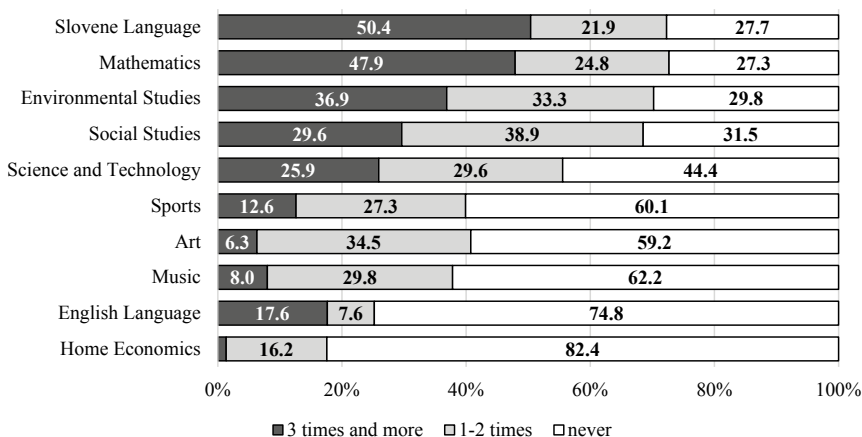
#### *IV.4. Statistical procedures*

The data were statistically processed in accordance with the survey purpose and goals using the SPSS statistical programme. The data collected were processed at the level of descriptive and inferential statistics according to the nature and role of the variables. The following procedures were used: frequency distribution ( $f$ ,  $f\%$ ) of attributional variables, the  $\chi^2$ -test, the Kullback  $2\hat{I}$ -test (where theoretical frequencies conditions were not met), the paired  $t$ -test, the one-way analysis of ANOVA variance, the Levene's variance homogeneity test, and the Tukey's post hoc test if the condition of variance homogeneity was fulfilled. If the condition of variance homogeneity was not fulfilled, we used Welch's statistical tests and the Tamhane's post hoc test.

### **V. Results with discussion**

#### *V.1. Students providing their help to teachers in different primary school subjects*

In the beginning, we wanted to know how often students helped teachers teach particular subjects in the first five grades of primary school.



**Figure 1**

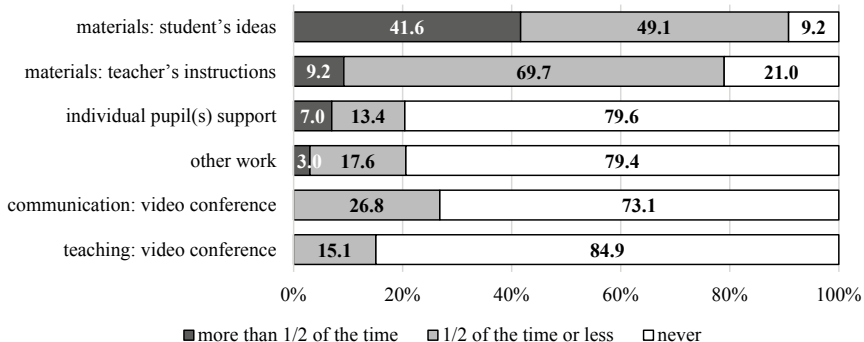
### Frequency of students' work for specific primary school subjects

The data in Figure 1 show that about half of the students (50.4%) helped in the Slovene Language lessons, a little less than half of the students (47.9%) in Mathematics and more than a third of the students (36.9%) in Environmental Studies at least three times. The data show that teachers more often employed students' assistance for subjects which had a higher share of lessons in the curriculum and were more often on the schedule. This is consistent with the fact that Language and Mathematics lessons are also priorities for quality teaching in most other countries, while Environmental Studies lags behind these two subjects (Jenset et al. 2018; OECD 2020). More than a half of the students never helped in Art, Music or Sports lessons. A quarter of the students (25.2%) helped with English lessons at least once. Less than a fifth (17.6%) of the students who helped with distance teaching of fifth-graders also helped in Home Economics lessons. We were interested in the data on students' assistance in teaching different primary school subjects mainly because one of the aims of the teaching practicum in the higher years of study is to gradually gain practical experience of the learning process as a whole and not only in some primary school subjects. This also enables gradual enculturation into the teaching profession, which is important for promoting the theory-practice connections (Goodnough et al. 2016).

### V.2. Types of students' work

As the faculty provided students and teachers no specific detailed instructions on cooperation in the distance practicum, students helped in

different ways. For each type of work, they were asked to assess the approximate share of the distance teaching practicum their work covered (100% in total). They chose from the following types of work: (1) preparation of teaching materials based on each student's own ideas, (2) preparation of teaching materials according to the teacher's instructions, (3) individual pupil(s) support, (4) other student work, (5) communication with pupils via video conference, (6) teaching via video conference. Figure 2 shows the shares of various types of work performed by students.



**Figure 2**

Shares of time spent on different types of work performed by students during distance teaching practicum

78.9% of the students spent their time preparing teaching materials according to the teacher's instructions and 90.7% of the students prepared teaching materials based on their own ideas, so, they were not limited in their creative work. The study of six teacher education programmes in Finland, Norway, and California (Jenset et al. 2018) also shows that students in these countries have extensive opportunities to use teaching materials during their teaching practicum.

During the distance practicum, almost three quarters of the students (73.1%) never communicated with pupils via an online conference, while 84.9% of students never held lessons via an online conference. A large share of the teachers (79.6%) did not choose to give students the opportunity to provide individualised support. This was probably because they felt that students did not know individual pupils well enough. If mentors provided students with more such opportunities, they would have had better insight into pupil learning. Although teachers had the opportunity to include students

in the teaching process via a video conference, only a few did so. Thus, students also did not have the opportunity to interact directly with pupils. Other types of work, including videoconferencing with teachers, checking and correcting pupils' assignments and helping teachers to use ICT, were carried out by about a fifth (20.6%) of the students at least once.

We were interested in whether the assessed shares of the various types of work done by students when helping in distance teaching show statistically significant differences between the 3<sup>rd</sup> and the 4<sup>th</sup> year students and the master's degree students.

**Table 1**

Share of time spent on preparation of teaching materials based on student's own ideas and individual pupil(s) support by year of study (statistics)

The share of time used	Year of study									
	$\bar{x}$			Levene's test				ANOVA/		Post hoc test
	3 <sup>rd</sup> year	4 <sup>th</sup> year	Master's degree	F	g <sub>1</sub>	g <sub>2</sub>	p	F	p	p
Preparation of teaching materials based on student's ideas	38.95%	53.88%	47.20%	0.329	2	235	0.720	5.539	0.004	Tukey's post hoc test 3 <sup>rd</sup> year - 4 <sup>th</sup> year: 0.003
Individual pupil(s) support	29.59%	14.80%	16.74%	14.835	2	235	0.000	/	/	Tamhane's post hoc test 3 <sup>rd</sup> year - 4 <sup>th</sup> year: 0.033

We found out that statistically significant differences appear in only two types of work between the 3<sup>rd</sup> and the 4<sup>th</sup> year students. The results in Table 1 show that there are statistically significant differences between the 3<sup>rd</sup> and the 4<sup>th</sup> year students in their assessed shares of different types of work. Compared to the 3<sup>rd</sup> year students, the 4<sup>th</sup> year students spent more time on the independent preparation of materials ( $p = 0.003$ ), while the 3<sup>rd</sup> year students offered individual assistance to one or more pupils in a higher share ( $p = 0.033$ ). We assume that this difference was due to the fact that the 3<sup>rd</sup> year mentors communicated with their students one week later than the 4<sup>th</sup> year mentors. In just one week, several mentors saw an increased need to provide individualised support to pupils.

The results reflect the primary goal of this practicum: to support and assist teachers in distance teaching. Teachers themselves decided on the types of

support they needed. We see that students more often helped prepare teaching materials, while less often teachers made it possible for them to participate in all stages of the learning process and directly in classes via a video link. If we want the distance teaching practicum to remain of high quality, we must ensure that students are involved in all dimensions of the teaching practicum.

### V.3. Preparing teaching materials for pupils

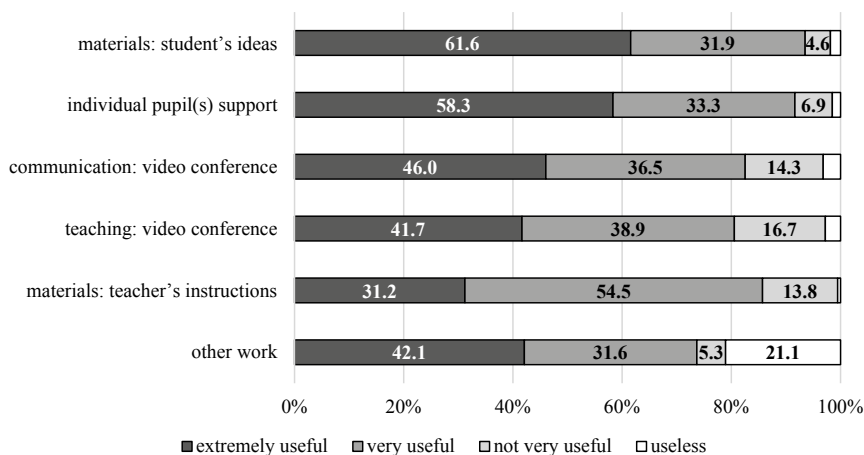
As students were most engaged in preparing teaching materials, we wanted to know how much of the material was found online and how much they prepared by themselves.

**Table 2**  
Use of teaching materials: searched online  
and prepared independently – paired t-test

Use of teaching materials	$\bar{x}$	Paired t-test		
		t	g	P
Searched online	2.33	-6.131	237	0.000
Prepared independently	3.27			

With the paired t-test (Table 2), it was established that students statistically significantly prepared more materials themselves than they found online ( $p = 0.000$ ). We can conclude that students prepared materials for specific groups of pupils or individuals, taking into account the specificities of classes and adjustments which were brought to their attention by teachers. It is very important to emphasise the relevance of the teacher's response to the pupils' needs, guided by the mindset and general principles of differentiation (Tomlinson and Imbeau 2010). Students should have the opportunity to try to adapt their teaching to different pupils. However, it should be noted that adapting instructions to pupil's individual needs and characteristics is the most complex teaching competence (Van der Lans et al. 2017). Van de Grift et al. (2014) found that the average student teacher struggles to adapt their instructions to address pupils' differences and learning needs.

Furthermore, we wanted to know how students assessed the usefulness of each type of pedagogical work for their professional development. The usefulness was assessed using a four-point scale ranging from extremely useful to useless work. They assessed only the types of work they had done in the distance teaching practicum.



**Figure 3**

**Assessment of usefulness of different types of work in distance teaching practicum**

As an extremely useful type of work, predominantly, most students determined independent preparation of teaching materials based on their own ideas (61.6%) and individual assistance to one or more pupils (58.3%). Only 20.4% of all the students (Figure 2) provided individual support to one or more pupils. 91.6% of these students (Figure 3) rated this work as extremely or very useful. As adapting instructions to individual pupil needs and characteristics is the most complex teaching competence (Van der Lans et al. 2017), this data is certainly important. In the future, special attention should be paid to the analysis of the quality of individual pupil support. Communication with pupils at the online conference was rated an extremely useful type of work by 46.0% of the students, and lessons through online conferencing by 41.7% of the students. As most useless or not very useful, the students rated the preparation of teaching materials according to the teacher's instructions (14.3%) and other work (26.4%). Students probably want to be creative, innovative and as independent as possible in their pedagogical work. They want to experiment with their original, non-traditional ideas.

Further analysis showed (Table 3) that a statistically significant difference in the assessment of the usefulness of teaching materials prepared on the basis of their own ideas ( $p = 0.002$ ) was present only between the 3<sup>rd</sup> and the 4<sup>th</sup> year students. The usefulness of this type of work was rated statistically significantly lower by the 3<sup>rd</sup> year students than by the 4<sup>th</sup> year students.



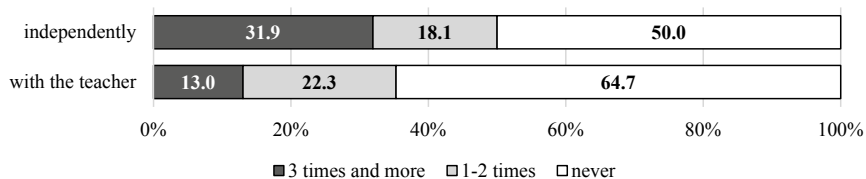
**Table 3**  
Assessment of usefulness of preparation of teaching materials based on student's own ideas

Assessment of the usefulness	Year of study									
	$\bar{x}$			Levene's test				ANOVA		Tamhane's post hoc test
	3 <sup>rd</sup> year	4 <sup>th</sup> year	Master's degree	F	g <sub>1</sub>	g <sub>2</sub>	p	F	p	P
Preparation of teaching materials based on student's ideas	3.30	3.69	3.36	6.799	2	213	0.001	/	/	3 <sup>rd</sup> year – 4 <sup>th</sup> year: 0.002

We see reasons for the difference in the assessed usefulness of the independent preparation of materials in the ability to use the acquired knowledge in an authentic pedagogical environment. Darling-Hammond explicate that many teacher educators have argued that “novices who have experience in classrooms are more prepared to make sense of the ideas that are addressed in their academic work and that student teachers see and understand both theory and practice differently if they are taking coursework concurrently with fieldwork” (Darling-Hammond 2014, 551). In our case, the 4<sup>th</sup> year students had already gained experiences with independent teaching during the 3<sup>rd</sup> year teaching practicum, with presentations and attendance at special didactic subjects in the 4<sup>th</sup> year, so, it was easier for them to include the preparation of teaching materials in the teaching process.

#### V.4. Analysing the pupils' work and students' own work

We also wanted to know how often students had the opportunity to see pupils' products. We asked them how and how many times they analysed pupils' homework.

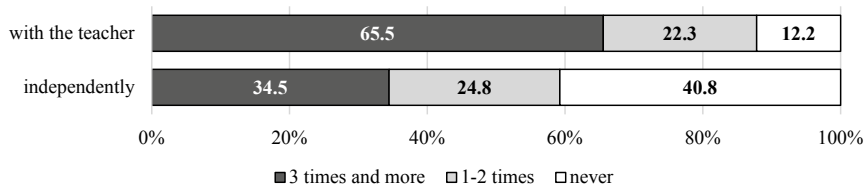


**Figure 4**

Frequency of students' analysis of pupils' homework

The data in Figure 4 show that students more often checked pupils' products independently than together with teachers. About a third (31.9%) did it independently three or more times, and a half (50.0%) never. Checking together with the teacher was less frequent than expected. In our study and in the study of six teacher education programmes in Finland, Norway, and California (Jenset et al. 2018), students had the fewest opportunities to analyse pupil learning. An important function of practical training is exactly the opportunity to accurately observe and analyse pupils' work and learning (Boyd et al. 2009), which forms the basis of learning to teach. Hiebert et al. (2007) emphasise that it is through the pupils' work that students realise how effective their teaching is.

Furthermore, we asked the students how often during the distance practicum they analysed their work together with the teacher or independently.



**Figure 5**

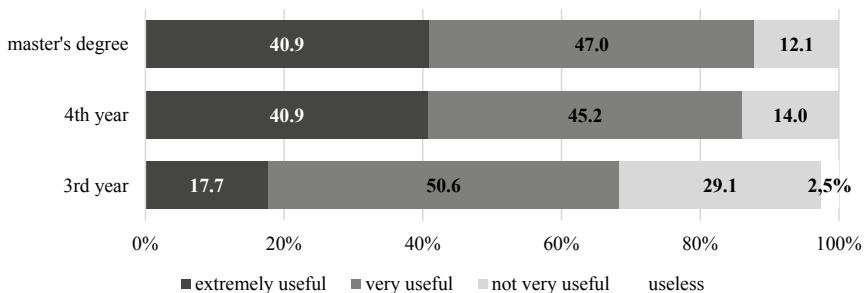
#### Frequency of students' analysis of their own work

Two-thirds (65.5%) of the students analysed their work with the teacher at least three times during the distance practicum, while over a third of the students (34.5%) did so at least three times independently. Surprisingly, 40.8% of the students never independently analysed their work during the practicum. Reflective thinking provides a deeper insight into a teacher's work and has a significant impact on their changing of attitudes, conceptions and behaviours (Korthagen and Vasalos 2005), and thus in the perspective of student's professional development such a high share of the students who never independently analysed their work is worrying. Interestingly, in a previous study on the teaching practicum of the 3<sup>rd</sup> year students at the Primary School Department at the Faculty of Education in Ljubljana, 63% of the students stressed the importance of the teaching practicum as learning through experience, of reflecting on their own and others' behaviours and experimenting (Pečar and Velkavrh 2006). This may indicate that students are aware of the importance of reflecting on their own work, but they plan no independent reflections, which is consistent with the findings by Darling-

Hammond et al. (2005). These explain that students need structure and support to reflect on their own work during practicum.

### V.5. Usefulness of experience from distance teaching practicum

Furthermore, students also assessed the overall usefulness of this year's teaching practicum experiences for their professional development.



**Figure 6**

Assessment of overall usefulness of experiences from distance teaching practicum by year of study

It is evident from the data in Figure 6 that the great majority of the master's degree students (87.9%) and the 4<sup>th</sup> year students (86.1%) assessed their experiences as extremely or very useful. Among the 3<sup>rd</sup> year students, less than a fifth (17.7%) defined their experiences as extremely useful and more than a half (50.6%) as very useful.

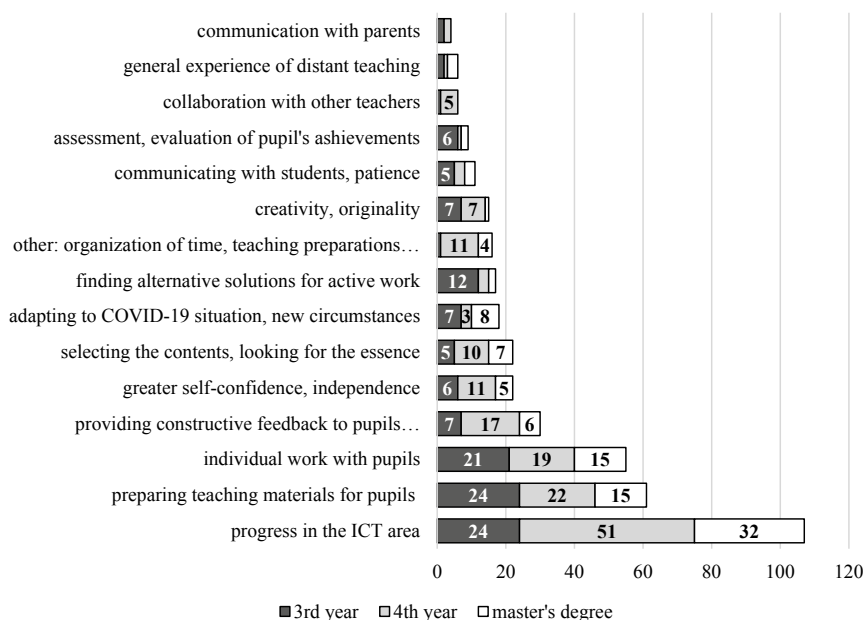
Compared to students of higher years, the 3<sup>rd</sup> year students on average rated the usefulness of experiences the lowest ( $\bar{x} = 2.84$ ), while older students rated them in a similar way (4<sup>th</sup> year:  $\bar{x} = 3.27$ ; master's degree students:  $\bar{x} = 3.29$ ). A detailed analysis (Table 4) showed that the 3<sup>rd</sup> year students assessed statistically significantly lower the overall usefulness of experiences gained during distance teaching than the 4<sup>th</sup> year students ( $p = 0.000$ ) and the master's degree students ( $p = 0.000$ ).

We believe that the reasons for lower assessments of the usefulness of the distance practicum can be attributed to the fact that during their studies, the 3<sup>rd</sup> year students have had no teaching practicum yet, where they could fully test their skills of independent teaching in a classroom. The 4<sup>th</sup> year and the master's degree students had already gained such experiences in the classroom, so they found distance teaching challenges more useful than the 3<sup>rd</sup> year students.

**Table 4**  
Assessment of overall usefulness of distance teaching practicum by year of study (statistics)

Assessment	Year of study									
	$\bar{x}$			Levene's test				ANOVA		Tukey's post hoc test
	3 <sup>rd</sup> year	4 <sup>th</sup> year	Master's degree	F	$g_1$	$g_2$	p	F	p	p
Overall usefulness of distance practicum	2.84	3.27	3.29	0.055	2	235	0.947	10.365	0.000	3 <sup>rd</sup> year – 4 <sup>th</sup> year 0.000
										3 <sup>rd</sup> year – 2 <sup>nd</sup> degree 0.000

In the questionnaire, students answered an open-ended question ‘Where did you make the most professional progress in this year’s distance practicum?’ Their answers were categorised and counted.



**Figure 7**

Where students made most progress during distance practicum (number of students' answers)

Figure 7 shows that after the distance practicum students of all years of study most often highlighted their progress in the ICT area, covering both the field of teaching methods (e.g., self-check multimedia quizzes) and technical progress in terms of computer use skills.

Many students highlighted their progress in preparing teaching materials for pupils (they most often mentioned the adaptation of worksheets for distance learning) and their progress in individual work with pupils, pointing out their assistance to pupils with learning difficulties. Interestingly, most students did not individually assist pupils, but those who did were greatly impressed by it. Some students became more patient, others emphasised their higher self-confidence, noting they had a lot of useful knowledge in the ICT areas, that they are able to learn new things and to adapt faster and more successfully than teachers. Some students mentioned their own progress in critically assessing online materials, in giving clear instructions to pupils, in selecting contents (looking for the essence), in providing constructive feedback to individual pupils and in finding alternative solutions for active work of pupils and thinking outside the context of usual teaching methods. Most of the records indicated the students' progress in several different areas. Differences between individual years of study were also noticeable. More 4<sup>th</sup> year and master's degree students mentioned their progress in the ICT area than the 3<sup>rd</sup> year students. However, more 3<sup>rd</sup> year than senior students mentioned their progress in acquiring new ideas for teaching. Some students found it very important to make progress when training in activity scheduling, and they also mentioned more time for their calm consideration of the selection of activities as a positive facet of distance work.

Examples of students' original statements on their own progress during the distance teaching practicum:

- *I've learned to think about what is crucial for pupils to know and what is the shortest and the most interesting way to communicate this to pupils (a 4<sup>th</sup> year student).*
- *I have made progress in accurate and concise instructions, as students cannot immediately ask us if they do not understand something when they receive learning materials to work on their own (a 4<sup>th</sup> year student).*
- *I have made progress in organising work, finding alternatives for individual work of pupils, out-of-the-box thinking about conventional teaching (a 4<sup>th</sup> year student).*
- *I've made the most progress in realising that not every student can do everything. As a result, I have prepared several materials and marked the mandatory tasks that everyone had to do. Optional tasks could be*

*tackled by each pupil according to their abilities (a master's degree student).*

- *I have learned that the teacher can prepare interactive worksheets for pupils, who self-check whether their answers are correct and thus immediately get feedback (a master's degree student).*

## VI. Conclusion

The students' teaching practicum is an important part of teacher education even during the COVID-19 pandemic. The results of the survey on the implementation of the distance teaching practicum among the students of primary school teaching at the Faculty of Education at the University of Ljubljana showed that during the distance practicum in April 2020 they acquired practical training competencies in different domains, but not all students acquired experiences in the same domains. This also happens during the "live" practicum, but mostly because of the differently developed competencies of each student and not because of the organisation of the teaching practicum in the virtual environment. We believe that students had less diverse experiences during the distance practicum because the teacher mentors were instructed to integrate students in the areas where they would be most helpful. However, they paid less attention to providing them with opportunities to actively participate in various pedagogical activities. Therefore, students most often helped teachers prepare various teaching materials. 51% of the students spent more than half of their time in practicum preparing teaching materials for pupils, mostly independently, and only in a small share according to the teacher's instructions. Some innovative pedagogies were developed. Direct lessons for the whole classroom were provided online by 15% of the students, while 20% of the students offered pupils individual assistance. These results reflect mentors' decisions on the frequency of students' involvement in different types of pedagogical work in the distance teaching practicum. There were differences between students of various years. As part of their practicum, the 4<sup>th</sup> year students independently spent more time preparing teaching materials for pupils than the 3<sup>rd</sup> year students, while the 3<sup>rd</sup> year students dedicated more time for individual assistance to pupils than the 4<sup>th</sup> year students. During the distance practicum, a great majority of students analysed their work with the teacher more than twice, while this was done without the teacher more than twice by only a little more than a third of the students. During the practicum, most students did not analyse pupils' work and products; those who did, did so mostly without the teacher. Teaching practice proved to have significantly contributed

to the effectiveness of the pedagogical process. Students made teachers' work easier, relieved them, offered support in ICT innovations and received invaluable pedagogical experiences. Senior students rated their practicum experiences as more useful for their professional development than the 3<sup>rd</sup> year students. We assume that this difference is due to the fact that senior students had prior classroom experience which younger students did not have, so they found the distance teaching practicum less useful.

The research found that during the distance teaching practicum, quite comparable to the usual practicum, students can develop their time management skills, plan and teach different subjects, take into account pupil diversity, include diverse teaching materials, and reflect on their work and the work of pupils together with teacher mentors. However, the question arises to what extent all the listed experiences that students can gain during a distance teaching practicum are comparable to the usual teaching practicum in a normal (non-COVID-19) educational setting.

In Slovenia, ICT equipment among students and pupils is on a satisfactory level. Under similar conditions, constant cooperation with mentors is crucial for the quality of the distance teaching practicum in the future. The distance teaching practicum could be improved so that students are:

- actively involved in all phases of the learning process (planning, conducting classes through videoconferencing, examination, assessment), and it is essential to increase the share of direct teaching;
- trained to select, prepare and integrate teaching materials and technically qualified to conduct lessons through online conferences even before the practicum;
- involved in the implementation of various forms of distance teaching with all pupils in the classroom, with individual groups or individual pupils (learning assistance, work with foreign pupils, work with pupils from a less supportive home environment, etc.). It is still necessary to promote individual work with pupils and to monitor their learning, since this has been lacking in the distance teaching practicum so far;
- paying attention to include more recreational activities in regular teaching, due to the largely sedentary mode of work;
- receiving daily reflection on their own work and that of their pupils' with their peers, mentors, and by themselves. In this way, students gain insight into the success of their teaching and recognise the need of adapting lessons; and
- better guided by teacher mentors, who need to be properly qualified for distance teaching and mentoring.

Some researchers question whether learning in an online environment can substitute for learning in a real classroom (Kidd and Murray 2020; Robinson and Rusznyak 2020), and some authors (Krzyszowska and Mavrommati 2020) provide insights into enhancing collaborative learning in an online environment. It is important to distinguish the students' distance practicum from distance learning. We view the teaching practicum as more complex because it involves an intertwining network of the students' practical experiences in the school setting. Distance education should be viewed as a complement to traditional education rather than an alternative to it. As noted in the study by Krzyszowska and Mavrommati (2020), who proposed the Community of Inquiry model as a didactic approach to improve learning design, students perceived the social component of distance education differently from the cognitive and teaching components. In their study, collaborative distance learning among students was the preferred way to develop a deeper understanding of knowledge, but there were still some opportunities for improvement in the social domain. The importance of interpersonal relationships and open communication among students in distance education is also highlighted by Garrison even before COVID-19 (2016). In this context, we believe that the distance practicum does not provide adequate experiences in identifying socially sensitive situations and developing quality relationships, developing organisational skills and the ability to lead a whole group of pupils in social interactions within real-life spaces (classroom, playground, school) even though it allows individual progress in some social skills. In their feedback, our students also reported that they gained many useful pedagogical experiences during the distance teaching practicum. However, they are in desperate need of experience in a "live" teaching setting, where they would have the opportunity to lead a whole group of pupils and would have to deal with direct interaction among the pupils and resolve any disagreements and discipline problems.

During the distance teaching practicum, students also could not gain insight into the functioning of the school as an institution. This is very important for the socialisation of student teachers. Ulvik, Helleve and Smith (2018) argue that when student teachers are treated as a part of the school staff, they gain access to a variety of experiences and what goes on in a school both inside and outside the classrooms. In some situations, this could be done through e-media, but in our situation, this was not the case because the school staff was overworked due to the new remote work situation and they could not be prepared in advance.

The main purpose of the study was to collect students' opinions of their pedagogical work during the distance teaching practicum. As a limitation of



the study, it should be noted that COVID-19 appeared suddenly and we had no support in the theory of learning in an online environment that would relate to the teaching practicum of future teachers. Due to the unique situation, previous studies in this research area were rare until recently. The study by Hebebcı, Bertiz, and Alan (2020) showed some positive and negative opinions about distance education activities during COVID-19. The fact that classes can be conducted in a planned and timed manner even under exceptional conditions was highlighted as a positive, while problems such as limited interaction and lack of equipment were mentioned as negative. After the 2019/20 academic year, the COVID-19 situation adapted to the new conditions in the next year, so the teaching practicum was conducted differently (in a real school setting), and repeating /comparison of similar research was not possible. The study by Giner-Gomis et al. (2022), which examined the student teaching practicum during COVID-19, revealed many limitations to the distance teacher practicum, but also some positive consequences (initiation to online teaching, use of technological resources, ability to adapt and solve problems, the discovery of new forms of collaboration). The context of the pandemic, in particular, shed new light on the importance of interpersonal relationships in teaching. To gain better insight into the quality of this type of distant teaching practicum in 2019/20, we would need more detailed information about the quality of students' work, their peer cooperation, and their critical reflection on the teaching practicum with their mentors, which would contribute to better professional development. According to Van de Grift et al. (2014, 157), the quality of the teaching practicum is important because "the quality of student teachers' teaching skills is an important predictor of students' academic engagement." By comparing the distance teaching practicum in similar study programmes in other parts of the world, in the future, it will be possible to evaluate the actual value of our distance teaching practicum. The study by Tekel, Bayir, and Dulay (2022) provides a comparative study of the teaching practicum processes in 11 different countries around the world during the COVID-19 pandemic (Slovenia was not included). According to their findings, some countries eliminated or stretched the teaching practicum requirements during the COVID-19 pandemic, while other countries implemented the online teaching practicum in different ways: some implemented online courses in K-12 schools, others online peer teaching, and the third used VR technology. From the comparison with the results of this study, we can conclude that the Slovenian example presented in this paper is one of the examples of good practice. Our research has provided authentic insights into the COVID-19 students' practicum. In case of repeated organisation of the distance teaching practicum, one should

bear in mind that such a teaching practicum style is only a temporary substitute for practicum in an authentic environment, and that it offers students opportunities for new ways of working, some of which are likely to be developed in the future to be useful in non-epidemic situations, e.g., in case pupils are sick or absent for other reasons. Hebebcı, Bertiz, and Alan (2020) also believe that distance education will be used more effectively in the future if the necessary improvements and training are made.

In a broader sense, the results of this study are likely to reflect important findings in the area of student and teacher flexibility under unpredictable circumstances in a particular part of Europe. In the appropriate context, the findings could assist educational stakeholders in further research to evaluate the effectiveness of the distance teaching practicum and also contribute to progress in the further development of improved future (regular) potential activities supported by modern technology in higher education. The results of the study also allow for a comparison of the distance teaching practicum with other countries in an international context.

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## About the authors

DR. IRENA HERGAN (corresponding author, [irena.hergan@pef.uni-lj.si](mailto:irena.hergan@pef.uni-lj.si)) is an Assistant Professor of Social Studies in Education at the University of Ljubljana, Slovenia. Her research interests are geography for primary education, outdoor education, didactics of social studies and teaching practicum. She is the author of several children's textbooks, workbooks and teachers' manuals on the environment in the first three years of school.

DR. MOJCA PEČAR ([mojca.pecar@pef.uni-lj.si](mailto:mojca.pecar@pef.uni-lj.si)) is a Teaching Assistant of Social Studies at the University of Ljubljana, Slovenia. Her research interests include

reflection on teaching practicum for prospective primary school teachers, partnership with mentors for teaching practicum, didactics of social studies and differentiated instruction. She is also the author of textbooks for children in the first three years of school.