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Special issue: The COVID-19 Pandemic through the Lens of Education
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EDITORIAL

The COVID-19 pandemic through the lens of education

The ongoing COVID-19 epidemic has rapidly changed the context in which people live and learn and the way they interact with their immediate and extended environment. It is anticipated that COVID-19 pandemic will have detrimental educational, social, psychological and health consequences for children and adolescents, especially for those living in poverty and disadvantaged communities (Tadesse, & Muluye, 2020). Namely, in an attempt to contain the spread of the COVID-19 pandemic, most governments around the world have temporarily closed educational institutions or shifted to a hybrid model, forcing educational systems to find alternatives to the traditional face-to-face teaching. According to UNESCO (2020), over 1.5 billion students in 195 countries were affected by COVID-19 pandemic school closures. These disturbances have triggered a cascade of demands on educational stakeholders, imposing a need for reorganising the tools, division of labour and rules which mediate individual and institutional development and learning. However, the pandemic's disruptions are not limited only to educational systems. Due to the changes in work arrangements, family routines, social life and leisure activities, the pandemic has severely affected different ecosystems in which children's development and education occur, including the family, neighbourhood, and peers.

Simultaneously, the pandemic disruptions have the potential to result in positive changes and development (Pokhrel & Chhetri, 2021). By recognizing and discussing these potentials, we reveal opportunities for the new ways of structuring and enacting the daily lives of individuals, institutions, and societies. The role of psychology in these times of uncertainty is to help us understand better the development and learning in the current situation and to offer guidance on how to deal with the impact of the COVID-19 pandemic on learning and development. Therefore, this special issue of the *Psihološka istraživanja* journal aims to be a platform for scholars to discuss the impact of the pandemic on learning and development, as well as to rethink education in the foreseeable future. By bringing together different topics and perspectives, this special issue hopes to provide additional insights for individuals, institutions and societies in both the developing and developed countries.

The pandemic challenges all segments of the educational system (Fisher et al., 2021). Policy decision-makers were obligated to deliver solutions about filling the educational voids left behind this global shock. Countries all over the globe have been creating various policy measures and frameworks with that aim. In the article *Facets of primary and secondary school students' wellbeing during the first wave of the COVID-19 pandemic: A qualitative analysis of Austrian and Italian educational policy,* Denis Francesconi, Barbara Gross and Evi Agostini provided critical qualitative analysis of the educational policies developed in Austria and Italy. The authors used the UN Sustainable Development Goals (SDGs) as a theoretical framework while arguing strongly that students' wellbeing should not be limited to health/ safe issues but should also include social-psychological aspects. Inductive-deductive qualitative content analysis was applied to analyse available Italian and Austrian educational policy documents published during the first wave of the pandemic, from February 2020 to the end of August 2020. Three domains were in the focus of the study: (1) systemic and organizational response to wellbeing (2) concepts of wellbeing based on health and sanitary issues, (3) COVID-19 as an opportunity to foreground wellbeing. The results revealed that both systems primarily focus on physical wellbeing. In Italian educational policies, a stronger focus was on physical wellbeing while students' social wellbeing was neglected more than in Austria.

In order to ensure continuation of teaching and learning during the pandemic, decision makers had to swiftly design policy responses, while educational actors had to adapt to unpredictable changes, with little or no alternatives available. The article *Trends in primary school teachers' experience over the first year of the COVID-19 pandemic in Serbia: A narrative analysis* by Katarina Mićić, Tünde Kovács Cerović, and Selena Vračar provides valuable insights into the way teachers in Serbia have been adapting to the novelty brought by pandemic. The study adopted a multi-genre three-wave approach which allowed us to get a more nuanced understanding on how teachers have been positioning and re-positioning themselves against the COVID-19 education in time. Value analysis of 233 teacher narratives collected at different points of the pandemic crisis, show that in the initial stages of the COVID-19 teachers' concerns were mostly related to immediate dangers, frustration, and pressure, while in the later stages concerns related to quality of education become predominant. The findings presented in the article reveal shortcomings in the policies, organisation, and support available in Serbia at the onset of the pandemic, but at the same time give a sound ground to learn from it and build on it.

As the previous article has outlined, the COVID-19 pandemic has led teachers to an unpredictable scenario where the lockdown situation has accelerated the shift from face to face to distance education, altering the relationships and roles of different educational actors, and creating overlaps

between home and work environments. These changes in working conditions, coupled with uncertainty and health risks due to the pandemic, have important implications for teachers' mental health. Therefore, it is not a surprise that the special issue includes two articles exploring the topic of teachers' mental health during the early stages of the COVID-19. Stanislava Popov, Jelena Sokić i Jelena Antić in their article *Occupational stressors and irrational beliefs as predictors of teachers' mental health during the COVID-19 emergency state* examine levels of distress, depression, and anxiety among teachers, following lockdown-induced changes. Similar topic is covered in the article *Teachers' perceived stress and experience in online teaching during the early phase of the COVID-19 pandemic,* where authors Mirjana Beara, Gorana Rakić-Bajić and Darko Hinić describe the small-scale quantitative research on teacher professional stress during the lockdown. Although Beara et al. report on high levels of teachers' professional stress during the lockdown, Popov et al. show that levels of teachers' depression, anxiety and stress do not differ significantly from the levels registered prior to the pandemic. However, both studies indicate the importance of teachers' perceptions of working conditions (e.g., subjective overload with online teaching, locus of control, online teaching self-efficacy) for experiencing professional stress. Additionally, Popov et al. provide a fresh look on the phenomena of teacher professional stress, by taking a perspective of rational-emotional and cognitive behavioural therapy (RE & CBT). A RE & CBT is emphasising that stress is not a direct consequence of the stressor, but that it is mediated by individual attitudes and beliefs. The finding that teacher irrational cognitions, described as extreme, rigid, inconsistent with reality beliefs, play a significant role in teachers' experiences of anxiety, depression and stress, indicate that interventions should focus on optimising working conditions, but also on teachers' irrational beliefs about themselves as teachers and teaching as a profession.

Pandemic has brought tremendous challenges to preschool education too (Barnett, & Jung, 2020). Preschool institutions' lockdowns moved the role of the preschool teachers from supporting children to supporting parents. In the article, *The cooperation between kindergartens and families during the kindergarten closure in Slovenia due to the COVID-19 pandemic* Tina Mervic and Petra Zgonec investigated the parents' perception of their cooperation with preschool teachers during the lockdown in Slovenia. Almost one hundred parents were involved in the research. Parents found contact with preschool professionals as a resource of support during the full and/or partial closure of their kindergarten. Usually, teachers were sending proposals of the activities for the children to enhance parents' engagement in the child development. Proposal of different activities as a task for parents could be an additional task for parents that increase their stress level during the pandemic crises (Yildrim, 2021). But, that was not the case for most parents in Slovenia. As discussed in this paper, the pandemic reopened and highlighted the

importance of the cooperation between preschool teachers and parents for both, child and parents' wellbeing.

In the early stages of the COVID-19, closure of educational institutions was introduced globally addressing concerns related to spreading the virus, but creating, at the same time, new dilemmas and concerns (Reuge et al., 2021). For example, the article *Role of the Family in Children's Remote Learning Experiences during the COVID-19 outbreak: Kazakhstan and Hungary* written by Assel Csonka-Stambekova describes the concerns related to adjustment of parents to new roles emerging from home-based learning, as well as how these newfound demands have blurred work and family roles, thus making it more difficult than ever to maintain adequate work-family role boundaries. The author explores how diverse families have experienced a move towards distance education of their children. The lens of Ecological systems theory, by Urie Bronfennbrener, allowed the author to discuss the dynamic of six families in the context of two different macro systems - Hungary and Kazakhstan, outlining the interplay between family, educational and social factors. However, using Pierre Bourdieu's notion of different forms of capital, the author discusses digital resources of family as the form of cultural capital which influences child's learning and development and family dynamic in the early stages of the COVID-19 pandemic. Namely, closure of educational institutions and confinement measures in the COVID-19 outbreak meant that families have been relying on digital resources to keep children engaged in learning and connected to their peer group, but not all families have the necessary knowledge, skills and resources to ensure participation of their children in distance education. The focus of the article on interaction between family resources, coping mechanisms and concerns, allows readers to take a look at distance education during COVID through the eyes of parents.

Another dilemma arising from school closure is how to ensure access to distance education for all children, having in mind that the most vulnerable children who are far less likely to have access to distance learning. Aiming to improve access to education, many countries have introduced TV instruction as one of distance-learning modalities. Ljiljana Plazinić in the article *The predictive effects of students' perception of teaching practises in TV instruction on students' self-efficacy* gives a valuable overview of the research on effectiveness of TV instruction, recognizing the gap in research related to effects of TV instruction on non-cognitive outcomes of students. Since the emergency state due to the pandemic has emotional, social, and psychological repercussions on the life of students, exploration of non-cognitive factors of learning become even more important. Therefore, the focus of this study is on the relationship between school-subject and situational self-efficacy of students following TV lessons. The study design is impressive, with a sample of 1904 primary and lower secondary students, filling the online questionnaires immediately after watching a TV lesson. Having in mind that the study

was conducted during the lockdown, it is important to emphasize that this study captures the educational process in the early stages of transition, which makes this study rather unique. The findings presented in the article indicate that, even in the indirect and asynchronous TV instruction, teachers can nurture student self-efficacy towards current lessons and tasks by creating a supportive environment, once more emphasizing that *teachers matter*.

Supporting self-regulated learning (SRL) is often considered a crucial task of contemporary education (Zimmerman, & Campillo, 2003). It is not necessary to discuss why fulfilling this task is more difficult during pandemic schooling. In the article *To be connected: supporting self-regulated learning in higher music education before and during the pandemic* by Dejana Mutavdžin, Milan Stančić and Blanka Bogunović, the authors investigate how university students SRL skills were encouraged. The focus was on the young musicians. For these students, the role of the major music teacher has been very important in the development of their artistic skills and talents. The sample included 144 students of the Faculty of Music in Belgrade. The study has a mix-method design. The data was obtained from students' answers on an online questionnaire and the reflexive thematic analysis of the letter written to their MMT. Unfortunately, this group of students perceived that the pandemic lowered the support for SRL skills development. Also, findings clearly show that a lack of direct communication (in-person or online) between students and teachers will decrease support for self-regulated learning, even for gifted students who are experienced learners. Pandemic schooling at all levels should include direct communication between students and teachers.

Pandemic for sure has been disrupting the life of all educational stakeholders. But, in the end, as with every crisis, it opens a new learning opportunity. Some pre-pandemic teaching solutions could be reframed and modified for online learning and teaching. In the article *The "Ups" and "Downs" of the Upside-Down: Constructivist and Self-Determined Learning in the Flipped Classroom during COVID-19* Nina Hadžiahmetović made a bridge between the constructivist learning paradigm and the flipped classroom method. She successfully developed a new conceptual framework and proposed a model that extends this classroom method gains. This method inverts traditional school teaching: the classroom is not a place for delivering lectures, instead, it allows students to be actively involved in the discussion and to apply their knowledge. If the flipped classroom is introduced in pandemic schooling as a constructivist learning environment it will facilitate students' autonomy, competence, and relatedness. One additional condition must be satisfied: the students must evaluate the environment as important for the satisfaction of their specific needs. Introducing these three elements (flipped classroom, constructivist learning environment and perception of usefulness) in online teaching will lead us closer to active and satisfied learners.

This issue is not for sure the end of the story about education during pandemic crises, but it is a valuable portrayal of education in the specific moment in time - beginning of the COVID era. The special issue provides insights into reactions to the COVID-19 pandemic at all educational levels, of both education policy and practice, by different educational stakeholders, in different national contexts. Articles comprising this special issue strongly advocate for the importance of psychological processes while transitioning from pre-epidemic to pandemic reality, including topics such as wellbeing, stress, anxiety, depression, concerns, self-efficacy, experiences, social roles, self-regulation, etc. This special issue is a strong argument for the role psychology has in understanding the development and learning in the current situation, designing constructive responses, and re-thinking the future of education.

At the same time, it describes the reaction of researchers to changing circumstances, offering a colourful palette of different research problems and research methodologies, clearly showing that comprehensive understanding of complex social phenomena, such as pandemic, requires collaboration of different research paradigms, as well as openness for diverse perspectives.

Finally, the special issue in front of you is a result of collaborative efforts. Therefore, on behalf of the *Psihološka istraživanja* Editorial board, we would like to thank our colleagues reviewers for their insightful and helpful comments on the manuscripts. Furthermore, we would like to express our gratitude to the authors for their patience, responsiveness and motivation to contribute to the quality and richness of this special issue.

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Facets of primary and secondary school students' wellbeing during the first wave of the COVID-19 pandemic: A qualitative analysis of Austrian and Italian educational policy

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Summary: The coronavirus pandemic has revealed the limits of current social and educational structures. In most countries, COVID-19 has compromised the wellbeing of students, but also of their families and teachers. During the first wave of the pandemic, school systems all over the world had to respond quickly and appropriately to the systemic shock it represented, and countries put a variety of different policy measures in place to tackle its extensive impact. The theoretical framework adopted in this paper is a critical perspective and the policy framework is the UN Sustainable Development Goals (SDGs); it provides a qualitative analysis of selected educational policies deployed by Italy and Austria to support the wellbeing of school pupils. The two countries deployed different education governance and emergency management strategies, in particular during the first wave of the pandemic. We applied our theoretical and policy frameworks to qualitative content analysis of educational policy documents from February to the end of August 2020, aiming to evaluate the responses to crisis of different education systems and potentially to support their improvement. The overall research question was: How did educational policies in Italy and Austria support students' wellbeing during the

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first wave of the COVID-19 pandemic? The results confirm that the Italian and Austrian systems had different strategies to support wellbeing and put different initiatives in place. However, educational policies in both countries, and especially Italy, had a stronger focus on the physical wellbeing of individual students during the period under study, and tended to neglect social wellbeing. The paper concludes by reflecting on the opportunities presented by this emergency for school systems to position wellbeing (in the broader sense of eudaimonic wellbeing) at the centre of educational policy.

Keywords: wellbeing; quality of life; SDGs; qualitative policy analysis; COVID-19

1. Introduction: COVID-19 and wellbeing

In the blink of an eye, hundreds of thousands lost their lives (WHO, 2020) and millions of people their jobs (Tcherneva, 2020). While all members of the society may be affected at an individual level, COVID-19 is an amplifier of existing systemic inequalities, injustices and insecurities. The literature is in general agreement on the correlation between income inequality and health and social problems (Rowlingson, 2011). The consequences of the pandemic for personal and social wellbeing are thus likely to hit the most vulnerable and marginalized hardest (OECD, 2021; UNESCO, 2020a). COVID-19 has heightened the precarious financial situation and compromised the personal and social wellbeing of millions of members of the society (Fickermann & Edelstein, 2020; Tcherneva, 2020; Wanberg et al., 2020).

In their initial attempt to contain the spread of the virus at the beginning of the crisis around February 2020, many countries closed their schools. In the longer term, school closures can reduce wellbeing and give rise to inequality (Armitage & Nellums, 2020). As pointed out by a special OECD survey (2021), by 16 March 2020 about half of the 33 countries with comparable data had fully closed at least some primary and secondary schools. It is of particular note in this context that countries with the lowest educational performance tended to close their schools completely for longer periods during the first wave of the pandemic. At the same time, countries with similar infection rates and PISA performance (e.g. Poland, Sweden, England, France and Austria) had a range of policies on school closures (OECD, 2021).

COVID-19 has also highlighted the critical role played by parents in supporting students' learning and wellbeing. Children from socio-economically and culturally disadvantaged milieus in particular had – and still have – an increased need for adult support during and after lockdown (Carretero Gomez et al., 2021; Pelikan et al., 2021). In this regard, it is important to be aware that not all parents had the necessary prior knowledge and/or linguistic competence to provide their children with the support they required (Kelly et al., 2021).

The impact of COVID-19 on schools – and especially with regard to the risk that it poses to the wellbeing of students – has been addressed in a significant number of studies in the two countries that are the subjects of the present study (for Italy e.g. Caffo et al., 2020; Fiorin et al. 2021; Mascheroni et al. 2021; Save the Children, 2020, 2021; for Austria e.g. Hascher et al., 2020; Helm et al. 2021; Huber & Helm, 2020; Huber et al., 2020; Lindner et al., 2021; Pelikan et al., 2021; Schwab & Lindner, 2020). However, these contributions analyse wellbeing primarily from the psychological, medical and sanitary perspectives. In contrast, our paper provides a critical pedagogical comparison of educational policies in Italy and Austria and considers how educational policies supported the wellbeing of students in primary and secondary schools during the first wave of the pandemic. Because of different educational governance and emergency management strategies adopted by Italy and Austria during the first wave of the pandemic – as we show later in the text, Italy was hit harder by the pandemic, suffered more losses and shut down the educational system for longer than Austria (Health Europe, 2021; EC, 2021) – we are particularly interested in those countries' educational policy response regarding students' wellbeing between February and late August 2020. The aim of our analysis of policy during the first wave of the pandemic is to critically evaluate the response of the education systems in Italy and Austria, and potentially contribute to their improvement, to ensure they are better prepared for crises in future and to work towards a more just education system that promotes the wellbeing of all. The paper reflects in particular on the concepts of eudaimonic wellbeing and quality of life as defined by the Quality of Life Movement (Francesconi et al., 2021b), which takes a broader approach to wellbeing than the health-focused conception that dominated public discourse during the pandemic and continues to dominate it.

2. Theoretical framework

2.1. Quality of life and SDGs

Our theoretical framework is critical pedagogy as it relates to personal and social wellbeing and quality of life (Francesconi et al., 2021b; Nussbaum & Sen, 1993; Simovska, 2015; Suissa, 2008). This enables us to give specific attention to the deconstruction of primary institutional discourses, narratives, and established values. The Quality of Life Movement (Francesconi et al., 2021b; Nussbaum & Sen, 1993; Stiglitz et al., 2019) is a relatively recent and heterogenic institutional and academic movement that promotes a socio-economic and ecological approach to quality of life. It is a perspective that situates wellbeing as an issue that goes beyond health and moves beyond

the purely economic and financial conception of societal wealth represented by Gross Domestic Product (GDP) towards the broader concept of quality of life. This concept defines wellbeing holistically as a social, psychological, economic and ecological construct that is highly dependent on cultural, geographical and historical values, and is therefore a good framework for investigating and tackling social issues such as inequality and poverty in education, and systemic wellbeing.

The work of Nussbaum and Sen (1993) in particular describes the socio-economic approach to wellbeing, referring to Aristotelian, eudaimonic, wellbeing. Eudaimonic wellbeing is not directly concerned with a healthy lifestyle per se. Instead, it relates to ethics and the normative idea that wellbeing is a life task, an existential aspiration and a virtue (Francesconi, 2018); further, it implies care for the community and social justice. Eudaimonia is interpreted as a meaningful, existential, programmatic will or intention, which guides present and future action to promote individual and collective self-realization (Francesconi, 2018).

We combined this approach with the policy framework provided by the UN Sustainable Development Goals (SDGs), especially Agenda 2030 goal no. 4, namely quality education (UN, 2015). Target 4.5 aims to ensure that by 2030 all learners acquire the knowledge and skills necessary to promote sustainable development, including education for sustainable development and lifestyles. In addition, target 4.a focuses on building and enhancing education facilities to ensure that they are sensitive to individual needs and provide learning environments that are safe, non-violent and inclusive for all. The global crisis could and should kick-start efforts to achieve the SDGs by creating a more just and healthy world (UN, 2020a).

However, the UNDP (2020) data dashboards reveal huge disparities between countries' ability to cope and recover. So far, as the UN worldwide report underlines, "The pandemic abruptly disrupted implementation towards many of the SDGs and, in some cases, turned back decades of progress" (UN, 2020b, p. 5). Disruptions to healthcare could reverse decades of improvement: school closures kept 90% of all students out of school, reversing years of progress on education; older people, people with disabilities, children, women, migrants, and refugees are being hit hardest by the pandemic (EC, 2021; FRA, 2020; OECD, 2021). With regard to implementation of the SDGs, Italy is currently ranked 30th and Austria 7th out of 166 countries in the SDG Index, (UN, 2020c, p. 26). In addition, a COVID-19 index has been compiled on the management of the pandemic in the individual countries; here, Italy is in the 29th place and Austria in the 16th (ibid., p. 20).

The combination of the two frameworks allows us to look at the systemic responses of national educational macro agents through their policies, and simultaneously apply critical analysis to their discourses. A critical perspective

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allows us to go beyond a simple description of inequalities in education and wellbeing, identify and critically discuss institutional discourses, and reveal and interpret the prevalence of the health-based over the socio-ecological conception of wellbeing.

2.2. Educational inequalities and wellbeing

Different policy measures, national legislation and public investment in the education system may amplify existing inequalities in schools. Although general government expenditure on education is not the only factor determining the quality of education, it still needs to be considered. While Sweden and Denmark invest 6.9% and 6.4% of gross domestic product (GDP) respectively in education, Austria spends only 4.8% and Italy only 4% on the sector (Eurostat, 2020). Of the 30 countries studied, Italy invests the lowest percentage of total government expenditure in education (8.2%), and Iceland the highest (17.4%). UNESCO (2020b) assumes that COVID-19 will lead to further cuts in government expenditure on education, having greater consequences for education than the financial crisis of 2007–2008 (UNESCO, 2020b). While lockdown brought loss of freedom and presented a risk to the personal and social wellbeing of all children, the pandemic has further widened the education gap. According to the large-scale PISA 2018 study, 9% of 15-year-old students do not have a quiet place to study in their homes (OECD, 2019).

All around the world, educational institutions have closed buildings and campuses both to students and to non-essential staff in an effort to prevent them from contracting the virus and to protect their health. These decisions have had monumental repercussions for the delivery of teaching, the provision of student services, social relationships and, importantly, wellbeing. Students' personal and social wellbeing have been at the centre of public and academic debate from the beginning of the pandemic (e.g. Caffo et al., 2020; Hoffman & Miller, 2020; Van de Velde, Buffel, Bracke, Van Hal, Somogyi, Willems, & Wouters, 2021; Wanberg et al., 2020). Schwartz and colleagues found that in Alberta, Canada, student stress levels were well above critical thresholds for 25% of their sample, and females and older adolescents (aged 15–18) generally reported higher stress levels than males and younger adolescents (aged 12–14; Schwartz et al., 2021). Furthermore, Carretero Gomez and colleagues' study in five European countries (Belgium, Estonia, Greece, Italy and Poland) confirms that the pandemic has undermined the assessment and evaluation of students' psychological wellbeing (Carretero Gomez et al., 2021); this makes it more difficult to monitor the situation and pick up critical cases. So far, studies from both Italy and Austria are aligned with these findings. They observe a general deterioration in students' wellbeing and difficulties with

reaching out to and monitoring students, both at schools and at universities (Caffo et al., 2020; Meda et al., 2021; Villani Pastorino et al., 2020; Lindner et al., 2021; Hascher et al., 2020; Pelikan et al., 2021). Compromised wellbeing has also been shown to pose significant risk of increases in school dropout rates. Research in Italy, for example, has underlined that young people are suffering from reduced social contact and a general loss of wellbeing as a result of distance learning. 28% of secondary school students state that since the lockdown during the first wave of the pandemic, at least one of their classmates has stopped attending classes altogether (Save the Children, 2021).

At policy level, the OECD (2020d) has proposed that schools should give priority to wellbeing. Indeed, the OECD expects that the COVID-19 crisis will lead to lasting changes in education (2020b). The pandemic has highlighted that schools are not only crucial as education providers, but also as places that respond to socio-emotional needs and support the personal and social wellbeing of vulnerable students (Colao et al., 2020). In this sense, scholars and institutions suggest that schools should increase their ability to become safe spaces for all students, providing psychological support, responding to socialization needs and creating a sense of community (Colao et al., 2020; OECD, 2020d).

3. Materials and methods: Qualitative content analysis

We adopted an inductive-deductive qualitative content analysis methodology and applied it to institutional policy documents (Elo & Kyngäs, 2008; Mayring, 2004; 2014; Pandey, 2019). As is standard for deductive qualitative content analysis, we referred to previous research findings, theories, and conceptual frameworks relating to the phenomenon under investigation when determining our focus (Armat et al, 2018; Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mayring, 2014), namely support for school students' wellbeing. This category was derived from previous theoretical and empirical studies, which have highlighted its relevance in Italy and Austria (e.g. Fiorin et al., 2021; Kelly et al., 2021; Mascheroni, et al., 2021, Meda et al., 2021; Hascher et al., 2020; Helm et al., 2021; Pelikan et al., 2021). Data analysis was undertaken on the basis of this category; it then informed the creation of subcategories, codes, and units of meaning as the analysis progressed. Major subcategories that emerged reflect three different facets of wellbeing that had an impact on equal educational opportunities for students: (1) systemic and organizational response to wellbeing; (2) concepts of wellbeing based on health and sanitary issues; (3) COVID-19 as an opportunity to foreground wellbeing. This paper thus sheds light on these categories, which are in line with the trends evident in the growing body of international literature and institutional policy regarding the impact of the pandemic on students' personal and social wellbeing.

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Two different researchers undertook separate content analyses, one for the Italian documents, one for the Austrian documents, developing independent dictionaries on the "units of meaning" (Campbell et al., 2013). To ensure reliability of the qualitative coding, the research team agreed on rules to guide the units of analysis by size and constantly evaluated the extent to which they were making similar coding decisions when assessing text characteristics. A third researcher subsequently revised all the results and discussed them with the research team in order to homogenize and further refine them.

The research material consisted of policy documents. We collected and analysed all available Italian and Austrian educational policy documents published during the first wave of the pandemic, from February 2020 to the end of August 2020, anticipating differentiated findings on how school students' wellbeing was fostered. In order to collect our data, we first ran an exploratory search within the main sources for policy in the two countries, namely institutional websites, archives, and governmental, parliamentary and other repositories. From this first exploratory phase and an initial scan of the policy documents, we selected all policy documents with explicit or implicit mention of the main category, wellbeing. The documents selected are listed in Table 1.

Table 1:
Policy documents analysed. Acronyms used: AT: Austria; IT: Italy; I: Decrees; II: Communications. See detailed documents list in the appendix.

Italy	Austria
16 Decrees of the President of the Council of Ministers (first issued February 23, 2020, last issued August 7, 2020): ITI.1–16	7 Decrees of the National Council and 11 Decrees of the Federal Minister of Education, Science and Research (first issued March 15, 2020, last issued July 31, 2020): ATI.1–18
50 Communications of the Ministry of Education, University and Research (first issued February 8, last issued August 29, 2020): ITII.1–50	54 Communications of the Ministry of Education, Science and Research (first issued March 12, last issued August 17, 2020): ATII.1–54

4. Results: Educational policies with a focus on primary and secondary school students' wellbeing during the first wave of the pandemic

Our results show different dynamics and content of the systemic responses to the COVID-19 pandemic in Italy and Austria with regard to wellbeing. Starting from the main category of wellbeing, we developed three aspects to describe the policy documents: (1) systemic and organizational response to wellbeing; (2) concepts of wellbeing based on health and sanitary issues; (3) COVID-19 as an opportunity to foreground wellbeing.

4.1. Italy

4.1.1. Systemic and organizational response to wellbeing

During the first wave of the pandemic, schools were closed and educational excursions suspended from February 23, 2020. This was justified by the assertion that priority had to be given to the safety and physical health of students, teachers, families and the wider community (ITI.1–5, 10–11). In addition, limitations on sport and outdoor activities affected young people's psychophysical wellbeing, even if the limitations related to extracurricular education or extra-school activities (ITI.2–6, 9–12, 14, 16). Attempts to introduce practical measures to improve organization and the logistics response to the pandemic included the purchase of up to three million desks to ensure the school year could begin safely – in particular, up to 1.5 million traditional single-seat desks and up to 1.5 million innovative mobile seats with wheels (ITII.44) – as well as the reduction of geographical disparities in education (ITII.42), and funding to upgrade school buildings (ITII.11) such as the 30 million Euros allocated to local authorities (ITII.25, 39). The latter measures, however, have no immediate or short-term impact since it can take months or years to upgrade buildings.

The systemic and organizational response to wellbeing also includes the reopening of schools. The Italian government decided to continue with remote teaching and learning until the end of the 2019/20 school year and planned to reopen schools in September 2020 (ITII.26–27, 30, 35); such a long closure had an impact on students' personal and social wellbeing (Caffo et al., 2021; Meda et al, 2021; Save the Children, 2020, 2021). To ensure all sanitary and health conditions were met to allow schools to reopen in September, the government allocated 1.6 billion Euros (ITII.39) with a specific focus on the following aspects: sanitized and safe schools, more space to ensure social distancing, additional workshop teaching, flexibility, and priority for preschool children (ITII.46) and pupils with disabilities (see also ITII.29), as documents state that these groups suffered most from the closure. In addition, it was planned to resume face-to-face schooling – in compliance with the infection prevention measures contained in the Technical Document, which was drawn up by the Scientific Technical Committee and approved on 28 May 2020 – with an emphasis on the need to achieve a balance between the complex issues of safety (containing the risk of infection), the socio-emotional wellbeing of students and school employees, the quality of learning environments and processes, and respect for constitutional rights to health and education (ITII.46).

4.1.2. Concepts of wellbeing based on health and sanitary issues

4.1.2.1. Individual and social wellbeing

Communication document ITII.13 specifically highlighted the importance of safeguarding the wellbeing of individual students, but it also mentioned

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the need to foster community spirit throughout the school, illustrating the attention to socio-ecological wellbeing that the systemic approach to the pandemic gave rise to. It was also noted that students' wellbeing might be enhanced by online teaching. Teachers were thus invited to provide a "listening ear" for children's and young people's worries, fears, and any other emotional states (ibid.).

In different regions, online services providing psychological support to students, parents, teachers, school heads, and other school staff were introduced as soon as the initial repercussions of the pandemic and the lockdown for individual wellbeing became apparent. For example, in the Province of Bolzano, in April 2020 the "...Parliamone" ("...Let's talk about it") online counselling service was set up (Amministrazione Provincia Bolzano, 2020). At the national level – based on a special agreement between the Ministry of Education and the National Council of Psychologists – funding was provided for psychological support when schools reopened in September, in order to help students cope with feelings of insecurity, stress, fear of infection, difficulty in concentrating, and isolation (ITII.47). The ministry planned to provide support to reopening schools in Italy in the form of 8,000 psychologists to counsel students, teachers, and parents experiencing trauma and distress as a result of the COVID-19 emergency. The policies provided for a total of 125 hours of psychological counselling per school, an average of 18 hours per month for both collective interventions for the school community and individual guidance for students, teachers, and families to support resilience.

4.1.2.2. Physical wellbeing

Even though individual and social wellbeing was given a certain priority through the provision of online counselling services during the first wave, and especially in the planning of schools' reopening, it is notable that – again perhaps due to the barriers presented by school infrastructure – physical wellbeing (i.e. health and safety provision) was the centre of attention and the social wellbeing of students, particularly the facilitation of social contact, was accorded secondary importance. The subordinate role played by this aspect of wellbeing in Italian educational policy was evident from the limited efforts to reopen schools once other institutions had reopened and as economic activities were gradually resumed. As already mentioned, educational structures and buildings in Italy were to some extent ill-equipped to deal with emergencies, and this posed a major challenge for national bodies. In this regard, along with the preventive health and hygiene measures required to enable schools to open (ITI.16), a number of organizational and infrastructure measures had to be put in place to enable schools to operate with the necessary safeguards, for instance, physical distancing in classrooms and flexible reorganization of learning environments. This may also have

contributed to the decision to leave schools closed until the summer break in June – although some regions introduced an emergency service in mid-May for children whose parents had to work – and only to reopen them in September at the usual start of the school year.

4.1.3. COVID-19 as an opportunity to foreground wellbeing

Study of the decrees issued by the President of the Council of Ministers and communications from the Ministry of Education revealed that higher priority was given to students' physical health by minimizing exposure to potentially dangerous social interactions, while lower priority was given to support for individual students' wellbeing. In Italy – and this may have been influenced not only by the circumstances of the pandemic but also by the general difficulties the country's economy is facing – the resumption of economic activities was prioritized over other fields, such as the provision of face-to-face schooling, with repercussions for students' psychosocial wellbeing.

However, taking an optimistic view, nearly all the documents analysed explicitly or implicitly stress that despite the difficulties associated with the resumption of school activities, the situation might represent an opportunity to redesign the school system as part of a more general coordinated initiative. The hope that this crisis could mark the turning point for the future of national school systems is a desire that is widely expressed these days and shared by many governments and institutions (OECD, 2020b). As far as Italy is concerned, the overall aim would hence be to place schools and students' wellbeing at the centre of the political agenda, or at least to significantly increase the attention paid to it, as it is of crucial importance for enabling both society and the economy to flourish. Whether this effort will take a health-oriented or quality of life-based approach to students' wellbeing remains hard to predict at present.

4.2. Austria

4.2.1. Systemic and organizational response to wellbeing

Schools were closed from March 16, 2020, by order of the Austrian government, and partially opened by the end of May, starting with graduate classes and primary schools. The study of official Austrian education policy documents revealed a particular focus on avoidance of overburdening families. Parents and legal guardians were offered the opportunity to take up care at school sites, regardless of their professional background (ATII.23). A special care period of up to three weeks was introduced to help individuals provide family care (ATI.4). In addition, children who could not be looked after at home were authorized to continue to attend school – an emergency school

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service – supervised by selected teachers (ATII.9–10). Furthermore, families who were struggling financially were granted additional funds, for example via the Third COVID-19 Law of 4.4.2020, which allocated 30 million Euros as family funds ("Familenhärtefonds") (ATI.2–5, 14, 17–18). However, the Austrian Anti-Poverty Network criticized the fund eligibility requirements for excluding 80,000 children living in socially precarious situations, and for not protecting their personal and social wellbeing (FRA, 2020).

Due to COVID-19, all school events were cancelled until the end of the 2019/20 school year. In order to relieve schools and parents of these costs, the Austrian Government set up the COVID-19-School Event Cancellation Hardship Fund (ATI.13, ATII.52). In addition, contributions and fees for certain schools and student accommodation were suspended for the duration of the closures (ATII.25). The government has been increasing the total budget for schools; experts agree that this is a strong signal of its intention to continue the national fight against poverty. Together with other nations, Austria has committed itself to meeting the UN target of dedicating 0.7% of Gross National Income (GNI) to development activities. This goal has not so far been achieved. Despite more investment, it is still unclear if the commitment to providing comprehensive development assistance can be delivered (Oead, 2020).

4.2.2. Concepts of wellbeing based on health and sanitary issues

4.2.2.1. Individual and social wellbeing

At the beginning of the first wave of the lockdown, the Ministry of Education sent an official and public letter to teachers, asking them to maintain regular and structured contact with their students through existing and new (digital) communication channels. If additional support was needed to establish these channels, the Ministry promised to provide financial aid (ATII.23). Although not explicitly stated, it can be concluded from the analysis of policies that one aim of these actions was to increase students' psychophysical wellbeing.

The relevance of psychophysical wellbeing in Austrian policy was also evident from the efforts made to reopen schools as soon as possible and the many, often detailed, communications between the Ministry of Education and schools about the introduction of new processes (e.g., ATII.2–3, 20, 40). As soon as possible, teaching began operating in shifts to ensure that all students could attend class (ATII.30–31, 35).

Moreover, teachers were instructed that all students showing signs of psychological or social problems – although the meanings of the terms were not explicitly explained – had to be contacted without exception. Social

workers were instructed by the Federal Ministry to contact pupils showing signs of problems in the current situation and whom schools had not managed to reach since the beginning of the emergency (ATII.23–24). School premises were also made available to local associations for group activities to promote personal and social wellbeing (ATII.49–50).

4.2.2.2. Physical wellbeing

While on the one hand the Minister of Education's communications to teachers mentioned their heavy workload, they also asked them to continue to provide support during the Easter holidays for parents and guardians working in critical infrastructure. Schools were therefore also kept open during the Easter week for 6–14-year-old pupils (ATII.17, 27) and teachers belonging to risk groups were mentioned in protected categories (ATII.38). Not least for this purpose, policy documents also stress that hygiene guidelines must be observed by all (ATII.48). In terms of health and physical wellbeing, hygiene guidelines played a prominent role in communications with schools (ATII.33, 37, 48). A letter from the Minister of Education was also sent specifically to school doctors, requiring them to help in other health and care facilities if they were not able to perform their regular duties as school doctors in federal schools. The Ministry of Education gave them the opportunity to apply for special leave to allow them to be available free of charge in areas where medical support was urgently needed. School doctors' salaries continued to be paid by the Ministry of Education (ATII.13). These measures illustrate the government's health-related commitment to supporting students' wellbeing.

Finally, in the context of physical wellbeing, it is also important to mention limitations on physical education classes and outdoor activities during the first lockdown. When schools reopened, most only allowed exercise and sport outdoors, with exceptions for pupils on athletics or skiing courses, pupils on approved programs for competitive athletes and for federal sports academies (ATII.42).

4.2.3. COVID-19 as an opportunity to foreground wellbeing

Study of the decrees issued by the National Council and from the Federal Minister of Education, Science and Research and from the Communications of the Ministry of Education, Science and Research revealed that professional support for students' physical wellbeing was given higher priority than support for their psychosocial wellbeing. Indeed, nearly all of the Austrian documents analysed underline the increased awareness of and attention given to the issue of students' wellbeing, as well as paying considerable attention to the wellbeing of parents and teachers. Furthermore, the documents give hope that the priority accorded to students' individual and social wellbeing will be sustained beyond the pandemic and will become a structural asset

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of the Austrian education system, in line with the OECD recommendations (2020b).

Table 2:
Summary of key findings on aspects of wellbeing in Austrian and Italian education policy documents during the first wave of the COVID-19 pandemic

Aspects of wellbeing	Italy	Austria
Systemic and organizational response to wellbeing	– 23/02/2020: School closure until the end of the 2019/2020 school year – Suspension of educational excursions – Limitations on sport and outdoor activities – Purchase of desks – Upgrading of school buildings – 1.6 billion Euros invested to ensure good sanitary and health conditions in schools	– 16/03/2020: School closure and step-by-step reopening before summer break – Events were cancelled – Care provided at school sites – Introduction of special care periods for family care – Emergency school service – Extra family funds – Implementation of COVID-19-School Event Cancellation Hardship Fund
Concepts of wellbeing based on health and sanitary issues	Individual and social wellbeing: – Focus on wellbeing of individual students and community spirit – Support for students with disabilities – Online teaching and role of teachers as "listeners" – Psychological support through online counselling services Physical wellbeing: – Limited opportunities for physical exercise and sports – Decision to keep schools closed to ensure integrity and physical health of students – Comprehensive (preventive) health and hygiene measures	Individual and social wellbeing: – Maintenance of regular and structured contact with students through existing and new (digital) communication channels – Introduction of shift teaching – Special care for students with psychological or social problems – Efforts of local associations to undertake group activities Physical wellbeing: – Limited exercise and sport activities – Protection of students belonging to risk groups – Comprehensive and rigorous introduction of hygiene guidelines – Additional deployment of school doctors
COVID-19 as an opportunity to foreground wellbeing	– Clear support for individual students' wellbeing, the school community, teachers, and families	– Clear support for individual students' wellbeing as well as for the wellbeing of their parents and teachers

5. Discussion and Conclusions: Aspects of wellbeing

Based on the descriptions above, the aspects we have developed are discussed in more detail below.

5.1. Systemic and organizational response to wellbeing

In terms of systemic response, Italy and Austria took different action in relation to the beginning and the duration of school closures. Italy shut down schools between the end of February and the beginning of March 2020. There were considerable regional differences in Italy, for example in Lombardy schools closed on February 23. In Austria, the shutdown started somewhat later, on March 16, 2020, and was applied to the entire country. The Italian system did not then reopen schools during the first wave, while Austrian schools did reopen before summer break. However, it is necessary to consider the context in which the educational systems were situated: in contrast to Austria, the number of deaths in Italy increased rapidly, especially between February 21 and the end of March 2020 (Alicandro et al., 2020), and this has led to more severe restrictions and policy measures such as longer school shutdowns than in Austria.

Teaching began on the basis of shifts to ensure that not all Austrian students were attending classes at the same time, starting with core subjects, and then adding ancillary subjects such as physical education. From May 4, 2020, Matura students and all graduating classes in the VET sector were back in school, followed, on May 18, by pupils at primary schools, lower secondary (grammar) schools (AHS), New Middle Schools (NMS), special schools and all vocational middle and higher schools classes with a shortened year of instruction. These were followed by classes at the polytechnic schools, the AHS upper cycle and all other classes at VET schools and colleges on June 3, 2020.

In this context, it is also necessary to consider the logistic and structural conditions of the Italian school systems, such as school buildings and infrastructure, which hampered support for emergencies or safe reopening. A relevant example in this context is the purchase of thousands of new mobile school desks, which were intended to facilitate the ergonomic reorganization of school classes and spaces when schools reopened. This was a policy aimed at supporting the reopening and reorganization of the school system. However, as has been shown, given the impossibility of reopening schools until September, educational systems in Italy faced major organizational challenges in finding a flexible, fast and safe response to the pandemic.

In both countries, there was systematic and structured collaboration between students and their families and a range of professionals, including psychologists or social workers. Together, they tried to improve the physical and even psychophysical wellbeing of the students.

5.2. Health and sanitary-based concept of wellbeing

As set out in the theoretical discussion, a socio-economic conception of wellbeing includes health but it is not limited to it (Francesconi et al., 2021b). A broader vision is required in order to escape from health-centred policies of wellbeing. However, looking at the sanitary emergency during the first phase of the pandemic, both countries' initial reaction to the pandemic was of necessity based on a strong sanitary response. Initially, there was little or no pedagogical intention of adopting a comprehensive approach to wellbeing, despite the fact that from the very beginning it was clear that the impact of the pandemic was going to go beyond the sanitary dimension: the lack of face-to-face social contact between students affected the wellbeing of students in many countries. During the first wave, policies to support wellbeing in schools were largely derived from or based on the health and medical sector, rather than the educational sector, as previous research has already demonstrated (e.g., Kelly et al., 2021). In Austria, social workers were also brought in to help vulnerable students, but were not given a specific pedagogical mandate, while in Italy psychologists were included in teams to help at-risk-students. Our analysis has also shown that the Austrian system primarily, specifically and explicitly characterized wellbeing in terms of hygiene; an aspect that was not treated in the same manner in the Italian policy documents. This again is in line with the sanitary conception of wellbeing that is so essential during the pandemic, but has limitations because it partially excludes or neglects the pedagogical response and strategy. Our analysis, however, shows that policy documents in Austria put a stronger focus on the psychophysical wellbeing of students than those in Italy and that both countries – although to different extents – made some effort to support the health and wellbeing of families and teachers. From this, it can be deduced that the wellbeing of individual students was not only directly addressed, but also that attempts were made to support the social wellbeing of students through care for the wellbeing of the school community, and of the teachers and parents around the students. In Italy, the concept of wellbeing was related more to a general sense of safety and health promotion. The focus was mainly on the students themselves rather than systemic or social wellbeing. In both countries, policies required that student wellbeing had to be monitored and supported through regular online contact.

5.3. COVID-19 as an opportunity to foreground wellbeing

Our data show that the focus of wellbeing policies is in line with trends in the growing body of international scientific literature on wellbeing. The OECD (2021) confirms that one unexpected effect of the pandemic is the increased awareness of and attention given to the issue of students' wellbeing, which has become a top priority in many countries. Further assessment is needed

to establish whether this priority will be sustained beyond the pandemic and will become a structural asset of the Italian and Austrian education systems. The OECD also suggests that the crisis should be considered an opportunity to establish a new culture of wellbeing in schools (OECD, 2020d). This is in line with the general aims of the Quality of Life Movement (Francesconi et al., 2021b). In this context, and in order to move beyond the sanitary reactions to the pandemic towards an educational concept of eudaimonic wellbeing (Francesconi, 2018), it will be crucial for the future of schools to plan and implement changes in the curriculum that put a stronger focus on personal and social wellbeing and self-care. This can be achieved through workshops, focus groups, personal and pedagogical coaching and other methodologies fostering socialization and self-reflection, as well as by ensuring that students understand the past and current emergency and any future crisis, and that they are equipped with the requisite tools to take care of themselves and their environment. From this perspective, both Italy and Austria have demonstrated their commitment to improving students' wellbeing during the first wave of the pandemic – by considering the past and present social and economic conditions that impact educational institutions in each context. However, more has to be done in the post-pandemic era.

5.4. Concluding remarks

The limitations of this study relate to the design of the research and consist in geographical and temporal constraints. Geographically speaking, the sampling in our study has included only two European countries and is therefore limited. Further studies of other (European) countries would deepen the understanding of the responses of national school systems. The temporal limitation consists in our decision to focus only on the first wave of the pandemic and not on the entire period. This decision was driven by the strategic planning of our research. We wanted to ensure we were relying on a closed set of policy documents and not on documents that were still being modified or released. Here again, further studies of the second wave and the ongoing development of the pandemic would be helpful. This paper contributes to improved analysis of what happened during the first wave and can assist the development of better responses to similar educational emergencies in the future. Both the Italian and Austrian school systems can learn from this pandemic and then can put in place the necessary systemic changes (Francesconi et al., 2021a).

The present study is relevant for education policy and systems researchers for at least two reasons. First, while there are a vast number of studies investigating the psychophysical effects of the COVID-19 pandemic on school students, there are far fewer publications dealing with education policy. Second, the methodological approach we adopted in this paper –

the qualitative content analysis of policies – remains rare in investigations of the impact of the pandemic. For these reasons, our study represents an opportunity to expand the knowledge of the scholarly community on this topic. We believe that once the impact of the COVID-19 pandemic lessens, it will be necessary to reflect on the partial transfer of educational policies on wellbeing from the health and medical sector to the educational sector, in line with the theoretical assumptions of the critical and pedagogical approach to wellbeing and with the Quality of Life Movement (Francesconi et al., 2021b; Simovska, 2015; Suissa, 2008; Nussbaum & Sen, 1993).

In conclusion, based on the data provided in this paper and the latest literature, we recommend that governments and educational institutions introduce more agile strategies for education in order to ensure more adequate and prompt responses to potential future crises, especially where the personal and social wellbeing of all individuals within the education sector are concerned, from students to teachers and parents. Systemic crises require systemic responses and the engagement of collective and distributed agency needs to be reinforced to ensure systemic resilience (Francesconi et al., 2021a). However, in order to move beyond state policy, it will be necessary to open a discussion about how school systems and institutions should use this crisis as an opportunity to learn about wellbeing and rethink some of their policies and practices in order to move from a mere sanitary to a fully eudaimonic conception of wellbeing.

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Aspekti blagostanja učenika osnovnih i srednjih škola tokom prvog talasa pandemije kovida-19: kvalitativna analiza obrazovne politike u Italiji i Austriji

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Pandemija virusa korona razotkrila je granice trenutnih struktura društva i obrazovanja. U većini zemalja, pandemija kovida-19 ugrozila je kako blagostanje učenika, tako i blagostanje njihovih porodica i nastavnika. Tokom prvog talasa pandemije, obrazovni sistemi širom sveta morali su brzo i na odgovarajući način da reaguju na sistemski šok nastao usled pandemije, a države su primenile niz različitih mera kako bi se izborile sa njenim velikim uticajem. Teorijski okvir od koga polazimo u ovom radu je kritička perspektiva, a kao okvir politike korišćeni su Ciljevi održivog razvoja Ujedinjenih Nacija. Ovaj okvir omogućava kvalitativnu analizu odabranih obrazovnih politika koje su primenile Italija i Austrija kako bi podržale blagostanje učenika. Ove dve zemlje koristile su različite strategije upravljanja obrazovanjem i vanrednom situacijom, posebno tokom prvog talasa pandemije. U radu primenjujemo naš teorijski i politički okvir na kvalitativnu analizu sadržaja dokumenata obrazovne politike od februara do kraja avgusta 2020. godine, sa ciljem da procenimo odgovore na krizu različitih obrazovnih sistema, kao i da potencijalno podržimo njihovo poboljšanje. Opšte istraživačko pitanje bilo je sledeće: Kako su obrazovne politike u Italiji i Austriji podržale blagostanje učenika tokom prvog talasa pandemije kovida-19? Rezultati potvrđuju da su sistemi u Italiji i Austriji primenili različite strategije da bi podržali blagostanje, kao i da su sproveli različite inicijative. Međutim, obrazovne politike u obe zemlje, a posebno u Italiji, više su se usmerile na fizičko blagostanje učenika tokom perioda koji smo analizirali, često zanemarujući društveno blagostanje. U zaključku se diskutuje o mogućnostima koje je vanredna situacija pružila školskim sistemima da stave blagostanje (u širem smislu blagostanja kao eudajmonije) u središte obrazovne politike.

Ključne reči: blagostanje; kvalitet života; ciljevi održivog razvoja; kvalitativna analiza politike; COVID-19

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Trends in primary school teachers' experience over the first year of the COVID-19 pandemic in Serbia: A narrative analysis

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Abstract: The purpose of the study is to explore the experiences shared by primary school teachers in three waves of data collection. Teachers' narratives about their experiences of schooling during the COVID-19 pandemic were elicited online. In three instances, a total of 116 participants were prompted to narrate in story and letter genres, providing 233 narratives. We conducted the values analysis and additionally analysed data statistically in order to compare the values teachers expressed at three key turning points for education in the first year of the COVID-19 pandemic in Serbia. Altogether, three major values and nine value codes were identified. This multi-genre three-wave approach provided a nuanced and comprehensive picture of teachers' most important impressions, concerns, and strategies in the new reality, in particular as the emphasis changed over the course of one year of the pandemic. Teachers who took part in the first wave mostly focused on health and prevention issues, their duties, the workload, and the strategies for coping with the new normal. In the second wave, as the threat eased, teachers expressed increased awareness of schooling related issues. Teachers' narratives in the third wave primarily focused on the learning process and outcomes. Based on the conducted analyses, the paper draws policy recommendations.

Keywords: COVID-19, distance education, teachers, value analysis, dynamic storytelling

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Introduction

The sudden, uncalled-for, and rapid shift to distance schooling due to the outbreak of COVID-19 pandemic was one of the greatest challenges for the education systems worldwide in recent history. Countries had to find ways to sustain education, devise procedures, set up structures, and organise instruction. Everything which, up to that point, had been perceived as *a matter of fact* became *a matter of concern* (Alacron Lopez et al., 2021). In this endeavour, reliance on technology and the Internet was the most commonly used solution worldwide.[2] Although previous strivings towards digitalisation of education (see McFarlane, 2019) made this transition somewhat easier, governments, schools, teachers, students, and parents were forced to change their entrenched routines overnight and adopt digitally mediated practices. Teachers, as the carriers of the educational process, were perhaps more affected by this transition and in more complex ways than other stakeholders, especially those working with younger students and students transiting from class to subject instruction. This paper aims to explore the ways in which teachers narrate about their experiences during this period, as well as the ways in which they made sense of these experiences and conveyed their stances using different narrative genres.

The novel context of education, with profusion of the unknown, rapidly mobilized the research community to investigate the manifold features of the new kind of schooling and support policy makers and practitioners with recommendations based on scientific evidence. To find our research niche and provide a snapshot of the already rich production of publications, we conducted a review of the published papers. By using ERIC, ScienceDirect, and SAGE pub engines, we found over 400 distinct articles from peer-reviewed journals published between June 2020 and June 2021. The search was conducted by using keywords: abstract:(("COVID 19" OR "pandemic" OR "coronavirus") AND ("online education" OR "distance education" OR "distance learning" OR "school closure" OR "school closing")), and narrowing the search further to Education and Science and Humanities fields. The mushrooming of publications went hand in hand with the proliferation of terminology used to refer to the new ways of schooling during the pandemic. Usually, *distance education* and *remote education* are used to stress that teachers and students are physically apart (e.g., in Lepp et al., 2021); *online education* is used for emphasising the medium for teaching/learning (e.g., in MacIntyre et al., 2020), and *blended* or *hybrid learning* for models of schooling where classes are conducted by a combination of online and in-person instruction (e.g., in Tabor & Smith, 2020). Since these models existed pre-pandemic, some authors use the term *emergency remote education* to

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2   https://en.unesco.org/covid19/educationresponse/nationalresponses

highlight its specificities (e.g., in Toquero, 2020). In this article, besides the above listed, we also use a descriptive phase *schooling during the pandemic* as an overarching term when needed.

We reviewed open-access empirical studies (156 total) in order to assess the prevalence of those building on teachers' experiences. The majority focused on higher education students and staff (54%), with only a small portion (12%) focusing on primary and lower secondary education and including samples of teachers. Teachers' views still seem underrepresented. Despite the abundance of new research, their professional experiences, opinions, and suggestions during the pandemic have not been explored in sufficient detail to become influential and relevant for policy-makers. Figure 1 shows the stepwise approach used during the literature search that led us to the niche of our interest, where only 11 qualitative studies addressing the emergency remote education-related experiences of primary and lower secondary teachers were found.
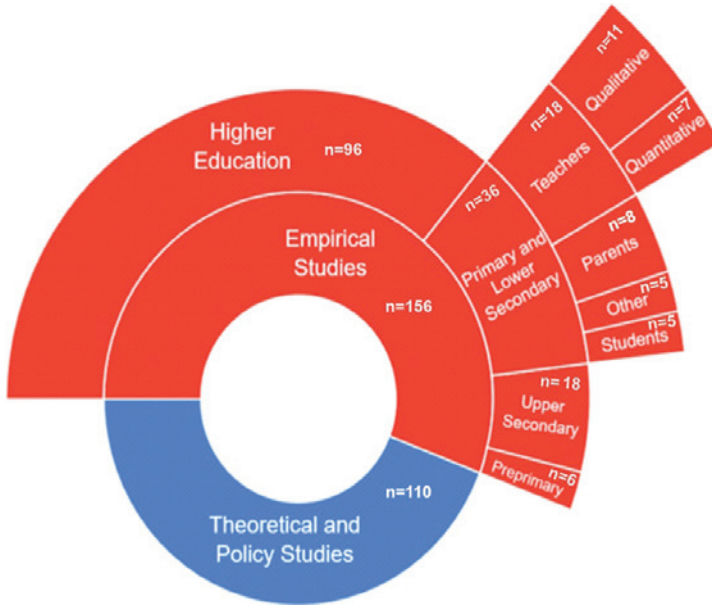
Figure 1. The share of different types of articles on schooling during the pandemic

Out of these 11 studies exploring teachers' experiences, eight were conducted at the beginning of the pandemic, capturing the first reactions and thoughts, one study captured the beginning of the 2020/21 academic year, while the remaining two did not provide information about the data collection period.

Primary and secondary school teachers faced many challenges during the pandemic, as shown in both qualitative and quantitative studies. Findings from very different geographic areas[3] were often quite similar, suggesting that some aspects of teachers' experiences played out universally across different contexts.

Reaching out to students with no access to the digital environment was reported as one of the biggest challenges teachers faced (Frohn, 2021). A commonly reported obstacle was the absence of in-person interaction, causing non-authentic communication and a lack of spontaneity (Niemi & Kousa, 2020), the absence of instant feedback on students' participation, and a lack of social interactions, which is why teachers frequently opted for lecturing via video calls (Lepp et al., 2021). Another concern was maintaining students' learning motivation and engagement during online schooling (Chiu et al., 2021). Studies have shown that to get students present and interested, teachers used different platforms, prepared diverse assignments to meet different preferences, and provided individual feedback (Lepp et al., 2021; Wicaksana et al., 2021).

Studies focusing on teachers' mental health reported that their initial reactions included a sense of rush, panic (Kim et al., 2021), anxiety related to change, and higher levels of stress (Collie, 2021). A serious source of stress was the increased workload (Kaden, 2020; Kraft & Simon, 2020). More demanding work was the feature of schooling during the pandemic often reported by both students (Kovács Cerović et al., 2021; Pelikan et al., 2021) and teachers (Kaden, 2020; Kraft & Simon, 2020). Teachers' workload expanded due to the time-consuming preparation of digital materials and setting up platforms for extensive communication with parents (See et al., 2020). Heavier workload was also reported by teachers who had to teach both online and in-person due to different communication needs of students (Kaden, 2020), thus doubling the amount of work (Collie, 2021). In addition to expanding the professional obligations of teachers, the pandemic brought about an increase in the amount of their home-related activities, such as housework, childcare, and homeschooling their own children (See et al, 2020). Studies also suggested that the two roles were often conflicting, causing additional stress (Kara et al., 2021).

Studies also looked into teachers' coping strategies. MacIntyre et al. (2020) found that the most frequently used coping strategies of teachers were acceptance, advanced planning, re-framing, and being proactive about the situation. Lepp et al. (2021) found that the teachers' concern with students' and their own workload and wellbeing often led to reducing the

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3   The presented findings are from studies conducted mainly in the European, North American, and Asian countries.

amount of content, postponing more complex topics, and not going into depth.

However, we did not detect the studies comparing different periods or different schooling models during the pandemic, albeit education contexts worldwide had been changing swiftly in response to the changing health situation. In Serbia only, where our study was conducted, the organisation of schooling switched several times during the year. From school closure in mid-March until July 2020, schooling was organised remotely, as distance learning (most frequently via live-streaming lectures and by uploading materials to learning platforms or social media groups), coupled with TV lessons. The academic 2020/2021 year began with hybrid-model classes, a combination of in-school classes (that students attended in shifts or on alternate days/weeks) and distance learning. In March 2021, due to the exacerbation of the epidemiological situation, classes were again switched to distance learning exclusively (Government of the Republic of Serbia, 2020a,b,c, 2021).

Methodology: a multi-wave and multi-genre approach

The study aims to contribute to filling the research gaps in the emerging literature about education during the pandemic in two important directions. It explores the dynamics of teachers' experiences as being immersed in the year(s) long pandemic crisis, delineating the ways teachers made sense of the changing context and their role in it. The study presents periodic snapshots corresponding to three different emergency schooling contexts in Serbia, between March 2020 and April 2021 – hence the multi-wave slant. The study also introduces a novel, theory-based, narrative approach, dynamic storytelling (Daiute, 2008; 2013). It builds on the understanding that narrating is a cultural tool that people purposefully use in active ways (Bruner, 1987) to figure out what is going on around them, how they fit and how to change what surrounds them (Parker, 2004; Daiute & Nelson, 1997) – which is indispensable in times of crisis. The approach has emerged from more than 20 years of research underpinning the understanding of discourse processes as relational activities expressed through diverse genres – stories, letters, requests, etc. (Daiute, 2010; 2014; Bamberg 2004; Georgopoulou, 2006), which have a potential to interact with policy and power structures (Daiute & Kovač-Cerović, 2017). Therefore, teachers who faced a sudden and unwanted change of their role enactments and teaching routines, accompanied by uncertainties of the pandemic, were in all three waves invited to share their narrative expressions in two genres – stories and letters, thus allowing for a time-genre study design. The story genre

called for an exploration of the events, feelings, and people involved, while the letter genre allowed for an intentional selection of relevant experiences to be shared. Previous studies show that this methodology facilitates the expression of nuanced views and hard-to-access areas of emergent experiences (Daiute & Kovač-Cerović, 2017; Daiute et al., 2020; Kovács-Cerović et al., 2021; Jović, 2020; Daiute, 2021).

The research questions guiding this multi-wave and multi-genre study were the following: What are the experiences of teachers about education in the pandemic they chose to share through narrative expressions? Do teachers' experiences differ across time and across genres and in which way?

Sample of participants and narratives

Three subsamples with a total of 116 subject teachers from 18 primary[4] schools across Serbia produced 223 narratives (Table 1). Responses were collected in three waves following the key turning points in Serbian education during the pandemic: the first lockdown and the first comprehensive transition to online schooling (May and June 2020); the end of autumn 2020/21 semester, when most schools switched to the hybrid model (December 2020); and the second lockdown and re-transition to exclusively online schooling (April 2021).

Table 1
Sample of teachers and their narratives by genre, per wave

Wave	Teachers	Narratives		
		Stories	Letters	**Total**
Wave 1	N=31 88% females 47% from rural schools AVG work experience = 16.1	28	31	**59**
Wave 2	N=58 89% females 52% from rural schools AVG work experience = 15.5	57	57	**114**
Wave 3	N=27 81% females 42% from rural schools AVG work experience = 15.3	23	27	**50**
Total	**116**	**108**	**115**	**223**

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4   In Serbia, this encompasses grades 1-8.

Instrument

An online instrument was used, consisting of prompts designed to elicit narration in accordance with the dynamic storytelling approach (Daiute & Kovač-Cerović, 2017). For the story genre, the prompt was: *Please write a story about schooling during the pandemic and reflect on your experiences in the current school year. You can write about how you manage the teaching, your view of the teaching process in your school, and the things you would change;* the prompt for the letter was: *Imagine you are writing a letter to a colleague whose school is about to change the teaching model due to the pandemic. What would you warn them about, what advice would you give them?* Google Forms links to the instrument were distributed to the participants via school management.

Analysis

Firstly, 223 narratives were parsed into thought units (usually one unit per sentence), resulting in a total of 1,389 units. Each of these units was coded with attention to its expressive intent as required by values analysis (Daiute, 2013), thoroughly described elsewhere (Kovács Cerović et al., 2021). A statistical analysis ensued. For the majority of the analyses, the data were aggregated across genres on the level of a participant. To mitigate the effect of differing lengths of the narratives (determined by causes irrelevant for this occasion, such as motivation for participation), the analyses were conducted on binarised data, registering the presence or absence of each value in each participant's narration. In addition to descriptive statistics, we used the Chi-square test to check for differences in the share of teachers expressing each value in the three waves and between genres.

Results

Nine recurrent values, gravitating towards three major values (Figure 2), organise teachers' narratives, albeit in somewhat different ways across waves. The results for each major value across three data collection waves are presented first, rounded up by the summing-up of the overall results. Although our sample does not allow for the conclusions about the change of expressive focus by individual teachers across time, the observed differences of expressions across the waves indicate contextually meaningful changes of experiences, possibly shared by many teachers.

Major value	Code value
Experience of the pandemic and restrictions – expressions focusing on circumstances and behaviour related to the epidemiological situation	**Uncertainty and restrictions** – life circumstances during the COVID-19 outbreak
	Health concerns – the importance of health protection and preventive measures
	Home-related duties – scope and diversity of responsibilities brought up by the pandemic
Expressions addressing the education process – expressions highlighting important concerns and suggestions about teaching and learning during the pandemic	**Organisational problems** – confusion and chaos caused by the lack of clear organisation of schooling
	Demanding workload – increase in school-related workload
	Learning process and outcomes – concerns related to the quality of education and suggestions for improving the teaching process
	Thoughtful use of ICT – the importance of effective use of ICT in the teaching process
Reflections – expressions stressing emotions and the management of challenges	**Negative emotions** – negative emotions related to the pandemic and to the particularities of teaching during the pandemic
	Coping – strategies for dealing with pandemic-related stress and overcoming challenges in teaching during the pandemic

Figure 2. The values organising teachers' narratives

Experience of the pandemic and restrictions

Mentions of the pandemic and restrictions in teachers' narratives decreased over time, as shown in Figure 3. In the first wave, 33% of teachers made references to **uncertainty and restrictions**, addressing the accompanying fears and unease ("*Fear of the unknown is present, pictures from around the world are discouraging.*"; "*I would advise them [other teachers] to prepare themselves [for the lockdown], especially if they live in apartments.*"). Similarly, 40% of them emphasized **health concerns,** writing about the importance of implementing epidemiological measures ("*They should not attend large gatherings.*"; "*It is important they pay attention to hygiene.*"). Many (50%) complained about the additional **home-related duties** caused by restrictions ("*In the morning, I have to queue to buy 5–6 loaves of bread for my family, my parents in their 80s, and my neighbour living alone with two small children.*"; "*A quick shopping for groceries for my family and my retired parents, and then an express delivery so that I can return home before the curfew.*"), and their new roles in home-schooling their children ("*Along with everything else, I had to monitor schoolwork of my fourth-grade daughter and my third-grade son.*"; "*I help my children with more demanding homework.*").

Over time, these expressions became less salient. All three values: uncertainty and restrictions, health concerns, and home-related duties were referred to by a significantly smaller share of the second-wave teachers (X^2 $(1, N = 88) = 7.02, p = .008$; X^2 $(1, N = 88) = 19.28, p = .000$; X^2 $(1, N = 88) =$ 14.57, $p = .000$, respectively), which remained unchanged in the third wave (X^2 $(1, N = 85) = 3, p = .083$; X^2 $(1, N = 85) = .34, p = .560$; X^2 $(1, N = 85)$ $= 2.47, p = .116$, respectively).
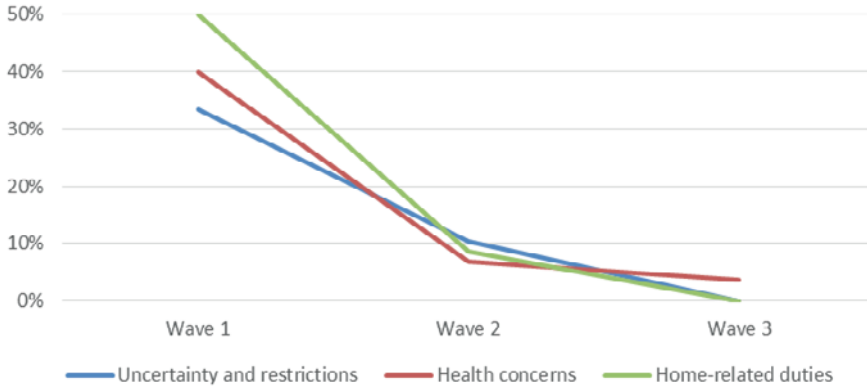
Figure 3. Experience of the pandemic and restrictions

Expressions addressing the education process

Teachers' narratives of the education process were guided by four values and their trends are shown in Figure 4. One of these values, **organisational problems**, featured in the narratives of 30% of the first-wave teachers. Teachers pointed to a lack of clear schooling procedures causing confusion and chaos ("*You receive many different, even contradictory instructions within one week.*"; "*In a heap of questions, dilemmas, complaints, and workaround suggestions, you eventually find a few messages that tell you what to do.*").

The share of the second-wave teachers who mentioned organisational problems non-significantly dropped ($X^2(1, N = 88) = 1.37, p = .242$), while the content of teachers' complaints remained similar.

In the third-wave sample, only a few teachers narrated about organisational problems. The drop was significant only in comparison to the first-wave sample (X^2 $(1, N = 57) = 6.79, p = .009$).

Teachers' narration very often pointed to a **demanding workload** – it occurred in the narratives of 50% of the first-wave teachers. They stressed an increase in the amount of professional obligations ("*It means hours spent*

in front of a computer screen, reading and correcting students' homework and making notes."; "*Writing reports and plans until late at night.*"), overwhelming communication with students, colleagues, and parents ("*In 20 minutes I received 56 Viber messages, 15 Skype messages, 10 on Google Classroom, six e-mails, and three Messenger messages.*"; "*One is constantly distracted by a surge of Viber messages.*").

There was no significant change in the share of the second-wave (X^2 (1, $N = 88$) = .21, $p = .645)$ and the third-wave teachers (X^2 (1, $N = 87$) = .46, $p = .499; X^2$ (1, $N = 57$) = .97, $p = .325$) who addressed the demanding workload. Teachers still reflected on the exhausting communication, but also on tiresome work in the digital environment ("*Online teaching is highly demanding and requires extensive preparation.*"; "*Teaching via Google Classroom is much harder because we have to prepare all the materials.*").

Figure 4 shows that the share of teachers who expressed concerns about the **learning process and outcomes** increased over the three sampling points during the year. These concerns were mentioned by only 20% of the first-wave teachers, mostly emphasising the importance of enhancing students' motivation and adjusting learning activities to their needs ("*It is important to choose the most appropriate platform for all the students.*"; "*I do everything to engage children and keep their motivation high.*").

Among the second-wave teachers, 52% were concerned with students' learning and outcomes, which is a significant increase (X^2 (1, $N = 88$) = 8.23, $p = .004$). Teachers' narratives also became more elaborate and diverse. They questioned the quality of online instruction ("*I don't think this online work will do children any good, no matter which platforms we use.*"; "*In my opinion, this cannot be a substitute for teaching in classroom.*"), stressed the lack of in-person communication as an important barrier ("*No matter how hard we try, send materials, ask for feedback, nothing can compensate for the lack of live conversation in the classroom.*"), and commented on students' lack of motivation for learning ("*Only several of them are genuinely interested, present at all times, doing homework, asking questions, participating, but this is a small portion of students.*"). Some teachers called for an improvement of the teaching process ("*We should try to teach them the essence of the lesson.*"; "*My colleagues should carefully choose the proper teaching methodology, try different approaches, and see how the class reacts.*").

The share of teachers who were reflecting on the learning process and outcomes continued to grow in the third wave. Significantly more teachers, 81%, addressed this value, as compared to the second wave (X^2 (1, $N = 85$) = 6.87, $p = .009$) or the first wave (X^2 (1, $N = 88$) = 21.49, $p = .000$). They mostly focused on the ways to ensure the quality of teaching ("*One has to pay attention to the dynamics of a lesson so that the students don't fall asleep.*"; "*Prepare problem-based tasks, grade them, and praise your students.*").

Thoughtful use of ICT was mentioned by teachers as a strategy for maintaining the quality of teaching during the pandemic in an online environment. However, as Figure 4 shows, this value was rarely expressed prior to the second wave, when the share of teachers focusing on it grew significantly (X^2 (1, $N = 88$) = 8.16, $p = .004$), reaching 34%. In this wave, teachers felt that video calls could compensate for the lack of in-person contact ("*Video calls are useful since they facilitate lesson-learning.*"; "*Prepare presentations – oral communication is crucial in our work!*"), and that online platforms provided a better overview of and permanent access to learning materials ("*Content organisation is much easier, everything is in one place*"; "*All the content I made for my students is always available.*"). Some teachers described the way they used digital tools in teaching ("*Work in Google classroom is a good way to individualize teaching*"; "*Different applications and quizzes are useful for the improvement of the teaching process.*") and encouraged their colleagues to use them as well ("*Start exploring the possibilities of online teaching.*"; "*YouTube offers a lot of helpful material.*").

The share of the third-wave teachers addressing the meaningful use of ICT remained similar (X^2 (1, $N = 85$) = .011 $p = .917$) and stayed higher than in the first-wave sample (X^2 (1, $N = 57$) = 6.49, $p = .011$). Almost all ICT references in the third wave encouraged the use of video calls in teaching.
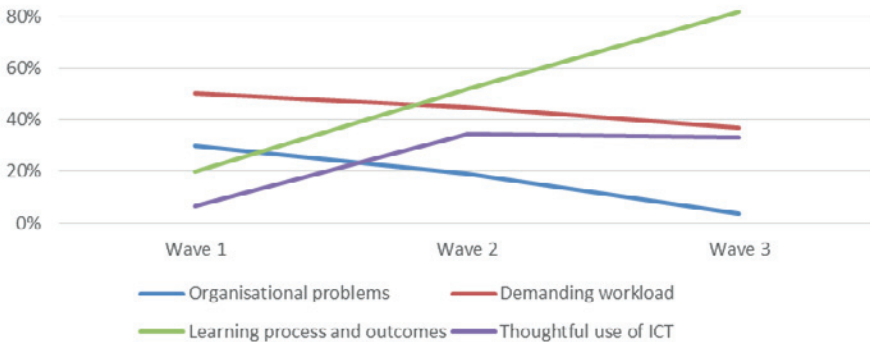
Figure 4. Perception of the schooling process

Reflections

Teachers reflected on their internal state and on teaching during the pandemic. As Figure 5 shows, 13% of the first-wave teachers mentioned **negative emotions** such as pandemic-induced stress and anxiety ("*The onset of the pandemic was quite stressful.*"; "*You start to panic, but must hold on.*").

A similar share of the second-wave teachers referred to these feelings (X^2 (1, $N = 88$) = .029, $p = .865$). However, negative emotions became more related to teaching ("*During online teaching you feel disempowered and helpless.*"; "*I often thought about giving up this activity.*"), although teachers still referred to their initial reaction to the pandemic ("*Nobody was prepared for this.*"; "*In the beginning, I was paralyzed with fear.*").

Similar to the first (X^2 (1, $N = 85$) = 1.51, $p = .219$) and second wave (X^2 (1, $N = 88$) = .1.65, $p = .199$), only a few third-wave teachers mentioned negative emotions.

Coping strategies were most often referred to in the first-wave sample – 57% of teachers shared their coping strategies related to the pandemic ("*Don't watch the news!*"; "*Think positive!*") and the transition to online teaching ("*Just be brave, responsible, and patient.*"; "*Patience, patience, and no panic.*"). The share significantly dropped in the second-wave sample (X^2 (1, $N = 88$) = 10.33, $p = .001$) to 22%. In parallel, the content of the coping expressions changed – the strategies were less about emotional coping and more about the problems that teachers encountered in their work ("*This is just a novelty, which can turn out to be a new experience and give good results.*"; "*Believe in yourself and don't panic.*").

The share of the third-wave teachers who wrote about their coping strategies increased slightly, but not significantly in comparison to the second wave (X^2 (1, $N = 85$) = 1.15, $p = .285$), and became statistically similar (X^2 (1, $N = 85$) = 3.19, $p = .077$) with the share of the first-wave teachers. In the third wave, teachers focused on overcoming the stress that teaching during the pandemic caused ("*I would suggest my colleagues lower their expectations and not feel guilty about the outcome.*"; "*We have to remain calm and keep on working.*").
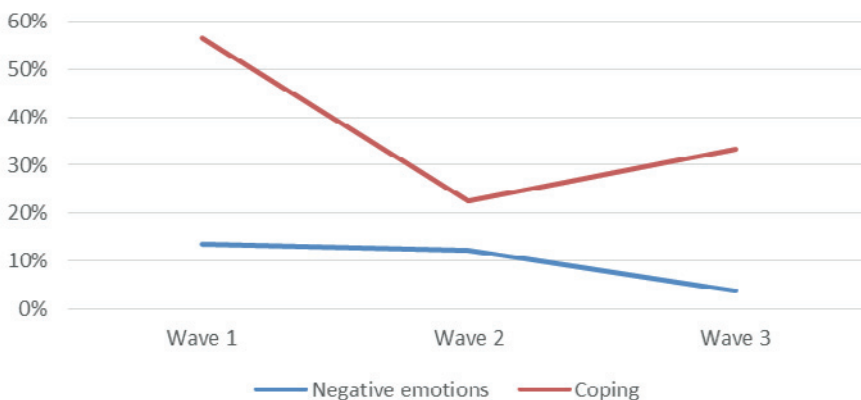
Figure 5. Reflections

Overall changes in teachers' views

An overall picture of teachers' responses to the extremely challenging first year of teaching during the pandemic, collected in three waves of sampling, revealed a changing focus of experiences the sampled teachers chose to share in different data collection waves (Figure 6).
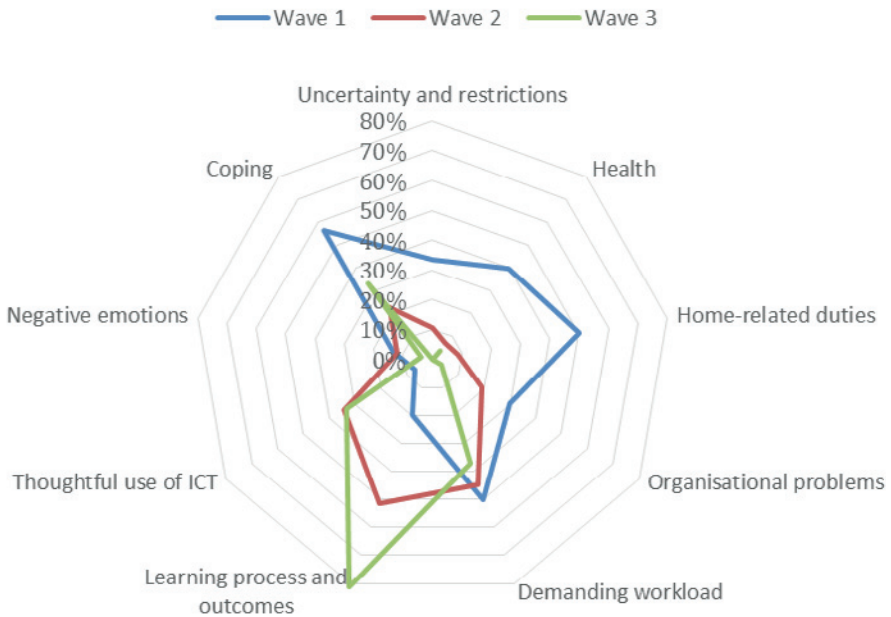
Figure 6. An overview of teachers' narrative values across three waves

The diagram shows distinct differences between the values in focus across the waves, from preoccupation with health, duties, workload, and coping issues in the first wave of sampling, to the new awareness of the learning-process-and-outcomes-related issues in the second wave, to clearly focusing on learning and outcomes, coupled with the teaching-related coping strategies in the third wave of data collection.

As expected, teachers used the two genres in somewhat different ways. Most prominently, coping strategies were expressed in all three waves more often in letters than in stories (X^2 (1, $N = 59$) = 11.27, $p = .001$; X^2 (1, $N = 114$) = 7.03, $p = .016$; X^2 (1, $N = 67$) = 15.40, $p = .000$, respectively). Negative emotions, demanding workload, and home-related duties were described more often in stories than in letters in the first wave (X^2 (1, $N = 59$) = 4.75, $p = .045$; X^2 (1, $N = 59$) = 7.73, $p = .011$; X^2 (1, $N = 59$) = 11.14, $p = .002$,

respectively), as were uncertainty and restrictions in the second wave (X^2 (1, $N = 114$) = 6.33, $p = .027$). However, a more detailed analysis of these intricate time-genre interactions would need to proceed on the coded unit level data and not the binarised ones. Therefore, these will be elaborated elsewhere.

Discussion

In the narratives written over the first year of the pandemic, teachers shared their experiences of schooling in the changing conditions. Teachers' stories and letters display richness of their expressive stances, bring forward their concerns and emotional reactions to the new challenges, and reveal their coping strategies, alongside the changing roles of their professional and personal life. Our analysis of teachers' narratives captured the dynamic interplay of the expressed values, highlighting the experience of the pandemic, the perception of the schooling situation, and the teachers' reflections about themselves across time and the narrative genre. The dynamic shift of teachers' expressive positioning, from sharing complex concerns with immediate danger, frustration, and pressures, to a focus on educational concern including own coping strategies, is the main finding of this study.

We registered many further nuances of teachers' rich narratives, some also previously highlighted by other studies – implying some universality of teachers' experiences during the pandemic across countries. Our study, however, puts the spotlight on the change and dynamics in the way teachers have positioned themselves across time while grappling with the frightening and unusual context, and highlights the importance of paying sustained attention to the explorations of these experiences. In addition, this multi-genre approach provided an opportunity for teachers to convey their reflexive strategies differently, through a letter to a peer rather than through stories, which were reserved more for expressing emotions, contexts, and external actions. A similar trend was found regarding students' use of narrative genres in a related study (Kovács-Cerović et al. 2021) and several others (Daiute, 2021; Daiute & Kovač-Cerović, 2017), suggesting a clear benefit of the multi-genre methodology.

Similar to Kim et al. (2021) and Collie (2021), our study revealed pandemic-induced anxiety and health concerns. Teachers' descriptions of professional duties and colliding roles, as well as their frustration with the newly imposed obligations in their private lives, were similar to the reports of participants in previous studies (e.g., See et al., 2020). However, these concerns were pronounced during the first wave of the study only; with the relaxation of restrictions, other feelings and concerns became salient, more closely related to teachers' professional roles. Studies exclusively focusing on the first wave of reactions would have missed the shift of teachers' focus from the pandemic *per se* to the teaching and learning requirements.

Our participants emphasized several school-related problems through four values that showed different dynamics over time. Mentions of organisational issues decreased by the third wave, indicating better overall organisation of education. On the other hand, the concerns with the demanding workload corresponded to those highlighted in other studies (e.g., MacIntyre et al., 2020; Kraft & Simon, 2020), and remained in teachers' focus on a similar level across all three waves, although with different nuances. A new kind of engagement with students and parents (reported by See et al, 2020), teaching both in-person and online, thus doubling the efforts (also found by Kaden, 2020 and Collie, 2021), and time-consuming preparation of digital teaching resources and setting up platforms (See et al., 2020) were also echoed by our participants as sources of high workload.

Two education-related values had an incremental course over time. Teachers' professional concerns with the learning process and outcomes emerged as salient as their other, more personal concerns diminished and their digital competencies developed, and, from the second wave on, teachers focused on the meaningful use of ICT in teaching. Interestingly, a study involving students (Kovács-Cerović et al., 2021) showed that students, unlike teachers, were more worried about how they would learn and how much they would learn from the very beginning of the pandemic and recognized the importance of creative ICT use even in the first months of online schooling. As for the third major value – reflections on emotions and the management of challenges, teachers' narratives expressed a positive emphasis: they more often stressed coping strategies (both emotion-focused and problem-focused, according to Lazarus & Folkman, 1984) than describing negative emotions. This was even more pronounced in the first wave, when the circumstances were most stressful, and when more than half of the teachers wrote encouraging words to their colleagues related to the uncertainty of the pandemic. In the later waves, the proportion of teachers sharing coping strategies decreased significantly and the content of both emotion-related and coping-related expressions became more focused on teaching. A similar finding regarding the choice of coping strategies was reported by MacIntyre et al. (2020). Our findings suggest somewhat lower levels of negative emotions than those found by other studies (e.g., Kim & Ausbry, 2021), probably due to methodological differences, as our respondents could have chosen to express less negative feelings in the narratives.

The study design did not allow for tracing the narration of the same teachers across time. Hence, differences across waves could also stem from sample-specific factors. However, since the three samples were similar in demographic characteristics, the experiences teachers shared across the three waves in the first year of the pandemic provide a solid basis to draw recommendations for policy, practice, and research.

We highlight the benefits of the methodological approach used. The two narrative genres across time allowed for teachers to express their dynamic stances to the new and changing education reality. Their narratives were full of meaning, reflection, criticism, aspirations to improve the situation, and the examples of their own challenges and coping strategies, which are significant not only for researchers, but for schools and national education authorities as well. They should invite those affected to be heard and improve the policies and measures accordingly.

The study also revealed several key shortcomings in the policies, organisation, and support available in Serbia at the onset of the pandemic already. Timely elimination of these shortcomings could contribute to easier coping with the new situation and improve the effects of learning. Therefore, we urge that institutes, school administrations, publishing houses, pedagogical and teacher education faculties prepare and offer to teachers and schools easily applicable and adjustable high-quality digital contents with all the accompanying materials – instructions, ideas for their use and enrichment, tasks, suitable projects for student engagement and homework, in order to reduce the enormous burden imposed on teachers throughout the pandemic year. The switch to distance learning does not mean "moving" learning from school to home, but transforming curriculum, pedagogy, and assessment; such complex transformation of the main aspects of education should not depend solely on teachers, whose digital skills are certainly limited. The data also point to the extreme importance of good distance-learning organisation, performance monitoring, feedback collection, and making adjustments in accordance with these. Cooperation between students, parents, and teachers was only marginally mentioned in the narratives, signalising a lack of these mechanisms. Purposefully fostering all the potentials for cooperation between different actors and within each group of actors would be therefore highly desirable.

Finally, building teachers' competencies and skills for all aspects of distance education, starting from the initial education of teachers, is essential.

Conclusion

The current study aimed at exploring the experiences of primary school teachers with COVID-19-related changes of education in Serbia from spring 2020 until spring 2021. The main findings of the study indicate a dynamic change of experiences that teachers expressed at different points of immersion in the pandemic crisis – from addressing broad personal and professional concerns with immediate dangers, frustration, and pressure, towards more professional concerns, focused on educational issues.

Partial agreement with the findings of previous studies shows that some issues are shared across countries, but it also highlights the contribution of an

integrative, multi-genre approach to encompassing nuanced experiences. The richness of teachers' experiences and their cognate views on the challenges they faced convey important messages to policy-makers as well – to better organise, monitor, support, and guide the emergency distance education so as to release the burden on teachers and ensure better education outcomes.

We would like to close with two remarks for the post-pandemic education.

Education during the pandemic revealed many ruptures and unresolved issues in the education system – analysing them open-mindedly and seeking cooperative solutions could trigger massive post-pandemic education development.

Finally, for the education systems around the world, Serbia included, the first pandemic year was a chance for enormous joint learning and building unexpected competencies in novel areas. These experiences will undoubtedly improve education, generate new modalities, breakthroughs, and novel practices – provided we do not try to act as if this year had never happened, but build on it.

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Trendovi u iskustvima nastavnika osnovnih škola tokom prve godine COVID-19 pandemije u Srbiji: analiza narativa

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Apstrakt: Cilj ovog istraživanja je sagledavanje iskustava osnovnoškolskih nastavnika o obrazovanju tokom COVID 19 pandemije. Nastavnički narativi o ovim iskustvima prikupljeni su u tri navrata, pomoću onlajn instrumenta. Ukupno 116 ispitanika je napisalo 233 narativa u obliku priče i pisma. Na narativima je primenjena analiza vrednosti i dobijeni podaci su podvrgnuti dodatnim statističkim analizama, te su se vrednosti koje su nastavnici iskazali uporedili kroz tri ključne faze organizovanja obrazovanja u Srbiji tokom prve godine pandemije. Sveukupno, identifikovane su tri nadređene vrednosti i devet užih vrednosti. Multižanrovski i višetalasni pristup koji je primenjen u ovom istraživanju omogućio je dobijanje nijansirane i sveobuhvatne slike najvažnijih nastavničkih utisaka, briga i strategija u novoj realnosti, kao i uvid u dinamične promene naglasaka u narativima nastavnika tokom prve godine pandemije. Nastavnici koji su učestvovali u prvom talasu istraživanja najviše su se fokusirali na zdravlje i prevenciju, na svoje porodične obaveze, opterećenje poslom i na koping strategije. U drugom talasu, kada se opasnost smanjila, nastavnici pokazuju povećanu usmerenost na probleme u nastavi. Nastavnički narativi u trećem talasu najveći fokus stavljaju na proces i ishode učenja. Na osnovu sprovedenih analiza, date su preporuke za obrazovne politike.

Ključne reči: COVID-19, obrazovanje na daljinu, nastavnici, analiza vrednosti, dinamičko pripovedanje

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Occupational stressors and irrational beliefs as predictors of teachers' mental health during the COVID-19 emergency state

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Education worldwide has been strongly affected by the COVID-19 pandemic. Given the previous evidence that teachers' wellbeing is under a tremendous negative influence of major societal disruptions, this kind of sudden overturn of the routines and practices that were in place for decades could have detrimental effects on teachers' mental health. In the present study, we are interested in examining specific occupational stressors and irrational cognitions as potential contributors to distress, depression, and anxiety among teachers, following enormous lockdown-induced changes in the educational system. The basic theoretical framework in the research is Rational-Emotive and Cognitive-Behavioural Therapy (RE & CBT), according to which irrational beliefs have a critical contribution in generating and maintaining dysfunctional emotional reactions. Data were collected from 104 primary school teachers (88% female, age *M*= 41.39, *SD*=9.10) during the first wave of COVID-19, from the beginning of lockdown in March until its end in May 2020. We administered the adapted version of the *Sources of stress at work* questionnaire (IRS), the *Teacher Irrational Beliefs Scale* (TIBS) and the *Depression, Anxiety and Stress Scale* (DASS-21). The questionnaires were distributed electronically by professional associates in schools since classes were conducted online at the time. The results of the hierarchical regression analysis suggest that, when it comes to experiencing stress due to changes in working and living conditions, both the COVID-19 related sources of stress (β=.32, p<.005) and irrational cognitions (β=.25, p<.01) have an independent and significant contribution. However, irrational cognitions only play a significant role in experiencing anxiety (β=.33, p<.005) and depression (β=.36, p<.005).

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Introduction

Occupational stress among teachers

We talk about work-related or occupational stress when employees face job demands which exceed their professional knowledge and skills and available resources to overcome emerging conditions (Leka et al., 2003). Work-related stress is, therefore, a response to unfavourable working conditions that are perceived as stressors. A wide range of disadvantages can be included in the conditions for the occurrence of stressors. They can be classified into those that arise from the characteristics of the workplace, the role in the organization and interpersonal relations, conditions for professional advancement, etc. (Cousins et al., 2004). These stress sources can be observed in different professions, considered within one specific profession or compared in different professions. In such research, the emphasis is often placed on "helping" the professions that are considered particularly stressful, for example, health and educational workers. As a specific form of stress at work, teachers' stress has frequently been studied in regular professional circumstances to reveal situational and personal factors that contribute to stress-related psychological states of employees in education. According to a research study conducted in different countries worldwide, teachers perceive their profession as very stressful compared to many other professions (Jepson & Forrest, 2006). Increased interest in teacher stress research has been driven by the fact that prolonged stress at work contributes to mental and physical health issues (e.g. depression), as well as by increased concern for teachers' quality of life and work, and the acknowledgement that stress can negatively affect the quality of teaching and the relationship between teachers and students (Bermejo-Toro & Prieto-Ursua, 2006). Most research results indicate that about 30% of teachers in Serbia perceive the profession as very stressful (Krnjajić, 2003), and several international studies have shown that 60 to 70% of teachers repeatedly manifest symptoms of stress (Bermejo-Toro & Prieto-Ursua, 2006).

What is specific about the teaching profession that makes this job especially stressful? A meta-analysis that dealt with teachers' stress stated that the primary sources of teachers' stress were the lack of motivation and discipline in students, significant and frequent changes in the educational system, evaluation of their work, workload and time pressures, conflicts with administration and lack of school equipment (Kyriacou, 2001). Other studies show that teachers find their job demanding but poorly paid and disrespected by the society (Jarvis, 2002; Jepson & Forrest, 2006) and deem it challenging to reconcile private and professional roles (Suzić & Graonić, 2009). Some significant sources of stress include lack of support from colleagues and

difficult communication with the parents of the students (Prakke et al., 2007; Živčić-Bećirević & Smojver-Ažić, 2005). The perception of the circumstances in which teaching is performed and the degree of control that the teacher has over these circumstances are mentioned in all teacher stress definitions (Krnjajić, 2003). Research on teacher stress in Serbia before the COVID-19 pandemic indicates that about 24% of teachers report significantly high anxiety, about 19% report significant stress at work, and about 15% report depression associated with the sources of stress at work (Popov et al., 2015).

Sources of stress alone are not sufficient to create the experience of stress. In the first place, different sources of stress will have a different effect on each teacher concerning the complex interaction with his/her characteristics and specific circumstances (Montgomery & Rupp, 2005). To explain occupational stress in the "helping" professions, cognitive models that emphasize the role of cognitive factors in mediation between stressors and stress response are mainly considered (Van Dick & Wagner, 2001). The central aspect of the cognitive approach in explaining stress is that people react to an internal representation or interpretation of the situation, not to objective situational features (Lehrer et al., 2007).

Teacher stress in a cognitive-behavioural perspective

Cognitive-behavioural therapies are behavioural correction techniques combined with cognitive therapy techniques (Hazlett-Stevens & Craske, 2002). Rational-emotional and cognitive behavioural therapy (RE & CBT), in line with other cognitive approaches in explaining stress, also holds that emotional reaction is not a direct consequence of the stressor. Instead, an emotional response is mediated by individual attitudes and beliefs about this stressor (Ellis, 1994). Specific to the RE & CBT is the difference between rational/irrational beliefs that people may have about stressful situations. Depending on whether people hold onto their rational or irrational beliefs in stressful situations, they will develop a "healthy" or "unhealthy" emotional response (Popov et al., 2015).

Irrational beliefs are extreme, rigid and inconsistent with reality and prevent a person from achieving his/her life goals (David et al., 2005). Therefore, irrational beliefs represent cognitive vulnerability for developing various emotional problems and distress (David et al., 2005). RE & CBT recognizes four types of irrational beliefs: demands, awfulizing beliefs, low frustration tolerance, and self/other/life depreciation beliefs (Dryden, 2002). Concerning the above general groups of irrational beliefs, Bernard and Joyce (1984) list 16 irrational beliefs specific to teachers. One illustrative example of such a belief is "I must have complete control of the class at all times" (this claim would belong to the group of absolutistic demands). Such beliefs participate in developing and maintaining an unhealthy emotional response

that discourages people from changing what they can change or from constructively adapting to those situations that they cannot change (Dryden, 2002). Challenging irrational beliefs is a crucial component of the RE & CBT practice (Ellis & Dryden, 2007).

RE & CBT has long been used to explain work stress, but mainly through research into the effectiveness of these programmes on reducing employee stress (e.g. Gardner et al., 2005; van der Klink et al., 2001). Few studies have examined the RE & CBT diathesis-stress model, i.e. the interaction between work stressors and specific irrational beliefs in predicting occupational stress (e.g. Popov & Popov, 2013). Several studies have dealt with teacher stress in the context of RE & BT. In addition to the psychometric operationalization of the questionnaires that examine teachers' irrational beliefs and the correlation between cognitive factors and emotional disturbance, they address the moderating/mediating role of irrational beliefs in work-related stress in teachers (e.g. Bernard, 2016; Bermejo-Toro & Prieto-Ursua, 2006, 2006; Popov et al., 2015). The study results unequivocally indicate the connection of irrational beliefs of teachers with different forms of distress (Bermejo-Toro & Prieto-Ursua, 2006). More irrational beliefs in teachers are reflected in their lower efficacy compared to the teachers with a lower degree of irrational beliefs (Terjesen & Kurasaki, 2009). Studies on the sources and consequences of stress at work conducted in Serbia before the COVID-19 pandemic show that irrational beliefs, even when the sources of stress are kept under statistical control, significantly contribute to psychological distress of respondents (Popov & Popov, 2013).

Teacher stress during the COVID-19 pandemic

The subject of this research is teachers' stress and the related emotional changes provoked by specific situational and personal cognitive factors during a state of emergency imposed due to the COVID-19 pandemic. The COVID-19 pandemic, in addition to being a severe threat to physical health, has provoked significant changes in the organization of people's lives, as well as global social changes in various segments, especially in terms of the transition to online work from home. Many studies have been published on the psychological consequences of the COVID-19 pandemic in its various phases. Studies conducted at the time of social distancing and lockdown in different countries indicated an increased degree of depressed mood, sleeping problems, and even the symptoms of post-traumatic stress (e.g. Pfeferbaum & North, 2020). The measures of social distance and lockdown inevitably contributed to an enhanced experience of isolation and loneliness in humans (Smith & Lim, 2020). Particularly significant consequences were suffered

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by those exposed to sudden and large changes in the economic, social and family context (Guo et al., 2020).

The COVID-19 pandemic has significantly affected education around the world. Schools were mainly closed due to social distancing measures, and, wherever there were opportunities, they switched to online teaching. These changes led to new sources of stress at work for teachers and the activation of specific irrational beliefs related to their professional status and work. The adverse effects of new sources of stress at work during the COVID-19 pandemic on teachers' mental health have already been attested in various studies (e.g. Ozamiz-Etxebarria et al., 2021). The most significant stressor was the demand for rapid adaptation to online teaching (Besser et al., 2020). UNESCO (2020a) states that teachers' stress is primarily due to the closure of schools, non-familiarity with distance learning, and the uncertain duration of these measures introduced to prevent the spread of the pandemic. However, the impact of irrational beliefs from the RE & CBT perspective is currently unexplored.

This research aims to explore the role of irrational beliefs and COVID-19 related sources of stress in the levels of acutely experienced symptoms of stress, anxiety and depression during the first wave of the COVID-19 pandemic. In addition to information on teachers' emotional stress response to the newly created working conditions in an emergency, we are also interested in validating the RE & CBT diathesis-stress model in the context of teaching in an emergency. We hypothesize an independent contribution of COVID-19 related sources of stress and irrational beliefs on anxiety, depression and stress, and the moderating effect of irrational beliefs in the relationship between stressors and teachers' psychological distress.

Method

Participants

A convenient sample was used in this research. It consisted of 104 primary school teachers (85% female) from Belgrade and the vicinity of Belgrade (age range 25–62, *M* = 41.39, *SD* = 9.10). Work experience of the respondents ranged from 1 to 37 years (*M* = 13.79, *SD* = 10.25).

Procedure

Data collection was performed during the state of emergency in Serbia, declared due to the COVID-19 pandemic (March 15, 2020 to May 6, 2020). Distance learning classes began in all primary and secondary schools in the Republic's territory, starting from March 16. School psychologists were approached through the professional association of school psychologists. The

school psychologists who accepted cooperation forwarded the questionnaires to teachers in their schools via e-mail. Given that the e-mail addresses were known to the school psychologists who collected the data, we cannot say that the anonymity of the respondents was completely ensured. On the other hand, as for the authors of the study, the data were received anonymously.

The questionnaires were distributed to teachers after the second week of school closure. The questionnaires were sent with all the necessary instructions for completion. Participation was voluntary, and participants were introduced to the research subject and informed that all the data would be processed collectively and used exclusively for scientific purposes. The respondent had the opportunity to withdraw by not sending the completed questionnaire to the examiner.

Instruments

1. An adapted questionnaire of the *Sources of stress at work* (Popov & Popov, 2013) was used to estimate the frequency of stressors related to work in school during the COVID-19 induced state of emergency in Serbia. The original questionnaire was adapted exclusively for this research by omitting some items (e.g. "There *is an excellent working atmosphere among colleagues at work*"), adjusting others (all items were formulated in a negative direction so that they represented adverse conditions), and supplementing them with new items which referred to the specifics of teaching and changes in work conditions during a state of emergency (e.g. online teaching, public exposure of teaching activity). The implemented questionnaire contained 36 items (e.g. "*It happens to you that you cannot reconcile the role of a parent or private responsibilities and the role of the teacher.*"; "*You do not influence what exactly your tasks will be.*"; "*You lack the knowledge or skills for distance learning.*"). Although the total score of the scale was used in further analysis, the included stressors can generally be grouped around several topics: lack of skills and professional support, public exposure of teaching activities, students' and parents' behaviour, school administration demands. The answering format was a five-point Likert scale, represented by answers from (1) "almost never" to (5) "almost always".

2. The *Depression, Anxiety and Stress Scale* (DASS-21: Lovibond & Lovibond, 1995) is a 21-item scale that consists of three subscales: (1) the Depression subscale, which is related to the level of experienced dysphoria, helplessness, anhedonia, inertia and low self-esteem (e.g. "*I felt that I had nothing to look forward to.*"); (2) the Anxiety subscale, which measures the level of physiological arousal, somatic reactions, as well as the subjective experience of situational anxiety (e.g. "*I felt*

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scared without any good reason."); and (3) the Stress subscale, which assesses the level of chronic, non-specific arousal, a person's inability to relax, nervousness, impatience, a tendency for a person to be easily upset, agitated, irritated, and prone to overreact (e.g. "*I tended to over-react to situations.*"). The answer format is a four-point Likert-type scale (from (0) "not at all" to (3) "mostly, almost always"). In this study, the Serbian translation of the instrument was used[1]. The instructions were modified so that teachers assessed how they felt in the last two weeks due to work circumstances in the COVID-19 state of emergency.

3. The *Teacher Irrational Beliefs Scale* (TIBS: Bora et al., 2009) examined teachers' irrational beliefs. The questionnaire consists of 22 items which refer to four groups of irrational beliefs according to RE & CBT: absolutistic demands, low frustration, tolerance and awfulizing and global evaluation, applied in the following areas of the teaching profession: competence, classroom management, work overload and problems with school administration. The scale includes four subscales: Demand for justice (e.g. "*Without good teacher-administrator communication and support, schools are the very worst and terrible places to work.*"); Authoritarianism (e.g. "*As a teacher, I should have the power to be to be able to make my students do what I want.*"); Low frustration tolerance (e.g. "*I should not have to work so hard.*"); and Self-downing (e.g. "*I think I am a failure when I have not 'got through' to a student or class.*"). The answering format was a five-point Likert scale, ranging from (1) "I strongly disagree" to (5) "I strongly agree". The translation of the scale into Serbian conducted by Popov et al., 2015 was used in this study.

Data analysis

Data were analysed in the statistical package IBM SPSS version 21, using descriptive statistics to describe and summarize the sample and dataset characteristics. Hierarchical regression analysis was used to explore the relationships between anxiety, depression and stress, on the one hand, and the COVID-related sources of stress and irrational beliefs, on the other.

Results

Table 1 shows the descriptive indicators for the variables used in the study: the total score on the Occupational stressors questionnaire and the

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1 The scale in Serbian is available at the official website of the University of New South Wales: http://www2.psy.unsw.edu.au/dass/translations.htm.

scores on the TIBS and DASS-21 subscales. We can see that skewness and kurtosis values for most of the variables are in a range that indicates a normal distribution, except for anxiety and depression, which slightly and expectedly deviate from normal. The value of Cronbach's alpha coefficient for each scale is satisfactory.

Table 1
Descriptive statistics for variables in the study

Variables	Achieved range (Theoretical range)	*M*	*SD*	*Skewness*	Kurtosis	α
Stressors	48–126 (36–180)	79.90	17.36	.20	-.25	.90
Self-downing (TIBS)	8–32 (5–35)	17.42	5.64	.37	-.26	.80
LFT (TIBS)	5–23 (5–25)	12.11	4.62	.50	-.41	.81
Demand for Justice (TIBS)	5–25 (5–25)	16.21	4.50	-.26	-.58	.72
Authoritarianism (TIBS)	5–24 (5–25)	14.80	4.56	.04	-.83	.79
Anxiety (DASS)	0–28 (0–42)	5.74	7.06	1.50	1.55	.85
Depression (DASS)	0–22 (0–42)	5.22	5.29	1.21	1.11	.78
Stress (DASS)	0–28 (0–42)	14.23	9.03	.67	.16	.87

Table 2 shows the cut-off values for the severity of anxiety, depression and stress symptoms recommended by the authors of the instrument (Lovibond & Lovibond, 1995). The cut-off values on the abbreviated version of the scale used in this study (DASS-21) were calculated by doubling the results obtained on the three subscales, as the instrument's authors also recommended.

Table 2
Distribution of the DASS scores according to cut-off values

	% Normal	% Mild	% Moderate	% Severe	% Extremely severe
Anxiety	69	8	11	3	9
Depression	79	11	8	2	0
Stress	62	11	13	10	4

Note.*Lovibond & Lovibond, 1995.

In Table 2, we can see that the highest percentage of results on all three subscales was within the scores that are considered normal. If we look at the results that exceed the normal range, and these results range from moderate to extremely severe, we can see that 23% of respondents experienced anxiety

symptoms, 10% experienced symptoms of depression and 27% reported symptoms of stress.

In order to compare the obtained scores on the variables of teachers' mental health (anxiety, stress and depression) with the comparative sample of teachers (Popov et al., 2015) from a similar environment before the COVID-19 pandemic, we conducted a t-test for independent samples. The scores on all three mental health variables in this study did not differ statistically from the pre-COVID-19 time (depression $t(288) = 1.36$, $p = .17$; anxiety $t(288) = -.33$, $p = .74$; stress $t(288) = -.93$, $p = .35$).

Table 3 shows the intercorrelations among the variables used in the study. We can see that the COVID-19 related occupational stressors are positively related to all irrational beliefs, except Demand for justice, and to Anxiety and Stress as mental health variables, but not to Depression. All groups of irrational beliefs are positively related to mental health variables except Authoritarianism, which positively correlates only with Anxiety.

Table 3

Intercorrelations between the variables

	1	2	3	4	5	6	7
1 Stressors							
2 Self-downing	.24*						
3 Low Frustration Tolerance	.48**	.61**					
4 Demand for Justice	.19	.35**	.53**				
5 Authoritarianism	.27*	.54**	.46**	.44**			
6 Anxiety	.28*	.39**	.43**	.25**	.22*		
7 Depression	.20	.39**	.35**	.36**	.18	.69**	
8 Stress	.39**	.25*	.44**	.26**	.18	.76**	.60**

Note. *$p <.05$, ** $p <.01$. Stressors – Occupational stressors, LFT – Low Frustration Tolerance

In order to measure the independent contribution of the sources of stress, irrational beliefs and their interaction with the level of the experienced teacher stress, as well as the symptoms of Anxiety and Depression, we conducted a hierarchical regression analysis. The results are shown in Table 4. The diathesis-stress model theoretically guided the order of predictor input. Sources of stress are general for all respondents because they were all exposed to them. On the other hand, irrational beliefs represent personal characteristics that are subject to change and are one of the aspects of a reaction that can impact subjective experience and expression of emotion.

The first set of predictor variables consisted of COVID-19 related sources of stress, the second set of predictors were irrational beliefs, and the third was the interaction between these variables. The model was statistically significant in the case of all three mental health indicators (Depression: $F = 3.76$ $R^2 = .04$, $p <.01$; Anxiety: $F = 6.92$ $R^2 = .08$, $p <.01$; Stress: $F = 16.50$ $R^2 = .17$, $p <.001$). The second set of predictor variables consisted of irrational beliefs and made the

most substantial contribution to explaining the variance of Depression (12%) and somewhat less for Anxiety (9%) and Stress (5%). By introducing irrational beliefs into the second model, the COVID-19 related sources of stress remained a significant independent predictor of stress only (β = .33, p <.005), while irrational beliefs became independent predictors of all three mental health variables (Depression β = .36 and Anxiety β = .33, p <.005 Stress β = .25, p <.01).

Interactions between sources of stress and irrational beliefs were not significant.

Table 4

Hierarchical regression with the sources of stress, irrational beliefs and their interaction in the prediction of depression, anxiety and stress

Model 1	Depression			Anxiety			Stress		
	β	t	r	β	t	r	β	t	r
	F=3.76 R^2=.04*			F=6.92 R^2=.08*			F=16.15R^2=.17***		
Stressors	.21*	1.94	.21	.28*	2.63	.28	.41***	4.01	.41
Model 2	ΔF=10.77ΔR^2=.12**			ΔF=8.77ΔR^2=.09**			ΔF=5.33ΔR^2=.05*		
Stressors	.08	.71	.21	.16	1.45	.28	.32**	2.99	.41
TIBS	.36**	3.28	.39	.33**	2.96	.39	.25*	2.30	.37
Model 3	ΔF=.00 ΔR^2=.00			ΔF=.00 ΔR^2=.00			ΔF=1.47 ΔR^2=.02		
Stressors	.08	.70	.21	.16	1.44	.28	.33**	3.03	.41
TIBS	.36**	3.26	.39	.33**	2.94	.39	.25*	2.28	.37
Stressors xTIBS	.00	-.00	-.00	.00	-.02	.00	-.12	-1.21	-.12

Note. * p≤ .01; **p≤ .005; *** p≤ .001; df1 = 1, df2 = 98; Tol.> .20, and VIF <10 indicate there is no multicollinearity among variables.

Table 5

Multiple regression with specific irrational beliefs in the prediction of depression, anxiety and stress

	Depression			Anxiety			Stress		
	β	t	r	β	t	r	β	t	r
	F= 7.15 R^2=.24***			F=5.29 R^2=.19***			F= 4.60R^2=.17**		
Self-downing	.31*	2.47	.39	.31*	2.35	.40	.06	.48	.27

Low Frustration Tolerance	.09	.76	.37	.14	1.04	.36
Demand for Justice	.28*	2.54	.38	.11	.94	.26
Authoritarianism	-.15	-1.31	.19	-.06	-.49	.23

Note. * $p \leq .01$; **$p \leq .005$; *** $p \leq .001$; df1 = 1, df2 = 98; Tol.> .20, and VIF <10 indicate there is *no multicollinearity among variables.*

Table 5 shows the results of a regression analysis in which we examined the contribution of individual groups of teachers' irrational beliefs to anxiety, depression, and the experience of stress. The findings suggest that different groups of irrational beliefs predict different mental health states. Self-downing (β= .31, p<.01) was an important predictor of depression and anxiety, while the Demand for Justice (β= .28, p<.01) was a significant predictor of depression. Low frustration tolerance (β= .33, p<.005) was a significant predictor of stress reaction.

Discussion

The COVID-19 pandemic has undoubtedly affected education worldwide (UNESCO, 2020). Due to social distance measures in many countries, including Serbia, classes were conducted online. Many were sceptical about the quality of such teaching and wondered what impact it would have on the quality of the acquired knowledge among students. The key question was how the change in the usual routine affected the mental health of students and teachers. This research, therefore, addressed teacher stress and the related emotional changes caused by specific situational and personal cognitive factors during the 2020 state of emergency in Serbia caused by the COVID-19 pandemic. The main goal was to determine the specific relationships between the sources of teacher stress in extraordinary circumstances, irrational beliefs regarding their work role in the school, and the levels of acutely experienced stress, anxiety and depression. The theoretical framework of this research was the theory of RE & CBT.

All the scales used in the study showed satisfactory internal consistency. Based on the descriptive analysis of the sample characteristics, it can be concluded that 27% of teachers experienced moderate to extreme symptoms of stress during the state of emergency. Anxiety symptoms were reported by 23% of teachers, while moderate to severe symptoms of depression were experienced by 10% of the examined teachers, according to the recommended cut-off values (Lovibond & Lovibond, 1995). However, when we compare the average scores of teachers on mental health variables during the state of emergency in the COVID-19 pandemic with a comparative sample of teachers from Serbia before the pandemic (Popov et al., 2015), we see that the level of anxiety, depression, and stress was not significantly higher during

the COVID-19 state of emergency. Nevertheless, it is important to emphasize that this does not mean that teachers have not reacted emotionally. In the context of RE & CBT, events are not direct causes of emotional reactions but our specific interpretation of these events so that regardless of the specificity of the source of stress at work, an emotional reaction will depend more on the individual's beliefs (David et al., 2005). Given the percentage of pronounced symptoms of anxiety, depression and stress as a reaction to sources of stress at work in our environment, before (Popov et al., 2015) and during the first wave of the COVID-19 pandemic, teachers consistently perceive working conditions as stressful, so the change in working conditions during the first wave of pandemic did not provoke more intense reactions than usual. In this case, teacher beliefs seem to be a more critical factor than the stressors at work that contribute to psychological distress. The question is whether the results would remain in the other phases of the pandemic, given that working conditions have been changing with the (mal) adaptation of the entire society to the pandemic. Some studies suggest that teachers' anxiety, depression, and stress were not limited to the lockdown period but were also characteristic of the later stages of the pandemic (Ozamiz-Etxebarria et al., 2021). Also, switching to online teaching may have had more benefits for some teachers than potential harms or challenges (e.g. not being directly exposed to the virus as they would be in classrooms, working from home or other places, possible flexibility in working hours...), but this is a premise that should have been additionally investigated.

This research has explored the impact of specific sources of professional stress and work-related irrational beliefs on teachers' emotional distress during the state of emergency. We were interested in checking the RE & CBT diathesis-stress model, i.e. the interaction between specific stressors at work and irrational beliefs in predicting occupational stress. With these intentions, a regression analysis was conducted, which showed that the sources of stress at work made a significant independent contribution to the prediction of stress, anxiety and depression until personal cognitive factors were introduced into the model, and then lost significance or decreased significantly. Only in the case of stress as a criterion variable, the sources of stress represented a stronger predictor than irrational beliefs. In predicting depression and anxiety, only irrational beliefs had a statistically significant contribution when they were introduced into the model. However, the interaction between stress sources and irrational beliefs was not significant, i.e. the RE & CBT diathesis-stress model was not confirmed in this study, which has already been the case in previous studies (e.g. Popov & Popov, 2013). However, this does not diminish the interpretability of the results. For an experience of stress in a state of emergency, sources of stress are a stronger predictor because stress is in itself a "normal reaction to abnormal circumstances" (Pedrosa et al., 2020). However, in anxiety and depression, personal cognitive factors play a more

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significant role. REBT distinguishes between the emotions that may have an unpleasant tone, but healthy or unhealthy effects (Vukosavljević-Gvozden, 2009). In other words, it distinguishes between constructive and destructive unpleasant emotions. Anxiety and depression are feelings with "unhealthy" effects, and the irrational beliefs that people hold are considered essential factors in their emergence and maintenance. The difference between healthy and unhealthy unpleasant emotions follows from their connection with the (ir)rational beliefs. Healthy negative emotions stem from the rational and the unhealthy ones from irrational beliefs (Dryden, 2002). A meta-analysis dealing with the studies that examined the relationship between irrational beliefs and psychological distress showed that this relationship was modest, but stable across different samples, measurements and research designs (Vîslă et al., 2016).

According to the RE & CBT theory, neither the irrational beliefs nor the instrument used to measure teachers' irrational beliefs are unidimensional constructs. Hence, we were interested in the way in which individual groups of beliefs contributed to the prediction of mental health. When it comes to the impact of the specific groups of teachers' irrational beliefs on the level of experienced stress, anxiety and depression, the results are also in line with theoretical expectations and previous research in the field (Oltean et al., 2017). Attitudes towards paperwork are also significant predictors of depression, while low frustration tolerance significantly predicts a stress response. When it comes to low frustration tolerance, the items that define this dimension refer to the experience of teacher workload, which, in the REBT language, indicates discomfort anxiety (Dryden, 2002). Consequently, the connection between LFT and general anxiety is theoretically expected. In many studies examining the relationship between specific irrational beliefs and emotional disturbance, self-downing explains the most variance in depression severity (e.g. Tecuta et al., 2019). However, attitudes towards paperwork in this study possibly predict depression because they are grouped around (irrational) beliefs that teachers hold about how school management should treat them, which, in a specific state of emergency, can further contribute to their experience of helplessness.

The main advantage of this research is the fact that it deals with teachers' mental health during the changed working conditions in the state of emergency in Serbia in 2020, caused by the COVID-19 pandemic. Given that the situation was extraordinary and that, in addition to the risk to physical and mental health, it significantly affected normal working conditions, this research offers valuable data on the teachers' response and the specific factors that influenced it. Furthermore, it is one of a few studies that examine the RE & CBT diathesis-stress model in the context of teacher occupational stress. Besides the correlational design and self-assessment data, the study's main limitation is a relatively small and convenient sample that was available to the examiners. Overcoming these shortcomings is a recommendation for

future research. It is also recommended to examine the protective role of rational beliefs in psychological resilience in stressful situations. Nevertheless, the results offer helpful information and guidance for school psychologists and school management to improve organizational and mental health and the work efficiency of teachers in extraordinary circumstances. Information about the relationship between specific irrational beliefs and mental health variables can help design preventive mental health programmes for teachers.

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Izvori profesionalnog stresa i iracionalna uverenja kao prediktori mentalnog zdravlja nastavnika tokom COVID-19 pandemije

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Obrazovanje širom sveta snažno je pogođeno COVID-19 pandemijom. S obzirom na ranije dokaze da je blagostanje nastavnika pod uticajem velikih društvenih promena, ova vrsta iznenadne promene rutine i prakse koje su postojale decenijama mogla bi imati štetne učinke na mentalno zdravlje nastavnika. U ovoj studiji težili smo da ispitamo doprinos specifičnih stresora na radnom mestu i iracionalnih uverenja objašnjenju doživljavanja stresa, depresije i anksioznosti među nastavnicima, nakon velikih promena u obrazovnom sistemu uzrokovanih vanrednom situacijom. Teorijski okvir istraživanja je Racionalno-emotivna i Kognitivno-bihejvioralna Terapija (RE i KBT), prema kojoj iracionalna uverenja imaju ključni doprinos u generisanju i održavanju disfunkcionalnih emocionalnih reakcija. Podaci su prikupljeni od 104 nastavnika osnovnih škola (88% žena, uzrasta M = 41,39, SD = 9,10) tokom prvog talasa COVID-19 pandemije (mart do maja 2020.). Za prikupljanje podataka smo koristili prilagođenu verziju upitnika Izvori stresa na radu (IRS), Skalu iracionalnih uverenja nastavnika (TIBS) i Skalu depresije, anksioznosti i stresa (DASS-21). Upitnike su elektronskim putem distribuirali stručni suradnici u školama, budući da se u to vreme nastava odvijala "online". Rezultati hijerarhijske regresione analize sugerišu da, kada je reč o doživljavanju stresa zbog promena u radnim i životnim uslovima, izvori radnog stresa povezani s COVID-om (β =,32, p<,005) i iracionalna uverenja (β =,25, p <,01) imaju samostalan i značajan doprinos. Međutim, iracionalna uverenja predstavljaju jedine značajne prediktore u doživljavanju anksioznosti (β =,33, p<,005) i depresije (β =,36, p <,005).

Ključne reči: stresori na radnom mestu, iracionalna uverenja, mentalno zdravlje nastavnika, COVID-19

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Teachers' perceived stress and experience in online teaching during the early phase of the COVID-19 pandemic

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Stress affects various aspects of human life and may also affect professional functioning of teachers. Research on attitudes towards digital/online teaching and learning has shown that the success of any online education depends upon the attitude of teachers towards online learning. Some studies before the pandemic showed that teachers, in comparison to other high-stress occupations, were reported as being the most stressed in regard to physical and psychological wellbeing. The aim of this pilot study is to investigate teachers' perceived stress and its relationship with attitudes towards online teaching and subjective online teaching overload during the early phase of COVID-19 pandemic. The online survey was performed during and immediately after the enforcement of lockdown measures in Vojvodina in spring 2020. The total sample included 64 teachers from primary and secondary schools (12.5% were class teachers), between 26 and 63 years of age. The subjective stress perception was measured using the Perceived Stress Scale, and a 19-item questionnaire was constructed for the assessment of attitudes towards online teaching. The perceived stress level was increased compared to the norms suggested by the scale author. Subjective overload with online teaching was significantly positively correlated with the perceived stress (r = .385, *p* <.01). Teachers did not report extremely positive or negative attitudes towards online

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teaching. Still, the attitude towards online teaching was significantly negatively correlated with the subjective overload with online teaching (r = – .294, p <.05). Results showed no significant correlation between the perceived stress and attitudes towards online teaching.

Keywords: teachers, online teaching, perceived stress, attitudes towards online teaching, online teaching overload.

Introduction

The "COVID-19 education" brought about a lot of novelties and challenges for education professionals, as well as an increased interest of academics. Most of the attention, though, was given to the educational process itself, usage of information technology (IT) in teaching and learning, and the way in which students were coping. Much less attention was paid to the way teachers felt and how they coped with the "new normality" of their profession. Having in mind that teaching profession is already among the most stressful professions (Johnson et al., 2005), that digital teaching was something not quite familiar to most of the teachers prior to the pandemic, and that the COVID-19 pandemic brought a number of existential worries concerning the everyday functioning during the lockdown and disrupted family and working schedules, it seems that teachers found themselves caught "between the rock and a hard place" almost overnight.

In the dawn of the post-COVID education, it is necessary to envision the new possibilities that the "COVID-19 education" brought to our schools in improving the quality of teaching and learning. Although distance learning is not a new education model, the transition to emergency distance learning in 2020 was sudden, extensive and widespread, so the body of prior knowledge on distance education can be only taken into account with reservation (Kovács Cerović et al., 2021). The effects of such a massive change to the wellbeing and mental health of teachers and students should be investigated anew.

In this paper, we first introduce the findings on professional stress, with special focus on the (perceived) stress in teachers. Then we analyse the context of online teaching and learning and recent research on the mental health of teachers within this context. Further, we present the preliminary results of the pilot study conducted during spring 2020 which aimed to detect possible issues in mental health of teachers and offer the directions for further investigation in the period of COVID-19 and post-COVID19 education.

Stress in teachers

Directly or indirectly, stress affects various aspects of human life and may also affect professional functioning. Teacher stress is commonly defined as the experience of unpleasant emotions resulting from teacher work, or, more

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specifically, negative emotional experience directly related to an individual's capacity to cope with specific stressors (Kyriacou, 2001). Some studies before the pandemic showed that teachers, in comparison to other high-stress occupations, were reported as being among the most stressed in regard to physical and psychological wellbeing (Johnson et al., 2005; Travers & Cooper, 1993). Studies have also shown that teacher stress can negatively affect school as an organization, as well as the teacher's ability to give adequate response and act effectively in the classroom and in school (Flook et al., 2013; Hawkins Eskridge & Coker, 1985).

The most common symptoms of prolonged occupational stress include the following: anxiety, depression, frustration, hostile behaviour, emotional exhaustion and tension, as well as physical health symptoms (such as headache, stomach ache, palpitations, insomnia). Very important are emotional and behavioural symptoms of prolonged stress, such as abrupt mood swings, increased irritability, lowered tolerance for frustration, feelings of helplessness and lack of control, and greater professional risk taking (Cardinell, 1980). As a result, indicators of work pathology could emerge, such as reduced efficiency, tardiness, absenteeism, and staff turnover, which can be very disruptive for the continuity of educational programmes (Hawkins Eskridge & Coker, 1985).

Compared to other professionals, specific factors influence stress in teachers even without the pandemic; some of them arise from education reforms requirements, the increasing pressures of evaluation of teachers' work and, not of lesser importance, the role of the wider environment (Krnjajić, 2003; Van der Linde, 2001). Previous research identified different sources of stress in teachers in "regular" situations, such as workload and time demands, disruptive behaviour of students, as well as some organizational factors and changes in the curriculum (Blase, 1986; Boyle et al., 1995; Flook et al., 2013, Putwain & von der Embse, 2019). Beara and Jerković (2015) described social environmental factors, present in the first decade of the 21st century in Serbia, which added to the pressure, such as increased enrolment of socially deprived children and children with disabilities in regular schools, reduced cohorts of children enrolling in school (due to reduced birth rates), dissatisfaction of young teachers who either cannot get a job at school at all, or, at best, get a precarious temporary work contracts. In addition, a vast majority of teachers think that education is insufficiently appreciated in society, their profession is not respected enough (Institute for Education Quality and Education, 2010) and that social circumstances are unfavourable for their professional development (Beara & Jerković, 2015). It was also noticed that most school-based interventions were designed for the wellbeing of students, and there were fewer efforts to address stress and burnout among teachers and boost their wellbeing (Flook et al., 2013).

Another group of stressors for teachers stems from rapid technological development. Teachers have to quickly master digital competencies and use of IT communication in teaching and other school activities. We will assume that many teachers face an additional challenge – how to teach those students who have a higher degree of digital knowledge and technology skills than teachers do (Beara & Jerković, 2015)?

A very important take on teachers' stress is to establish the level of stress that they perceive themselves. The perceived stress is a subjective belief about the possibility to control and predict one's life, the frequency of coping with a variety of stressful events, as well as the belief in one's ability to cope with problems. Rare research on the perceived stress in teachers showed that both the perceptions of stress and ability to cope with demands were connected with burnout (McCormick & Barnett, 2011), while high teacher self-efficacy was associated with the lower perceived stress (Putwain & von der Embse, 2019). It seems that self-efficacy and good relations with colleagues and students could serve as protective factors in preserving teachers' engagement and prevention of emotional exhaustion and distress (Klassen et al., 2012; Putwain & von der Embse, 2019; Tuettemann & Punch, 1992).

The COVID-19 pandemic and teacher stress

During the pandemic, stress was caused by the abruptness of implemented measures (lockdown, online learning etc.), uncertainty about their duration, and a lack of familiarity with distance education at that time (UNESCO, 2020a). The pandemic required a very sudden shift to remote learning and teaching and teachers were at the front of that shift. They were expected to support students' academic development and wellbeing, while also dealing with adversity and stress in their own lives (Collie, 2021). In the context of the pandemic, it is expected that stress can exacerbate and contribute to the already difficult situation in online teaching and learning. UNESCO (2020a) identified teachers' stress as being one of the adverse consequences of school closures. In such situation, teachers are often unsure of their obligations and the way to ensure students' learning in changed circumstances. One study with Chilean teachers has established that their quality of life was affected by the COVID-19 pandemic and that these perceptions could be related to emotions (fear, uncertainty and loneliness) and work overload due to distant teaching (Lizana et al., 2020).

In Serbia, during spring 2020, education was organized through different channels of distant learning, starting on 17 March with the lockdown. The Ministry of Education, Science and Technological Development of the Republic of Serbia (2020) organized the recording of lectures which were broadcast via the public TV channels. Nevertheless, schools had the

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responsibility to complement those instructions by teacher-led instruction via social media (such as Viber and Facebook groups) and distance learning platforms, chosen and organized according to teachers' decisions. This resulted in a wide variety of channels for learning and teaching, sometimes within the same school and even within the same grade. Schools and teachers had to pay special attention to the students from families with lower socio-economic status, with difficulties in access to digital technology, as well as to the students with individual educational plans. That put additional pressure on teachers to organize and adjust the approach to their students.

Teachers' attitudes towards distant and digital teaching and learning

Optimal integration of digital teaching and ICT in teaching and learning depends on teachers' beliefs and attitudes towards ICT (Sang et al., 2010). Academic papers investigating attitudes towards digital/online teaching and learning, although still scarce, became more prominent in the context of the COVID-19 pandemic, since this form of education, from a (rarely used) addition to regular teaching, became widely and almost exclusively used in the world nowadays. According to UNESCO (2020b), 90% of students were learning online at the end of March 2020. Nevertheless, teachers' attitudes towards distant teaching and learning are still under-researched, even though there is common understanding that the success of any form of online education, to a great extent, depends upon the attitude of teachers towards online teaching and learning. For example, Tzivinikou et al. (2020) showed that significant factors for the implementation of distance education during COVID 19 school closures were teachers' attitudes towards efficacy and difficulties of distance education. Recent research in Serbia suggests that both teachers and students have responsibly accepted the change in their work methods (Miražić-Nemet & Surdučki, 2020). However, there are also signs that teachers, students and parents experience a certain level of "online teaching/learning overload". This issue is yet to be investigated thoroughly and this is what we want to contribute to in this paper.

Aims

The aim of this pilot study is to explore teachers' perceived level of stress and its relationship with age, employment length, online teaching experience (subjective assessment of online teaching overload, preparedness for online teaching, and satisfaction with online teaching) and attitudes towards online teaching. This study is a part of a wider study that will include students, parents and teachers, and other variables significant for the adequate implementation of digital teaching and learning, and preservation of mental health, such as protective factors and coping strategies.

The research questions posed in the study include:

– What is the level of the perceived stress of teachers?
– What are the differences in the perceived stress regarding the age, length of employment and family status of teachers?
– What is the relationship between the perceived stress and teachers' attitude towards digital learning?
– What are the relations between the perceived stress level, subjective perception of teaching overload, preparedness for online teaching and satisfaction with online teaching?

Method

Sample and procedure

This pilot research included 64 teachers from primary and secondary schools (12.5% were class teachers) in Vojvodina; 87.5% females, aged between 26 and 62; 77% of respondents were married, and 75% had school-age children. The employment length of teachers was classified into three categories: less than 10 years (23%), between 11 and 20 years (36%) and more than 21 years (41%).

The study was conducted online during spring and summer of 2020, using Google Forms type of survey. The study protocol was approved by the Ethical Committee of Psychological Research, University of Kragujevac. Anonymity was preserved while informed consent was obtained from all participants included in the study.

Instruments

A questionnaire was created for the purposes of the research, containing items about teachers' demographic data and subjective assessment of online teaching experiences during lockdown, in specific:

– online teaching overload (a single-item scale) – "To what extent did you feel overloaded by online teaching during the lockdown?" (from 1 – not at all to 5 – very much);
– preparedness for online teaching (a single-item scale) – "Looking back now, how do you assess your overall preparedness for online teaching?" (from 1 – completely unprepared to 5 – completely prepared); and
– satisfaction with online teaching realisation (a single-item scale) – "How satisfied are you with your own implementation of online classes during the lockdown?" (from 1 – completely unsatisfied to 5 – completely satisfied).

For the *Attitudes towards digital learning* assessment, we adapted the items from the *Games in the Classroom Attitudes Survey* (Alquarashi, 2016) and created a 19-item Likert type questionnaire (the answer range was from 1 – totally disagree to 5 – totally agree). The principal component method extracted one factor, which explained 54.68% of the total variance. Factor loadings ranged from 0.36 to 0.83 (Table 1). The reliability analysis showed a high alpha coefficient value (α = 0.95).

Table 1.
ATDL scale factor loadings

ATDL items	Factor loadings
Makes teaching interesting	.83
Helps to achieve teaching goals	.83
Encourages a deeper understanding of the learning material	.82
Helps students develop thinking skills	.82
Improves learning efficiency	.81
Enhances students learning productivity	.81
Encourages participation among students	.80
Motivates students learning	.79
Helps students to solve complex tasks	.77
Helps students to more easily communicate with each other	.76
Motivates students to engage more	.75
Facilitates lectures	.74
Improves students' content knowledge.	.74
Guides teachers' instructional planning	.72
Increases students' skills	.71
Increases students' presentation skills	.64
Increases teachers' presentation skills	.62
Improves individual learning	.56
Helps students to achieve better grades	.36

Perceived stress was assessed by the *Perceived stress scale* (PSS, Cohen et al., 1983). This 10-item scale uses a five-point Likert scale (from 0 – never to 4 – almost all the time) to evaluate the intensity of the perceived stress in the last month; higher score reflects the higher perceived stress. Respondents evaluate how unpredictable, uncontrollable, and overloaded their lives are (e.g., "In the last month, how often have you felt nervous and stressed?" or "In the last month, how often have you felt confident about your ability to handle your personal problems?") (Cohen, 1994). Factor analysis (the Principal Component method of extraction) in this study confirmed the one-factor structure of the *Perceived Stress Scale*, which explained 38.60% of the total variance. Factor loadings ranged from 0.24 to 0.81 and the reliability analysis showed a good internal consistency of the scale (α = 0.81).

Statistical analyses

SPSS 21 was used for statistical analyses. Descriptive analyses were used to explore the levels of online teaching overload, preparedness for online teaching and satisfaction with online teaching. For examination of the structure and reliability of the *Perceived Stress Scale* and the *Teachers' attitudes towards the digital learning scale*, factor analyses and Cronbach alpha coefficients of internal consistency were used. Correlation analyses were applied for exploring the relationships between the perceived stress and teachers' attitude towards digital learning, online teaching overload, preparedness for online teaching and satisfaction with online teaching.

Results

Descriptive analysis of the total scores' distribution (skewness = −.447, kurtosis = −.058) showed a higher mean of the perceived stress than in the norms suggested by the scale author, in which the mean across different ages was 12.82 (*SD* = 6.20) (Cohen, 1994)[2]. The registered level of the perceived stress implies that the majority of teachers had an increased level of stress.

Table 2.

Descriptive statistics and correlations

Variable	*n*	*M*	*SD*	1	2	3	4	5
Perceived stress	64	17.92	5.32	—				
Age	64	44.41	9.24	-.25*	—			
ATDL	64	54.73	15.01	.01	.12	—		
TOVER	62	3.79	1.10	.36**	.10	-.29*	—	
PREP	64	3.64	.80	-.08	-.02	.12	-.16	—
TSAT	64	3.19	.91	-.13	-.07	.49**	-.45**	.31*

*p <.05. **p <.01. ATDL – attitudes towards digital learning, TOVER – online teaching overload, PREP – preparedness for online teaching, TSAT – satisfaction with online teaching realisation

The perceived stress level in teachers is negatively correlated with age (r = −.25, *p* <.05) – older teachers experience the lower level of stress. No significant differences in the perceived stress level have been found according to employment length (r = −.09, *p* = .49), marriage status (r = −.09, *p* = .44) or having school-age children (r = −.07, *p* = .60).

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2   This comparison should be used with reservation, since difference in size between our sample and Cohen's sample is very large and calculating Cohen's d would probably be artificial. Another reason for caution is the fact that Cohen's norms were made in the United States of America in 1994. One of the objectives of our main study will be to establish the up-to-date norms for the PSS on a larger Serbian sample.

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The very first step in exploring the relationship between teachers' perceived stress and attitudes towards digital learning was to identify a latent structure of the ATDL scale (shown in Table 1). After obtaining the one-factor solution, in the next step, we explored the relation between the perceived stress and teachers' attitude towards digital learning and found no significant correlation (r = .01, *p*> .05).

Our analysis showed a significant correlation between the perceived stress level and subjective perception of *teaching overload* (r = .36, *p* <.01). Teachers who reported higher overload also experienced a higher level of stress. However, *preparedness for online teaching* and *satisfaction* with online teaching realisation were not significantly correlated with the perceived stress (r = −.08, *p*> .05; r = −.13, *p*> .05).

Further, the perception of teaching overload was negatively correlated with satisfaction with online teaching realisation (r = −.45, *p* <.01) and with attitudes towards digital teaching (r = −.29, *p* <.05). Finally, satisfaction with online teaching realisation was positively correlated with preparedness for online teaching (r = .31, *p* <.05).

Discussion

The increased stress level is expected in possible life-threatening circumstances and in the circumstances that require change in everyday routines (such as working in classroom, contact with family and friends, and reduced freedom of movement). These were the most frequent answers of our teachers to the open-ended question referring to the things that they missed most during the lockdown. On the other hand, after the new routine had been established, the expectation of "going back to classroom" (i.e. another change in the newly established routine) could also be perceived as a stressor. The results of studies in other countries found that a high percentage of teachers had symptoms of anxiety, stress and depression when the schools and universities had reopened (Ozamiz-Etxebarria et al., 2021). Putwain and von der Embse (2019) even suggested the concept of "stress related to change" in teachers.

An important result of our study is that younger teachers have shown a higher level of the perceived stress. Higher levels of stress among younger teachers are in line with the general trend observed in other studies (Lai et al., 2020; Ozamiz-Etxebarria et al., 2021). One of the possible explanations is that the younger teachers, who have less experience, found themselves more under pressure, since they felt that their basic teaching skills, needed in any type of teaching and possibly still "under development", were unreliable in the new circumstances.

The finding of no significant differences in the perceived stress among teachers with different family situation (married/unmarried, children or no children) is somewhat unexpected, having in mind that family and work demands could lead to multiple role overload and work-family role conflict (Abu Bakar & Saleh, 2015). Role overload is a state of conflict when a person is overburdened with the tasks that call for attention at the same time and the person's resources are lower than the demands (Reilly, 1982). There is evidence that work overload and inter-role conflict can aggravate symptoms of stress and strain, especially in employed mothers, who are exposed to role conflict due to multiple roles in their everyday life; still, the relationship is somewhat complicated: the family roles can also have a protective and positive effect on wellbeing (Cooke & Rousseau, 1984). In other words, having a family is correlated to wellbeing and increases life satisfaction, which could ease the effects of the work role overburden and job-related stress, even in unusual circumstances. Yet, the main study on a larger sample should provide a more reliable answer to the issue of family–work relations with the perceived stress.

Before the pandemic, the most prominent job stressors for teachers were workload and behaviour management (cf. Kim & Asbury, 2020). The pandemic placed new demands on students and teachers to adapt to online teaching (sometimes with limited resources or knowledge), which resulted in stress levels above normal (Sahu, 2020). This was also confirmed in our pilot study since teachers who reported higher subjective teaching overload also experienced a higher level of stress. Subjective overload could be understood as a degree to which teachers perceive themselves to be under pressure regarding time, commitments and the level of expected performance, and it could undermine mental health of teachers. It is widely accepted that stress, especially in work environments, occurs when the demands of the situation are higher than the resources of the person or "when the resources of the individual are not sufficient to cope with the demands and pressures of the situation" (Michie, 2002, p. 67). We could add that not only the objective demands themselves, but the *perception* of demands and own resources could be the cause of the perceived stress. This could have a very important practical implication for mental health protection – offering training on how to develop adequate perceptions of own resources, strengths and competences (i.e. working on self-confidence, self-efficacy, and discovering of own strengths) in teachers could prevent the occurrence of high perceived stress in highly-demanding situations.

Moreover, teachers with a higher level of the perceived subjective overload in our study had less positive attitudes towards digital learning. The explanation of this result is quite intuitive: the feeling of being overloaded could cause resistance towards the tasks that are perceived as imposing too much pressure. Previous research established that work overload was related to overall job dissatisfaction, fatigue (Beehr, 1981), and lesser job

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commitment (Jones et al., 2007), which could be the signs of burnout. In teachers, the workload level has a significant effect on the level of burnout and performance (Jomuad et al., 2021).

Although our results showed that previous preparedness for online teaching was not significantly correlated with the perceived stress, they also indicated that satisfaction with online teaching was positively correlated with previous preparedness for online teaching. This would suggest that teachers who perceived themselves as better prepared found more satisfaction in the online teaching. This empirical result enforced the significance of the perception of preparedness for job satisfaction in general, which is in line with some previous studies. For example, Hughesa and Valle-Riestra (2008) showed that teachers reported a high level of preparedness for working with children with disabilities and a high level of job satisfaction at the same time.

This pilot study pointed to some directions for further research into the factors of success of online teaching, as well as into protective factors for the perceived stress. The main limitation of the pilot can be found in a small sample of teachers, which could be overcome in the main study.

Conclusion

By utilizing digital technologies and the know-how in teaching and learning, which teachers, students and parents acquired during the previous year, it is possible to make a (r)evolution in schooling. In addition, education professionals and decision-makers should not only be focused on the achievements – their concern should also be to preserve the mental health of teachers, not only to improve the quality of teaching, but also in order to protect the mental health of students (Ozamiz-Etxebarria et al., 2021).

The results of our pilot research have implications for mental health protection and intervention in the educational context, and could be summarized as follows: teachers expressed a higher level of the perceived stress during the early phase of COVID-19 lockdown than the normative sample, and the older teachers reported a lower level of the perceived stress. Teachers who reported higher overload also experienced a higher level of stress, lower satisfaction with online teaching and more negative attitudes towards digital teaching and learning. Preparedness for online teaching and satisfaction with online teaching realisation were not significantly correlated with the perceived stress. However, teachers who perceived themselves as better prepared found more satisfaction in online teaching

Our results emphasize the need for mental health care interventions in stress reduction, which should be incorporated into new strategies for the coming months and years, especially with the return to the "normal" way of school functioning. A recommendation to policy makers and regional school

authorities would be that equal effort is needed in providing the continuation of education and the protection of mental health of all actors of education process in novel situations. The Model of Positive Education[3] (Seligman et al., 2012) could be adapted and used in that direction. Suggestions for further research and practical interventions would include the investigation of protective factors (such as positive orientation, character strengths, resilience and coping strategies) that could be promoted in teachers, students and parents in order to become more resilient to adversities that sudden changes in the routine bring. For instance, a previous study in our country found *higher resilience* to be a protective factor (Ignjatović Ristić et al., 2020).

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3   More can be found on the Institute of Positive Education website: https://www.ggs.vic.edu.au/Institute.

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Percipirani stres i iskustva nastavnika u onlajn podučavanju tokom rane faze COVID-19 pandemije

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Stres utiče na različite aspekte ljudskog života, pa tako može da utiče na profesionalno funkcionisanje nastavnika. Istraživanje odnosa prema digitalnom, onlajn podučavanju i učenju pokazalo je da uspeh bilo kog onlajn obrazovanja u velikoj meri zavisi od odnosa nastavnika prema onlajn učenju. Istraživanja iz perioda pre pandemije pokazuju da su nastavnici, u poređenju sa drugim visoko stresnim zanimanjima, među najugroženijima u pogledu uticaja stresa na fizičko i psihološko blagostanje. Cilj ove pilot studije bio je istražiti kako nastavnici procenjuju nivo sopstvenog stresa tokom pandemije, kao i kakav je odnos nastavničkog stresa, stavova prema onlajn nastavi i subjektivnog osećaja opterećenosti onlajn nastavom, tokom rane faze pandemije COVID-19. Onlajn anketa je sprovedena tokom i neposredno nakon uvođenja mera zaključavanja (vanredne situacije) u proleće 2020. godine na području Vojvodine. Ukupan uzorak obuhvatio je 64 nastavnika (od toga 12,5% učitelja), između 26 i 63 godine starosti. Subjektivna percepcija stresa izmerena je Skalom percepiranog stresa, dok je upitnik od 19 stavki za procenu stavova prema onlajn nastavi adaptiran za potrebe ovog istraživanja. Rezultati pokazuju da je nivo percipiranog stresa povišen u poređenju sa normama koje je predložio autor skale. Procena opterećenosti onlajn nastavom je pozitivno povezana sa nivoom percipiranog stresa nastavnika (r =,385, *p* <,01). Nastavnici nisu izrazili izuzetno pozitivne niti negativne stavove prema onlajn nastavi. Ipak, stav prema onlajn nastavi je u negativnoj korelaciji sa subjektivnim osećajem opterećenosti onlajn nastavom (r = −,294, *p* <,05). Rezultati ne ukazuju na značajnu korelaciju između opaženog nivoa stresa i stava prema onlajn nastavi nastavnika.

Ključne reči: nastavnici, onlajn nastava, percipirani stres, stavovi prema onlajn nastavi, opterećenost onlajn nastavom.

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The cooperation between kindergartens and families during the kindergarten closure in Slovenia due to the COVID-19 pandemic

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During 2020, kindergartens in Slovenia were fully closed in the first and partially closed in the second wave of the COVID-19 pandemic. Therefore, the kindergarten practice of cooperation with the families changed. In order to obtain an insight into the new situation in this field, our research focused on the organization of the cooperation between kindergartens and families during the kindergarten closure. In November 2020, we developed an online questionnaire for parents who had at least one child enrolled in kindergarten. The questionnaire was filled in by 944 parents. More than half of the parents answered that contacts with preschool professionals had supported them during the full and/or partial closure of their kindergarten. About one half of parents answered that the kindergarten had contacted them once a week, mainly with proposals for activities and information in case the kindergarten remained closed. Most parents answered that the additional contact with the professionals had not represented an additional workload. Three quarters of parents believe that it is necessary to maintain contact even during the closure. Still, as the pandemic situation is completely new, it is still difficult to assess in what way it makes sense to maintain cooperation during the closure. With the study, we obtained insight into the importance of cooperation from the parents' perspective, which we need to consider in similar situations ahead.

Keywords: COVID-19, kindergartens, parents, preschool children, collaboration

Introduction

In March 2020, a pandemic was declared in Slovenia due to the COVID-19 disease, forcing the kindergartens throughout the country to close completely. The period of complete closure of kindergartens lasted between 16 March

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2020 and 18 May 2020 (Ministry of Education, Science and Sport, 2020a). Due to the deteriorating epidemiological situation in the country, kindergartens were closed again from 26 October 2020 until January 2021. During this time, the mayors of the *municipalities* (the *kindergarten's founders)* had the right to determine an exception to the closure of kindergartens, organizing a minimum operation of the kindergarten intended only for parents who urgently needed child care. Emergency care was provided to the children whose parents were essential workers (e.g. health workers, employees in civil protection, the army, the police) (Ministry of Education, Science and Sport, 2020b). Kindergarten management varied greatly both during the first lockdown (when all kindergartens were completely closed) and the second one (when kindergartens provided only emergency childcare for the children of essential workers). Each principal was autonomous in managing the kindergarten during the closure, since the national government did not provide any unified or detailed directions. According to the circular of the Ministry of Education, Science and Sport (Ministry of Education, Science and Sport, 2020a), principals could assign different employment statuses to their employees. Most employees were granted the second possible status – "waiting for work at home", which implied the employee stayed at home, did not work and received 80% of their monthly wage. If their nature of work allowed for it and if the employer decided so, some workers could work from home (the third possible status). During the second lockdown, when kindergartens were partially closed, some employees worked to provide emergency service in the kindergarten, while others had again been delegated one of the three possible employment statuses.

Due to various employment statuses of the kindergarten employees and based on the diverse instructions of the principals on how to operate when the kindergarten was closed, the ways of cooperation between the kindergarten and the family with children who stayed at home differed greatly during the COVID-19 pandemic. The practices of cooperation with the families with children who stayed at home varied between the kindergartens. Moreover, some kindergartens showed different practices internally as the decision on whether, how much and how the professional/managerial staff would maintain contact with children and their families was up to the kindergarten management or professionals themselves. Therefore, children who stayed at home with their parents or relatives during the kindergarten closure engaged in various types of cooperation with families in terms of frequency and form. On the one hand, there were kindergartens that only took care of providing the most necessary information through the kindergarten's website, i.e. had no direct contact with families; on the other, there were kindergartens where certain early childhood education and care (ECEC) professionals maintained regular contacts with families. In some cases, the ECEC professionals communicated with families on a weekly or even daily basis.

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Preschool education is an important part of the education system and it is crucial in the earliest period of human life (e.g. Andersson, 1992; Lowe Vandell et al., 2010). It is a complement to family education; children gain experience and knowledge that cannot be acquired in the family (Eurydice, 2021). In the time of kindergarten closure, this responsibility was not divided among different adults (parents, grandparents, ECEC professionals), but was all in the hands of the parents.

Basic kindergarten tasks are to help parents with comprehensive care for children, to improve the quality of life of families and children and to create the conditions for children's physical and mental abilities to develop. Slovenian public kindergartens and private kindergartens with a concession follow the principles, goals and guidelines of the national curriculum for kindergartens (Bahovec et al., 1999). One of the goals of the national curriculum for kindergarten promotes "improving information and cooperation with parents". The "principle of cooperation with parents" (one of the principles in the curriculum) discusses various aspects of cooperation with parents in kindergarten. These include public access to written and oral information on kindergarten programmes; the parents' right to exchange information and in-depth interviews with the educators, assistants, and counsellors; the gradual introduction of children into various kindergarten programmes; and the parents' right to participate in the planning of life and work in the kindergarten (Bahovec et al., 1999). In the pedagogical literature in Slovenia (e.g. Resman, 1992; Intihar & Kepec, 2002), we find efforts to define the relationship between the family and school or kindergarten through the concept of partnership, which corresponds to the guidelines in the curriculum. The latter therefore allows and at the same time requires kindergartens to work on improving written and oral information for parents, as well as to enhance cooperation with them through gradual inclusion of children in kindergarten and through other formal and informal forms (Lepičnik Vodopivec, 2010). Moreover, research emphasizes the importance of quality partnerships between parents and educators (Epistein & Sanders, 1998). The OECD studies of five-year-olds have found clear links between the parents' involvement in their child's ECEC centre and the child's learning and wellbeing. The five-year-olds whose parents were strongly or moderately involved in their school or ECEC centre had higher cognitive and social-emotional skills than those whose parents were less involved (OECD, 2020).

Communication and collaboration during the closure of kindergartens had to be adapted. The communication between (pre)schools and parents increased in numerous education systems during the coronavirus lockdown (OECD, 2020). More than ever, kindergartens had to make communication plans in which they included important key messages that they wanted to share with parents and children (Lucas, 2020). They also had to adapt their ways of communication since they were not able to meet with the families in person or leave messages on the whiteboard in the hallway as they usually

do in Slovenian kindergartens. Kindergartens also had to consider that the parents were facing a greater responsibility for supervising and educating their children, while many were also trying to adjust to working from home. Kindergartens had to prepare different materials to support parents in their active upbringing role. Preschools had a critical role not only in delivering educational materials to children and their families, but also in offering an opportunity for children to interact with educators and obtain the possibility of additional counselling offered by preschool professionals. Preschools can actively promote a health-conscious schedule and good personal hygiene, encourage physical activities (Brazendel et al., 2017), and, during the COVID-19 lockdown, they could try to integrate such health promotion in the family environment as well.

Previous research (Barnet & Jung, 2020) has shown that only 10% of children were involved in distance activities on a daily basis after kindergartens had closed and that online work could not replace the educational work that took place at the premises of an institution. The authors suggest that it is necessary to improve the online way of working with the aim of daily engagement of children in activities, as well as to include training for parents. In such an unplanned situation, one of the challenges in working with children is to maintain the continuity of children's development.

In November 2020, a national *COVID-19 and Kindergarten* conference was organized by the Step by Step Centre for Quality in Education, which is one of eight research centres operating within the Educational Research Institute. The event enabled the participants to gain an insight into Slovenian kindergartens' good practices of collaboration and maintaining contact with families during the closure of kindergartens. After the conference, all the good practices were also published (Mervic et al., 2020). All these practices showed that the kindergarten professionals had a high level of awareness of the importance of maintaining contact with families and providing remote work in the emergency situations during the COVID-19 pandemic. As this situation was new for everyone and there was no framework or guidelines (yet) to follow, the practices of principals and ECEC professionals were very diverse. Furthermore, many questions remained open at that time – such as in which way and how often to contact the families; what should be the aim of this communication; what should be the content or form of their interaction etc.

As already stated, we gained some insights into the situation from the point of view of the professionals; yet, we were further interested in the way in which parents perceived such practices. In order to get a comprehensive view of the problem, which could further contribute to developing better guidelines for action in similar circumstances, we decided to do an exploratory research to obtain a better understanding of the existing situation.

Kindergartens have important roles, which exceed taking care of children and enabling parents to perform their work duties without interruption. They have an educational role with a curriculum that needs to be complied with, as

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well as a complementary and compensatory role, especially in children who come from less stimulating backgrounds. Based on that, we believe it is of great significance for kindergartens to maintain cooperation with the families despite the closure. The cooperation should be further investigated and, accordingly, we set the following research questions based on the content of the research problem:

1. Which kindergarten professionals (principals, counsellors, ECEC professionals) were in contact with the families during the first and second waves of the pandemic? How often were the contacts made and through which channels?
2. What was the content of the established contact between the ECEC professionals and the families?
3. Did parents perceive such cooperation as support or as an additional burden and did parents think that it was necessary to maintain the contact with the ECEC professionals during the kindergarten closure?
4. To what extent were the activities adapted to families' home environments (e.g. materials available at home, requirement of special preparation for activities etc.)?
5. Is the parents' level of education related to their perception of their collaboration with the kindergarten (was it supportive, was it an additional load, was it adapted to home environment etc.)?

Methodology

Participants

The questionnaire was answered by 1,204 parents who had at least one child enrolled in the kindergarten at the time of the first and/or second wave of COVID-19 pandemic. After overviewing the data, we removed 270 partly completed questionnaires due to missing data.

Approximately two-thirds of parents who filled in the questionnaire stated that they came from a more suburban area (61.8%) compared to those who came from urban areas (38.2%). More participants stated that they lived in a two-parent family (90.8%) compared to those who lived in a one-parent family (9.2%). A little less than two-thirds of parents (62.6%) reported that they were highly educated (BA or higher).

The participants were also asked to state their employment status during the kindergarten closure. Most of the parents were working at their workplace (31.8%), 20.2% were working from home, while 14.3% were temporarily assigned the "waiting for work" status. Other answers included a combination of working from home and at the workplace, maternity leave, sick leave, and student status.

Instrument

We developed the *Questionnaire for parents who have at least one child enrolled in kindergarten at the time of the COVID-19 pandemic* (Mervic & Zgonec, 2020), referring to the parents' cooperation with kindergarten during the lockdown. The questionnaire was short, because we wanted to attract as many parents as possible in a short time. One of the aims of preparing the questionnaire was to gain insight into the perspective of parents and present the preliminary results at the November 2020 conference *COVID-19 and Kindergarten*. The questionnaire consisted of 24 questions divided in sections. In addition to demographic data, we were interested in the number of parents who enrolled their children in the emergency care offered by their kindergarten. Secondly, we were interested in the cooperation between kindergartens and families (frequency of contacts, who contacted the families, how were the families reached and what was the aim of the contact). Close-ended and multiple choice answers were possible for each question in this section, except for the questions about the frequency of contacts, where there was only one possible answer. Furthermore, we wanted to investigate the parents' opinion on the collaboration between the kindergarten and families (whether it was supportive, whether it was an additional load, whether it was adapted to home environment). In this section, participants responded on a 5-point Likert scale. There were additional questions related to the frequency with which parents replied to the contact from kindergarten and whether they had ever initiated the contact with the kindergarten. The questionnaire concluded with an open-ended question which asked about any potential extra support the parents would like to receive from the kindergarten.

The process of questionnaire implementation

The questionnaire was launched in early November 2020, during the second wave of the COVID-19 pandemic when kindergartens were partly closed due to the deteriorating pandemic situation in the country. The questionnaire was accessible online, via the 1ka online platform. It was distributed among 35 Slovenian public kindergartens that are members of the Step by Step Network for Changing Quality, which includes almost 10% of public kindergartens from different regions in Slovenia. We sent the link with the questionnaire and the presentation of the research by e-mail to our contact person from each kindergarten included in the Network. Each of them was asked to forward the e-mail to all employees in their kindergarten, who were further requested to inform the parents about the questionnaire and encourage them to complete it. The questionnaire was also published on the Step by Step Centre for Quality in Education Facebook page, which

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has almost 1,300 followers, among whom there are professionals from other Slovenian kindergartens (not members of the Step by Step Network for Changing Quality), individuals of different profiles (principals, preschool teachers, counsellors) and representatives of other interested public parties. The questionnaire was available for one week.

Results

Table 1 shows the professionals who contacted the families during the first (16 March to 18 May 2020) and the second closure of kindergartens (from 26 October 2020 to the survey). Multiple answers were possible.

Table 1
Professionals *who contacted the families: frequencies*

Profile of preschool employees	First closure ($N = 931$)	Second closure ($N = 932$)
Preschool teacher or their assistant	658 (70.7%)	719 (77.1%)
Management (e.g. principal)	341 (36.6%)	432 (46.4%)
Counselling service	43 (4.6%)	89 (9.5%)
Other*	170 (18.3%)	63 (6.8%)

Note: *The section "Other" includes the answers of parents who did not choose any of the offered options. The answer "Other" included answers such as a speech therapist or special pedagogue; 93 out of 170 "Other" answers explained that the child had not yet been enrolled in the kindergarten in the first wave. Additional 37 out of 170 "Other" answers reported that there were no contacts from the kindergarten in the first closure and 35 out of 63 "Other" answers reported that there had been no contacts from the kindergarten during the second closure. These two numbers account for 4% of all participants. Other parents did not give an extra explanation.

Table 1 shows that most families were contacted by either preschool teachers or their assistants. More than one third of participants reported that they had been contacted by the management, while only a few (less than 10%) had been contacted by the counsellors. During the second closure, more families were contacted by all kindergarten employee profiles.

The participants were asked about the ways in which different profiles from the kindergarten contacted them and whether they could choose more than one way of communication.

Table 2

Frequencies of communication channels through which families were contacted

Communication channels	Contacted by counselling service or management ($N = 482$)	Contacted by a preschool teacher or their assistant ($N = 795$)
E-mail	378 (78.4%)	608 (76.5%)
Webpage	125 (25.9%)	147 (18.5%)
Telephone	52 (10.8%)	87 (10.9%)
Video call (e.g. Zoom)	11 (1.2%)	46 (5.8%)
eAsistent platform	60 (2.3%)	62 (7.8%)
Other	67 (13.9%)	79 (9.9%)

The most common way of communication was e-mail, followed by a webpage and telephone. Less than 6% of participants reported communication via a video call and less than 8% reported communication via the eAsistent platform. eAsistent is a Slovenian platform offering comprehensive support to educational organizations. Via eAsistent, teachers can report their daily tasks, communicate with other stakeholders, and perform other organizational tasks. "Other" included answers such as in person, via the kindergarten application or video.

The participants also reported the frequency of their contacts with the kindergarten. Their answer only relates to the preschool profiles who contacted them.

Table 3

Frequency of contacts between kindergartens and families

	More than once a week	Once a week	Once to twice a month	At least once in the whole closure period of the kindergarten
Contacted by the counselling service or management ($N = 481$)	55 (11.4%)	241 (50.1%)	103 (21.4%)	82 (17.1%)
Contacted by the preschool teacher or an assistant of the preschool teacher ($N = 785$)	105 (13.4%)	314 (40.0%)	204 (26.0%)	162 (20.6%)

The most common answer was that families had been contacted once a week by at least one profile of kindergarten employees.

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There are 18.5% of participants who also answered that they had contacted the kindergarten on their own initiative. One half of parents (50.2 %) reported that they had always replied to the contact from kindergarten, an additional quarter (25.5 %) said that they had often replied to the contact; 15.9% rarely replied and only 8.4% had never replied to the kindergarten contact.

Contacts between the families and the kindergarten had different aims. The participants could choose more than one category for different aims. Different aims were chosen based on the input from preschool teachers and other professionals who presented their work at the *COVID-19 and Kindergarten* conference. We were only interested in the aims of the contacts initiated by preschool teachers or their assistants.

Table 4
Frequencies of contacts initiated by preschool teachers or their assistants according to different aims

Aims of the contacts initiated by the preschool teacher or their assistant (*N* = 784)	
Virtual storytelling	93 (11.9 %)
Suggestions for physical activities	232 (29.6 %)
Suggestions for creative activities	418 (53.3 %)
Suggestions for outdoor activities	231 (29.5 %)
Suggestions for other free time activities	306 (39.0 %)
Talking with the child	104 (13.3 %)
Talking with the parent	118 (15.1 %)
Other	222* (28.3 %)

Note: *114 out of 222 "Other" answers were about notices (e.g. the notice about the reopening of the kindergarten).

Preschool teachers or their assistants most often contacted the families with the suggestions for creative activities, followed by the suggestions for other free time activities, physical activities and outdoor activities. In the "Other" category, we included the participants' answers such as additional photos from the kindergarten, the instructions to prepare the Slovenian traditional breakfast, motivational or encouraging notices, and a written message about the preschool teacher missing the children and the kindergarten, with additional questions about how they were.

Contacts were directed at the whole group of children since the suggestions were not individualized. Individual activities, such as talking to a child or a parent, were less common. Parents reported that preschool teachers made contact directly with the child to send congratulations for their birthday or to follow up with reading badge activities. The Slovenian Reading Badge Society is both the name and the trademark of an important cultural and educational movement, i.e. an activity for the development of reading habits and reading culture among youth (Mohor, n.d.).

The parents who reported having contacts with the preschool teachers answered three additional questions about their opinion on this collaboration. They answered on a five-point scale (*1– the least supportive/the least burdensome/the least adapted* and *5 – the most supportive/the most burdensome/ the most adapted*).

Table 5
Descriptive statistics for answers to the questions about the parents' opinion on the collaboration between the preschool teachers or their assistants and families

	N	M	SD
To what extent were the contacts with preschool teachers or their assistants supportive?	787	3.53	1.15
To what extent were the contacts with preschool teachers or their assistants an additional burden for you?	784	1.58	0.86
To what extent were the activities adapted to your home environment?	739	3.97	0.92

The findings indicate that 60.6% of parents think that the contacts were supportive. Around one fifth of parents (22.7%) answered using the middle answer (*3 – it was neither supportive nor unsupportive*), while 16.6% said that the contacts had not been supportive.

Research results show that 81.4% of parents reported that the contacts had not been an additional burden; 15.7% of parents answered that they could not decide, and only 2.9% of parents reported that the contacts had been an additional burden.

Among the parents who completed the questionnaire, 72.1% agreed that the suggestions for activities were adapted to their home environment, e.g. the proposed materials were also available at home or the activities did not call for a lot of preparation. Almost a quarter (23.5%) of the parents answered that activities were neither adapted nor unadapted to their home environment and only 4.3% of parents reported that the activities were unadapted to their home environment.

At the end of the questionnaire, we asked all participants (*N* = 934) to what extent they thought that maintaining the contact between the preschool

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teacher or their assistant and the family during the kindergarten closure was necessary. They answered on a five-point scale (*1 – the least necessary and 5 – the most necessary*) (*M* = 3.9; *SD* = 0.95). It is shown that 76.2% of parents think that maintenance of the contact was necessary even during the closure; 14.0% were undecided and 9.6% of the parents did not think that maintaining contact was necessary. When the parents were asked about any extra support they would like to receive from the kindergarten (the last open-ended question in the questionnaire), the answers were extremely diverse. Their responses can be classified into two groups: a group of parents who stated that there were enough contacts or that they did not need additional contact (the provided contact was enough or they were able to find activities for their child on their own) and a group of parents who stated that they would want more contact because their kindergarten did not provide them any or did so very sparsely. When answering what additional support would be needed, a lot of parents also showed appreciation or gratitude towards the preschool teachers or their assistants. They complimented their work and reported of extremely pleasant and well-prepared contacts between them. The findings from the current study highlighted the non-homogenous nature of the experiences of families during the lockdown.

Furthermore, we analysed how the parents' level of education was related to their replies to contacts, their opinion on the adaptiveness of the activities and the supportiveness of contacts on a 5-point Likert scale. Using the Spearman's Rho, we found a small but statistically significant negative correlation between the parents' level of education and their response to the questions on their opinion on collaboration. This implies that the lower the parents' level of education, the more they found the contacts to be supportive. All other correlations did not meet the criteria for statistical significance.

Table 6

*Correlations between the parents' level of education and their answers on a
5-point scale to the questions about their opinion on collaboration*

		Level of parents' education	
Level of parents' education	Spearman's Rho	—	
	p-value	—	
	N	—	
To what extent do you think that maintaining contact between the preschool teacher or their assistant and the family during the kindergarten closure is necessary? (the importance of maintaining contacts)	Spearman's Rho	0.003	
	p-value	0.939	
	N	925	
How often did you reply to contacts from preschool teachers or their assistants? (replying to contacts)	Spearman's Rho	-0.074	*
	p-value	0.026	
	N	912	
To what extent were the activities adapted to your home environment? (the adaptiveness of activities)	Spearman's Rho	-0.079	*
	p-value	0.033	
	N	734	
To what extent were the contacts with preschool teachers or their assistants an additional burden for you? (an additional burden of contacts)	Spearman's Rho	0.038	
	p-value	0.293	
	N	778	
To what extent were the contacts with preschool teachers or their assistants supportive? (the supportiveness of contacts)	Spearman's Rho	-0.122	***
	p-value	<.001	
	N	780	

Note. * p <.05, ** p <.01, *** p <.001

We also calculated the Pearson's correlation coefficients between the responses to the questions on the parents' opinion on collaboration. The importance of maintaining contacts has a positive correlation with replying to contacts ($r = 0.291^{***}$), adaptiveness of activities ($r = 0.193$) and supportiveness of contacts ($r = 0.296^{***}$). The importance of maintaining contacts has a negative correlation with the contacts posing an additional burden, which implies that if parents find maintaining the contacts important, contacts do not pose an additional burden. The additional burden of contacts correlates negatively with all other variables. The strongest is the correlation of the supportiveness of contacts and the adaptiveness of activities

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(r = 0.506), which means that the more the activities are adapted to the home environment, the more the contacts are perceived as supportive. Similarly, the adaptiveness of activities correlates negatively with the additional burden: the more the activities are adapted to the home environment, the less they are perceived as an additional burden. Further, the Pearson's correlation coefficients between the responses related to parents' opinions are small, but significant.

Table 7

Correlations between the answers on the questions about the parents' opinion on collaboration

	Importance of maintaining contacts	Replying to contacts	Adaptiveness of activities	Additional burden of contacts	Supportiveness of contacts
Importance of maintaining contacts	—				
	—				
	—				
Replying to contacts	0.291***	—			
	< .001	—			
	921	—			
Adaptiveness of activities	0.193***	0.174***	—		
	< .001	< .001	—		
	738	736	—		
Additional burden of contacts	-0.231***	-0.206***	-0.177***	—	
	< .001	< .001	< .001	—	
	782	776	739	—	
Supportiveness of contacts	0.296***	0.150***	0.506***	-0.120***	—
	< .001	< .001	< .001	< .001	—
	785	778	737	782	—

Interpretation

Due to the COVID-19 pandemic, kindergarten work and, consequently, the dynamics of cooperation between the kindergarten and the family, have changed greatly. The work of preschool teachers was also subject to change. Preschool teachers have many different roles – they are professionals for early childhood, activity providers and caretakers; however, they are not trained

media professionals. In the current reality of the COVID-19 pandemic, there is an increasing need for the ECEC professionals to communicate with families calmly, quickly, and effectively (Lucas, 2020). Due to various forms of kindergarten employee work (e.g. working from home, waiting for work) and the diverse instructions of principals on how to operate during the kindergarten closure, the ways of cooperation between the kindergarten and the family differed significantly during the COVID-19 pandemic. The families contacted by the kindergarten staff during the COVID-19 lockdown were mostly reached by preschool teachers or their assistants (around 70% in both kindergarten closures). As most of the kindergarten staff were sent home to wait for work during both lockdowns, we believe 70% to be a high percentage of collaboration. The "waiting for work" status allowed the educators not to work and yet 70% of them chose or were directed by the principals to remain in touch with the children from their group and their families. This percentage of cooperation would have probably been lower if the questionnaire had also intentionally reached the families with lower levels of digital literacy, who were omitted from the sample of this survey due to the online form of the questionnaire. We can conclude that many ECEC professionals followed the curriculum, which allows for and at the same time requires cooperation between families and kindergartens, although the area was completely unregulated at the time and they were not officially required to do so. There was also a markedly low percentage of families that had never been contacted, which means that plenty of kindergartens that were involved in the study kept contact with the families, in the very least with instructions on or a notice about further kindergarten operation. As far as we know, the Ministry or other decision makers issued no guidelines for preschool teachers during the lockdown in October 2020. To our knowledge, the first guidelines where distance learning in preschool was mentioned were issued at the end of November (Ministry of Education, Science and Sport, 2020c). We believe that the decision makers should have offered the kindergartens additional support and that the government should have prepared national guidelines on the cooperation between the families and kindergartens.

There were more contacts from the kindergarten staff during the second lockdown, which we believe to be expected. During the second closure, kindergartens were only partly closed, and the educators already had the experience of closure. Thus, they were able to transfer the good practices from the first lockdown. The parents most commonly reported of a once-a-week contact, which corresponds to the government's weekly notice further instructing the management on how to operate during the second closure.

Kindergartens chose different ways of communicating with the families. The channel chosen for communication should consider the needs of the parents using the service. An e-mail may be an appropriate choice in a community where the bulk of families work desk jobs, but a poor choice where many

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families have low levels of (digital) literacy. Using more than one method – for example an e-mail, a webpage post, and a video message – may be the best way to get a message out quickly and consistently (Lucas, 2020). Parents reported the usage of different channels. The channels of initiating communication by principals, counsellors, and preschool teachers or their assistants were the same, the most common being e-mail, followed by a webpage and telephone. We also believe that even more attention should be paid to providing additional communication channels, through which kindergartens would be able to reach families with lower competencies of digital literacy as well.

One fifth of parents also reported that they had initiated contact with the kindergarten on their own. Furthermore, half of the parents reported that they had always replied to the contact from kindergarten, meaning that a two-way communication was established. Yet, it should be emphasised that even if parents did reply to the received activities, a more individualized two-way communication should also have been kept. For example, if parents replied and thanked the professionals for the sent activities, this cannot be defined as a quality two-way communication. Two-way communication is significant since the curriculum states the right of parents to exchange information (Bahovec et al., 1999). Research has shown that parental involvement in the child's education process is an important predictor of the child's cognitive, social, and emotional skills development. In addition, regular cooperation and two-way communication with parents enable a smaller deficit in the acquisition of knowledge or skills that the child would otherwise acquire in kindergarten or school (OECD, 2020). If there is regular two-way communication, preschool teachers can support and guide the parents on how to provide enhanced learning at home, while parents can help the preschool teachers to understand any issues that arise for the child during the lockdown period, as well as the child's home context, interests, and concerns.

The aim of the contacts varied from suggestions for activities to talking to parents or only sharing notices. The data show that the contacts by preschool teachers or their assistants were mainly directed towards the whole group of children as the suggestions were not individualized. Individual activities (such as talking to each child or discussing the current situation with each family) were not often reported. The communication mostly included only suggestions for activities and fewer activities via video calls where preschool teachers or their assistants would lead the activity with children (e.g. morning circle, virtual story reading, virtual puppet show), which would have been even less demanding for the parents. As stated in the research by Marjanovič Umek et al. (2021), we believe that it would be important for the wellbeing of all children to have permanent remote contacts at least once or twice a week during the closure. During these meetings, children should be able to greet their preschool teacher and the other children; tell them what they were doing, watching, or reading; say how they are feeling; and show their drawings and other crafts.

We would also point out the necessity for the counsellors to be more involved in the cooperation with the families, since the lockdown could be stressful for the family, which has also been suggested in the research by Marjanovič Umek et al. (2021). We believe that, in the future, special attention should be paid to planning and providing more individualized and two-way communication with individual families (especially with the ones with lower social economic status). That is why further research should focus on, for example, whether educators reached all families; what educators did if the families did not respond; whether they asked for feedback; whether educators gathered information on the needs of the families; whether they ensured that families could ask questions of interest and provided good and applicable advice etc.

In general, parents reported that the contacts with preschool teachers or their assistants were supportive and not an additional burden. If parents thought that maintaining contacts was important, they also replied more often and believed the contacts to be more supportive – and vice versa. Based on the calculated correlations, it is important to emphasize that the activities need to be adapted in order to be supportive and not an additional burden. Most parents reported that the activities were adapted to their home environment and that they were able to carry them out. This shows the professionalism of preschool teachers and their assistants. It could mean that they were familiar with the families' home environments and had this in mind while preparing the suggestions for activities. On the other hand, there is almost a quarter of parents who answered that the activities were neither adapted nor unadapted to their home environment and only a low percentage of parents reported that the activities were not adapted. Those could be the parents of children with special needs or the families from different cultural backgrounds. There is also a chance that a few preschool teachers or their assistants did not consider the home environments. This should encourage the preschool teachers and their assistants to pay even greater attention when preparing activities in home environment and to acquire even more information about it to further adapt the activities to the families' needs and circumstances.

The correlation of the parents' level of education with their perception of collaboration was not high. The only significant result is that parents with lower levels of education (high school or lower) found contacts more supportive than the parents with higher levels of education. Maybe this sort of support was more beneficial for the parents with a lower level of education. While stronger school–parent links benefit all children, it is of paramount importance to improve equity for children from the disadvantaged families, where home learning environments tend to be weaker than in the advantaged families (OECD, 2020).

Most of the parents (regardless of their education level) thought that maintaining contact between the educator and the family during the kindergarten

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closure was necessary. This is a crucial piece of information for possible further lockdowns or other situations when a child is not attending preschool (e.g. long-term illness). From the obtained data, we cannot conclude what type of contact parents wish to maintain: Do they only wish to be informed? Do they want additional activities? Do they want additional support via telephone? Nevertheless, while preschool closures have posed many challenges for the parents and preschool teachers, stronger preschool–parent links will be valuable to maintain and build when the COVID-19 pandemic ends.

Limitations

The study has several limitations regarding its sample. It is important to emphasize that the sample is not representative, which means that lessons learned cannot be generalized to all parents in Slovenia. Another disadvantage, which we did not foresee, refers to the possibility that a parent with more than one child enrolled in the kindergarten could not answer for each child separately.

The questionnaire was completely optional, therefore, only filled out by parents who felt motivated to participate in the research. Because of the online form of the questionnaire, the parents with less developed ICT skills or poorer access to computers or Wi-Fi were excluded. Parents with other characteristics, living in more challenging and adverse circumstances, perhaps did not share these same experiences during the kindergarten closure. According to the analysis of the educational structure of parents, it is evident that more parents with higher education participated in the study.

Closing remarks

The paper addresses an important issue related to the current (pandemic-related) situation within the context of early childhood education in Slovenia. From both methodological and conceptual perspectives, this study presents some descriptive indicators related to the cooperation between kindergartens and families. The central issue is whether the education systems will seek to maintain and build stronger links between the parents and preschools. Those who seek to proactively build these relationships as schools and ECEC centres re-open will support better child learning and wellbeing (OECD, 2020). We need to consider that even if kindergartens collaborated to provide freely accessible parenting resources during the COVID-19 pandemic, the increased risk of parents and children developing mental health problems calls for further initiatives, multiple interventions, and economic resources (Fontanessi et al., 2020). It is also important to bear in mind that children's wellbeing depends on the wellbeing of their parents and other caregivers (Bartlett et al., 2020), as well as that a kindergarten professional can play an important role in supporting the wellbeing of the latter. The role of kindergarten professionals

is to support the children's positive adaptation in the context of the pandemic (or other crisis) and to maintain the familiar routine. This can be done with well-planned contacts between kindergartens and the families, with the activities adapted to home environment, and with clear guidance on how to keep in touch during the lockdown. Both the flexibility of the family support services and the cooperation between the family and the ECEC institution are very important in extraordinary situations when usual work is not possible, and/or families experience additional stress. That is why we consider this topic very important. It is additionally important to open up the question of readiness and competence of the ECEC practitioners to really support the families and provide opportunities for home learning in a flexible way. The data and discussions provided in this paper may contribute to a higher level of quality support for families in the future in case kindergartens have to close again due to the COVID-19 pandemic. We believe that, if we continue to listen to parents, children, and preschool professionals, we will gradually build a clearer and more authentic understanding of their experience of the COVID-19 pandemic and the kindergarten closure. Thereby, we can help the education system to generate good practices and new guidelines by transforming the crisis into a new learning pedagogical opportunity.

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Saradnja vrtića i porodica tokom zatvaranja predškolskih ustanova u Sloveniji usled COVID-19 pandemije

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Tokom 2020. godine, vrtići u Sloveniji bili su potpuno zatvoreni u prvom talasu pandemije kovida-19 i delimično zatvoreni u drugom talasu. Usled ovakve sitacije, promenila se i praksa vrtića u pogledu saradnje sa porodicama. Kako bismo stekli uvid u novonastalu situaciju u ovoj oblasti, naše istraživanje usmereno je na način na koji je organizovana saradnja između vrtića i porodice u periodu zatvaranja vrtića. U novembru 2020. konstruisali smo onlajn upitnik za roditelje čije barem jedno dete je upisano u vrtić. Upitnik je popunilo 944 roditelja. Više od polovine roditelja odgovorilo je da su im kontakti sa predškolskim radnicima pomogli tokom potpunog i/ili delimičnog zatvaranja vrtića. Oko polovine roditelja reklo je da ih je vrtić kontaktirao jednom nedeljno, uglavnom dajući predloge za aktivnosti i informacije u slučaju da vrtić ostane zatvoren. Većina roditelja odgovorila je da im dodatni kontakt sa stručnjacima nije predstavljao dodatno opterećenje. Tri četvrtine roditelja smatra da je potrebno održavati kontakt i tokom zatvaranja. Ipak, kako je situacija sa pandemijom potpuno nova, i dalje je teško proceniti na koji način zapravo ima smisla održavati saradnju tokom zatvaranja. Ova studija omogućila nam je da steknemo uvid u važnost saradnje iz perspektive roditelja, koja treba da bude uzeta u obzir u sličnim situacijama koje predstoje.

Ključne reči: COVID-19, vrtići, roditelji, deca predškolskog uzrasta, saradnja

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Role of the family in children's remote learning experiences during the COVID-19 outbreak: Kazakhstan and Hungary[1]

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The COVID-19 outbreak forced schools around the globe to close. As a result, home became the dominant learning environment and family members became educational providers for students. Research to date demonstrates that families responded differently to the challenges related to remote learning and demonstrated various responses in their new responsible roles. Furthermore, research from the initial phases of COVID-19 shows that families' socio-economic status and educational background are related to children's remote learning experiences. This study seeks to explain and advance our understanding of the participants' remote learning experiences in the early stage of COVID-19 through the analysis of three Kazakhstani and three Hungarian families. The families have different backgrounds, including the language they speak, their residential characteristics, parents' educational attainment, and occupational status. The author conducted semi-structured interviews with parents from Kazakhstan and Hungary via Zoom. Qualitative directed content analysis was employed to analyse the collected data. The results of this study indicate that: a) parents had to become teachers in addition to their primary caregiver roles, thus balancing parenting and home-schooling; b) children's learning opportunities and losses during the COVID-19 outbreak are linked to families' socioeconomic status; and c) some families found it difficult to support their children due to their lack of pedagogical and content knowledge. Therefore, it can be concluded that existing social and educational inequalities in Kazakhstan and Hungary may have long-lasting negative effects on the children who did not experience high levels of parental involvement in their remote education.

Keywords: emergent remote learning, COVID-19 outbreak, parents, home learning

This qualitative study aims to obtain insight into the changing reality of parental[3] involvement in children's learning caused by the global pandemic within the real-life context.

Paraphrasing Dickens (1921), we will remember the infectious disease COVID-19 as "the worst of times". During the pandemic, 7,398 schools in Kazakhstan were closed for a total duration of 41 weeks, affecting 5,060,284 learners (Information and Analytic Centre, 2020). Similarly, on March 16, 2020, 1,791,758 Hungarian learners had to stay home as schools closed (UNESCO, 2020). Unexpectedly, the novel virus disrupted traditional education, forcing families to become educational providers for their children.

For many years, access to quality education has existed in Kazakhstan and Hungary. However, school closures revealed larger societal issues and questions. Access to quality education in both countries is related to the type of school students attend, families' socioeconomic status (SES) and parents' educational attainment, the quality of teaching staff and school infrastructure supporting the 21st century learning (OECD, 2019). With little time to resolve challenges and a rapid transition to emergent remote education (ERE) (Bozkurt & Sharma, 2020), parents had to enable school learning at home, performing as the primary educational resource for children. Governments expected that families could create supportive learning environments at home. However, Kazakhstan and Hungary did not practice remote online learning prior to COVID-19. Therefore, ERE emphasized the disadvantaged position of some families in these countries, due to lack of access to and/or lack of competencies for participation in remote education.

Previous research on parental involvement in student home/remote learning

Since the 1960s and 1970s, much of the literature on parental involvement in the USA and Europe has emphasised parental participation as an essential aspect of student academic performance in school (Brooks-Gunn et al., 2000). In this way, policymakers encouraged parents, mainly from the white middle-class, to exhibit certain attitudes and behaviours that could guarantee school success for their children. In connection to existing inequalities in education, some schools used the concept of parental involvement to illustrate their choice of ideal parents (Lareau, 2003). By definition, they excluded lower-class parents who did not align with the required social, economic, and cultural capital (Bordieu, 1986).

Available empirical research on parental participation studied parental involvement in the traditional learning settings. However, this line of research needs to be further studied. The authors who wrote about the

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3   The terms parental involvement and family involvement are used interchangeably in this article.

challenges experienced by parents in remote learning settings mainly mentioned shortage of internet access (Hollingworth et al., 2011), insufficient interest in using technology (Beckman et al., 2019), insufficient digital self-efficacy (Povey et al., 2016), economic resources (Hohlfeld et al., 2010), and parents becoming a school coach for students studying online (Hasler Waters & Leong, 2014).

However, the studies exploring parental involvement in children's online education prior to COVID-19 and in virtual learning environments are mainly Western-centric. Thus, they may not be representative of the views of parents from the emerging countries with centralised education systems and those in which, due to the family's high social and cultural capital, children attend private schools to access quality learning resources. In the wake of the pandemic, many families in Kazakhstan and Hungary experienced educational inequality in accessing some learning resources because of the limited or non-available devices in many households and families losing their jobs because of the measures to contain the pandemic. This qualitative study aims to explain and advance our understanding of three Kazakhstani and three Hungarian families coming from unique parental, linguistic and educational backgrounds, and their children's remote learning experiences during the lockdown (March 2020–May 2021). The study employs the digital divide concept, Bourdieu's theory of social and cultural reproduction (1986) and Bronfenbrenner's Ecological Systems Theory (EST) (1979).

Parental involvement in student home/remote learning: Theoretical perspective

Bourdieu's (1986) theory is fundamental in addressing the fact that social, economic, and cultural capital has become instrumental in understanding the family role in supporting student learning, the educational and digital inequalities of students in Kazakhstan and Hungary. Bourdieu's (1986) emphasis on three types of capital is especially useful to the analysis as it allows us to investigate the way in which educational and digital inequalities are widening among schoolchildren. To this end, Bourdieu's (1986) conceptualisation of the social and cultural capital is generative for grasping how highly educated, skilful and well-off families can mitigate the learning losses of their children during the pandemic. Bourdieu's focus on economic capital (1986) is valuable for understanding how the digital divide in Kazakhstan and Hungary contributes to the inequalities in the digital economy in these societies.

In situating Bronfenbrenner's (1979) EST to the study, it is necessary to explain how families adapted to ERE. Bronfenbrenner's focus on a microsystem and mesosystem in which learning happens allows us to

understand interaction among these microsystems (e.g. school, family, peers) during the pandemic. Bronfenbrenner's (1979) attention to the chronosystem is important to understand how families supported children during the pandemic when individuals had little to no in-person interaction. Before the transition to ERE, families and children had clear boundaries between home and school/work. With the transition to ERE, the division between the spaces used for living and learning disappeared for both families and children. Therefore, it is necessary to learn and analyse how micro– and meso-systems provided support for families and children during the pandemic.

As Bourdieu's (1986) and Bronfenbrenner's (1979) theories posit, those families who take care of their children's education by embedding practices from home and school enable students to benefit more from home remote learning. Specifically, these students benefit by acquiring a variety of technological skills and self-regulation and by experiencing greater learning advantages as opposed to the children from lower SES backgrounds. Hence, this paper argues that children who come from the families of low socioeconomic and educational background and limited digital literacy background are excluded from home-based remote learning opportunities.

A digital divide

To better understand the impact of insufficient digital resources, skills and attitudes towards using technologies for various educational purposes by particularly low SES families, it is essential to relate to adverse effects of the digital divide. Scholars conceptualized the digital divide as inequalities in accessing and using updated technologies (DiMaggio & Hargittai, 2001; van Dijk, 2005). Researchers who studied the digital divide pointed out that the divide was connected to income, gender, age, level of education and geographic location. These scholars argued that families of a higher SES had greater digital skills and used more advanced Web applications for educational or information-seeking purposes (van Deursen & van Dijk, 2011; Scheerder et al., 2017). The families with low SES, on the other hand, used the technologies for communication and entertainment purposes (van Dijk, 2005).

From a socialization perspective, families impose their social and cultural capital through generations, resulting in the reproducing inequalities expressed in attitudes, competencies and knowledge (Bourdieu, 1984; Putney & Bengston, 2002). This perspective further impacts students' perceptions of social relationships and educational attainment.

Conceptually, the digital divide contributes to the understanding of existing inequalities in accessing and using technologies. However, Hargittai (2002) adopted a broader perspective and argued that there are two contrasting issues of access and ability within the digital divide. Specifically, some authors

suggest that the presence or lack of the ability to use the technology adds up to differences in the extent to which they can benefit (Hargittai, 2003; Mossberger et al., 2003; van Dijk, 2005). The discrepancy in the extent of skills to use the Web may intensify digital inequality (DiMaggio et al., 2004). This article explores digital inequalities broadly, namely, in the following areas: a) in the Internet access to various applications; b) in the learning process, i.e. to what extent children instructed their parents how to use ICT; and c) in the ability of families and children to utilize the Internet to benefit from it.

The study context

Kazakhstan in the context of COVID-19

In response to school closures because of the COVID-19 pandemic, the Ministry of Education and Science (MoES) in Kazakhstan empowered schools and teachers to approach the flexible organization of online learning. For instance, the MoES introduced and supported the delivery of learning materials by post to remote areas (Официальный информационный ресурс Премьер-Министра Республики Казахстан, 2020), the TV and radio broadcast 10-minute lessons in both Kazakh and Russian language, the use of social messenger WhatsApp and e-mail for feedback between teachers and school students and the use of local Learning Management Systems (LMS) such as Kundelik, BilimLand and Daryn Online. However, the rapid transition to online learning revealed many challenges related to the lack of IT infrastructure nationally, the quality of video-recorded lessons broadcast on TV (Bokayev et al., 2021) and teaching methods aimed at remembering and understanding (Kovyazina et al., 2020). As a result, some teachers recorded lessons, searched for explanations on YouTube, organized Zoom video calls for further tutoring or explained lesson contents in voice messages via WhatsApp (ibid).

Regarding e-learning policies in Kazakhstan, some scholars argued about the effective use of ICT in education by the national educational community (Nurmukhametov, et al., 2015; Sapargaliyev, 2012). In contrast, in their study on high schools and higher education institutions, Dalayeva (2013) and Ibrayeva et al. (2018) revealed financial, legal, and quality issues of distance learning processes. As scholars get a handle on the issues of policy implementation in e-learning, it is also crucial to pay attention to the collateral consequences of ERE and to the key educational providers of remote learning at home, namely, to parents.

In this unfamiliar situation, Kazakhstani parents struggled with analogous challenges in ERE as parents globally. For instance, available research (Kovyazina et al., 2020) reports on the increased levels of stress in parents working from home, the lack of the Internet access and changes in family's

daily routine (ibid). Specifically, parents of the home-schooled child(ren) felt frustrated because they had to be involved with ERE from the morning until late evening.

Available, yet fragmentary research on the way Kazakhstani parents adapted to remote learning suggests that families gained more insight into their children's learning than before. Therefore, it is important to develop our understanding of how the roles of families changed in providing and supporting children's access to learning at home as the lockdown expanded. The following section summarizes important facts for Hungary considering the global COVID-19 pandemic.

Hungary in the context of COVID-19

COVID-19 prompted the Digital Transformation of Education, aimed at the digital development of the society and economy in Hungary (DES, 2016). It was ensured that teachers could access online teaching using the E-Kréta platform. This is an online administrative registry platform for all public schools that has existed since 2016 and has been mandatory to use in all other schools since 2018 (Radó, 2021). While Google, Microsoft, and Facebook applications were very popular among Hungarian teachers, only 27% of teachers nationally used E-Kréta (ibid, p. 24). In comparison, the government support in facilitating the shift to online learning was poor (Csapó & Molnár, 2019).

Similar to other countries, the transition to online teaching in Hungary revealed methodological differences among teachers (Radó, 2021), sudden involvement of Hungarian parents as teachers (Ede, 2020) and larger socioeconomic reasons for children dropping out of remote learning, such as the lack of proper space at home, lack of independent study skills and digital divide (i.e. no access to computers or other gadgets for remote learning) (Hermann, 2020; Kende-Messing, 2020).

All of the afore-mentioned raises the question of the way in which the digital divide in families and insufficient technological and pedagogical preparation of teachers for online teaching affect the growing inequality in students who come from the low SES. Thus, the following research question guided the study: How do families live through the shift in traditional boundaries in learning environments?

Method

This research[4] is a part of a broader mixed methods case study exploring the families' and English school teachers' roles in supporting student learning

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4   Data corpus was presented at the Hungarian Conference on Educational Research 2021, available at http://hera.org.hu/wp-content/uploads/2021/05/Hucer2021_Abstract.pdf.

and maximizing teacher effectiveness during the pandemic in Kazakhstan and Hungary. Before the data collection, the author had developed a case study protocol that guided the research. Families were recruited through advertizing on the Internet (Merriam & Tisdell, 2016) and asking friends with wider social networks comprised of the families meeting the research criteria (i.e. the families whose child(ren) studied remotely during March 2020–May 2021) (Figure 1).
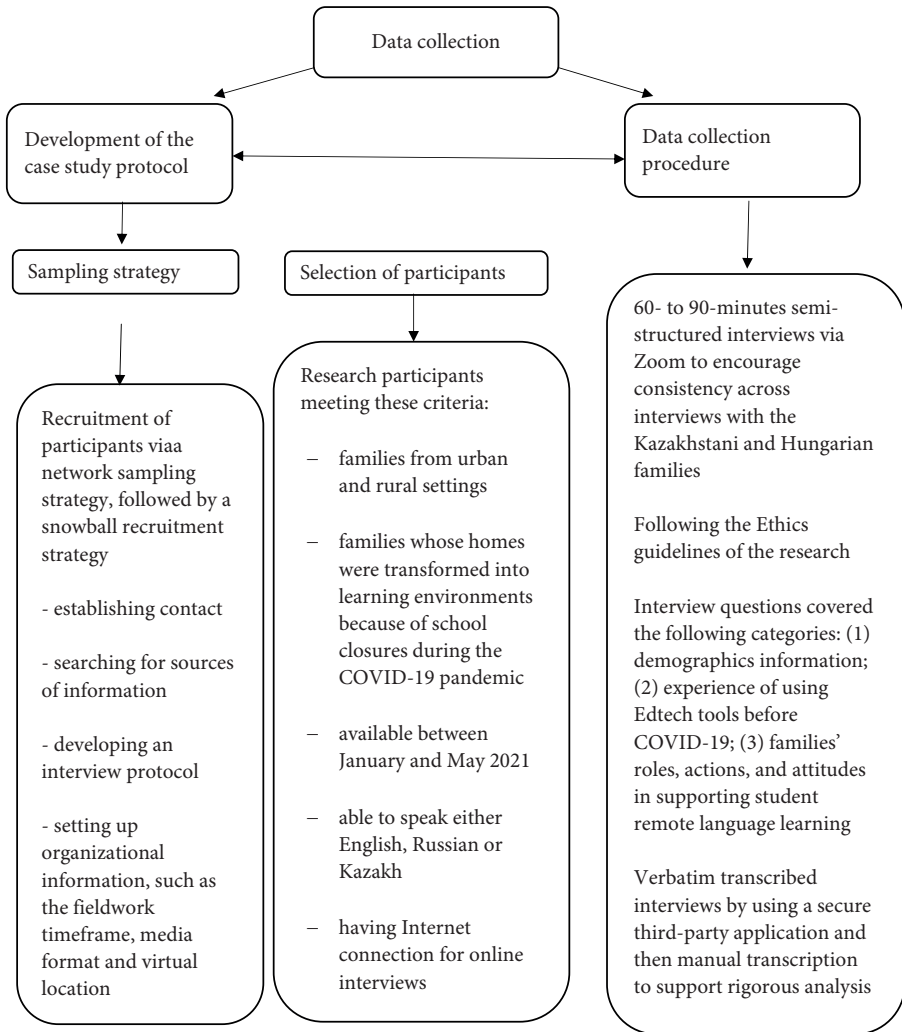
Figure 1. *Data collection*

The interviews with parents lasted between 55 and 88 minutes (*M*=70; *SD*= 19) and were conducted in either Russian or English. Parent-participants were male and female from nuclear, extended, single-parent and fostered bilingual and trilingual families, with the majority aged between 45 and 55 (Table 1). All parents had at least a Bachelor's degree. Their children were bilingual, from capital cities in two countries, studying in different types of schools.

Table 1.
Participants' characteristics

Interviewees	Gender	Country of living	Age	Education level	Languages spoken in the family	Field of work	Location
Family 1	Female	Kazakhstan	45	Specialist education	Russian, Kazakh	Finance	Capital city
Family 1	Male	Kazakhstan	45	Specialist education	Russian, Kazakh	Health care	Capital city
Family 2	Female	Kazakhstan	60	Specialist education	Russian, Kazakh	Pre-school education	Capital city
Family 3	Female	Kazakhstan	35	BA	Russian, English	Primary education	Province
Family 1	Female	Hungary	55	MA	Hungarian, English	Communications	Capital city
Family 2	Male	Hungary	40	BA	Hungarian	E-commerce	Capital city
Family 3	Female	Hungary	45	MA	Hungarian, English	Health care	Province

Participants determined the time for the open-ended interviews, whereas the author offered the virtual location and media format. Since the research took place during the pandemic, participants sometimes felt uncomfortable and anxious to talk about their remote learning experiences. Participants were free not to speak about uncomfortable or anxious topics when they did not want to.

To obtain rich data, the author stayed open during data collection to allow for new ideas to emerge through the interviews to expand the participants' narrative. Thus, the author orchestrated a myriad of skills, such as building rapport with participants via e-mail communication during and after data collection, being an authentic, non-judgemental, and active listener, emphasizing confidentiality and anonymity during data collection. Although the author was prepared for some unforeseen events, she did not experience technical difficulties, changes in the participants' availability for long interviews or changes in her motivation while doing online fieldwork.

Trustworthiness of the research was ensured through theory triangulation (Patton, 2015), i.e. Bourdieu's (1986) and Bronfenbrenner's (1979) theories

and perspectives of the digital divide were collected and reviewed to better understand the link between parental social and cultural capital, the digital divide, and support to children in carrying out home-learning during the pandemic. Semi-structured, open interviews were a major source of primary data, allowing for an in-depth understanding of the families' decision-making process in their children's home learning experiences. The interviews helped obtain relevant background information from the participants with respect to their social realities. To enhance validity of the study, participants were asked to review interview transcripts and drafts of this manuscript.

Data analysis

Interviews were analysed between January and May 2021. Prior to the interview data analysis, the reviewed literature and theoretical frameworks were coded to compare the findings to the previous research at the end of data analysis. Then additional codes were added for the research question and each interview question to link the relevant literature to the coded interview data. Microsoft Excel was used to separate the data with initial codes from the literature (families' SES and educational background, learners' self-regulation skills, digital divide, i.e. lack of access to technologies, parental involvement, parental pedagogical challenges, school-level differences, communication with teachers) to later search for themes in the interviewees' data. The themes identified by the theoretical framework informed the direct quotes from participants (Hsieh & Shannon, 2005). The next section reports on the results of the study.

Results

Families' experiences with student learning at home remotely

This subsection addresses families' experiences with student remote learning from March 2020 to May 2021. In response to the research question, the following themes emerged: "Family as an educational provider", "Family as a learner" and "Nothing has changed".

Family as an educational provider

Before ERE, the participants from our sample did not have to use technological devices such as computers, laptops, or smartphones to facilitate learning at home. Among six families participating in the interviews, only one reported that they had used Skype before March 2020 for online English lessons for one of their children. Another family said that they had been avoiding buying a smartphone for their primary school child because of

health reasons. However, during remote learning at home, all participating families mostly used laptops and smartphones to access online lessons from home. Two families used TV broadcast lessons during April–May 2020 to access the lessons delivered by teachers of different subjects in two languages (Kazakh and Russian). Four participating families out of six in the study had to buy smartphones and laptops. In addition, families had to provide a designated space for learning in their homes, including a set of chairs and tables that were set up in accordance with the children's height. Two families did not have specific challenges regarding access to the Internet or technology. Additionally, they did not have to organize their space purposefully for ERE as their children had their separate rooms equipped with personal laptops, a set of earphones, and a reading corner (Families 1 and 2, Hungary).

Five families stated that ERE in both Kazakhstan and Hungary was unstructured in the beginning. It was time– and energy-consuming, chaotic, lacking social interaction with teachers and peers, pedagogical guidance and subject-content support from teachers and clarity in daily schedules, as well as overwhelmed by the amount of schoolwork and home assignments. Most families except for one reported that their child(ren) had to spend over ten hours studying in front of the computer and the TV. Specifically, at the beginning of ERE, students from lower SES, with lower ability to use technological devices and lower teachers' or parents' support, were less likely to return completed home assignments on time.

> We weren't familiar with many online platforms for studying before. You see, there are a lot of applications or platforms, how do you join, where do you click to 'Enter', how and where do you register? We didn't know a lot of things. It was all new for us, that's why we had zero knowledge about these things. (Family 2, Kazakhstan, 2021, 23rd January)

Such family views surfaced mainly regarding ERE between April–May 2020 and in September 2020. A common view amongst four families was that ERE demanded both time and professional knowledge from parents at the beginning. Beyond providing access and the ability to use technology to connect to online lessons, some parents perceived remote learning at home as inconvenient, challenging and costly since they had to hire private subject tutors for one or more of their children. The need to hire a tutor mainly stemmed from the parents' lack of pedagogical and content knowledge, effect on parents' work and children's dependency on parents to keep them company at home.

> ... in the beginning it was mostly the parents... had to become teachers... it was really difficult because we are not teachers and we learned these things, for example, geometry... 30 years ago and I didn't use it, and it was difficult. I think most of the parents had to learn again this grade five, grade six. (Family 3, Hungary, 2021, 2nd May)

More than half of the participants recalled that their child(ren) needed greater parental involvement in the first months of ERE. These families' children had either just turned 11 or 12 or they had not experienced online education before nor owned a laptop. Parents had to sit by their child(ren) during the live lessons, remind them every day to send home assignments by e-mail, submit homework in specific LMS or send a screenshot as a WhatsApp message to the class chat (Family 1, 2, and 3, Kazakhstan; Family 3, Hungary). To the contrary, families with children in middle and secondary school stated that they had not interfered with or controlled their children's class participation, class and home assignments, as well as that they had not assisted in technical support to connect to live lessons or communicate with teachers every week (Family 1 and 2, Hungary).

Family as a learner

Half of the families in this study described how learning, as seen traditionally in the school context, expanded and occupied the home space. Specifically, parents perceived learning to happen in school between the teacher and students. Parents were involved indirectly in children's learning, for example, by checking their homework, asking about school days and attending parent-teacher meetings. However, online education encouraged families to reconsider their parenting styles, expand their trust resulting in increased child(ren)'s learning autonomy and put more focus on their social interactions at home. For example, Family 2 from Kazakhstan initially felt puzzled by the online education concept and methods of teaching and learning. The mother emphasized that her digital skills and beliefs about online education did not let her be open-minded about online education. Thus, she projected the beliefs on her son. However, as there was no access to school and she invested time and effort into assisting her son in ERE, she realized she could learn about online education.

> ...apparently, it is possible to understand online education, you just need motivation and desire, and you learn sitting next to your child. I have learnt a lot. (Family 2, Kazakhstan, 2021, 2nd May)

The entire family learnt to increase their trust in their son in managing online education. As a result, they witnessed the gradual growth of learner autonomy in their son.

Another family had to learn to trust their children because of their exhaustion with ERE conditions. Family 3 from Kazakhstan described that during April–May 2020 the whole family was suffering from enormous mental load related to online education. Learning from home seemed drastic, children did not know how to upload homework to LMS, and often it was the mother who had to help the children in online education from the morning until late

evening. As a result, she said, she was yelling at children and crying but did not want to give up the situation. The mother also acknowledged it was a hard time for her husband, who suffered watching children and his wife cry every day and stay up late to finish homework. The husband did not get involved with helping children or the wife and took care of himself during ERE:

> *Right now, it is easier and maybe because I started to give up as well. I don't pay much attention to what my kids are doing right now and I don't check their homework anymore. I only ask if they finished homework, and then I say, okay, good job... Now children try to manage their time by themselves, they developed awareness, and I don't control them anymore.* (Family 3, Kazakhstan, 2021, 30th January)

Interestingly, the family with a high-school student learnt how schoolteachers were trying to bring authentic education while children learnt from home. She said, "*...this morning, he shared with me...his math teacher explained the thinking behind the math that they were studying... they had a lengthy discussion about whether you can divide the number zero or not...*" (Family 1, Hungary)

To answer the research question, the author explored multifaceted families' experiences with student learning at home remotely, showing differences between parents' Internet access, children's age level, parents' pedagogical and subject knowledge and increased trust towards online education. The analysis also revealed that families had to respond to many children's needs and emotions at the beginning of remote learning in 2020.

Nothing has changed

The issues related to the other five families' experiences with ERE and captured in the previous three themes were not related to Family 2, Hungary. However, it was noteworthy to code and include this family's response as well. The family consists of two parents and two children, a toddler and a middle-school student, living in their own house in the capital city. The mother works from home while the father's management role at his working place demanded him to be in the office every day during the pandemic. The author inferred that this family's life did not change drastically compared to other family participants.

Although the father did not recall changes in the involvement with the son's online learning ("*I had the same life in the last year that I used to have before*"), he talked at length about the challenges regarding the organization and delivery of ERE by teachers. In the interview, the father mainly referred to the challenges in teachers' inability to transition from the traditional classroom pedagogy to the online teaching format. Overall, the father did not think that ERE brought about significant changes in his son's learning, nor

that organizing and providing appropriate conditions for his son's learning was financially difficult. His son, who was in middle-school, owned a laptop and other necessary technological devices for learning before the pandemic.

In responding to the question, "How did your role change as the parent with the pandemic in relation to your child's learning?", "*for eight years, he had a 4.8–4.5 grade point average. He didn't have any problems with learning... And I don't have to ask him, is it really a five or four [grade]?*" (Family 2, Hungary, 2021, 28th April)

The next section features a discussion on the way in which the results of the study relate to the reviewed literature and supplement the findings of previous research on parental involvement in children's remote learning.

Discussion

The aim of this study was to promote our understanding of the roles of families in their children's remote learning experiences. Based on the interviews with six families from Kazakhstan and Hungary, families' experiences in student learning at home remotely were analysed.

According to the analysis, ERE revealed inadequate preparedness of schools and teachers in terms of technological and pedagogical skills, explained increasing gaps in educational inequalities in the digital era and offered solutions for post-COVID-19 schooling. Families' experiences presented in this study confirmed the consequences of the extraordinary ripple effect of COVID-19.

The results indicate that insufficient provision and delivery of poor-quality online content for students, the limited financial abilities and proficiency of families in subject knowledge and pedagogy, as well as the limited abilities of families for using and integrating technologies for learning at home, increased stress on families and affected student learning. Results of this study corroborate the findings of the existing literature (van Dijk, 2005; van Deursen & van Dijk, 2011; Scheerder et al., 2017; Hermann, 2020; Kende-Messing, 2020; Bokayev et al., 2021; Kovyazina et al., 2021).

First, consistent with prior research, families with higher income, higher educational levels and complete families (i.e. with two parents) were more likely to possess digital devices and the Internet connection (DiMaggio & Hargittai, 2001; van Dijk, 2005). The discrepancies in accessing the Internet-enabled devices had existed before the pandemic. With the pandemic, the digital divide expanded, affecting the disadvantaged groups of children (Cullinane & Montacute (2020). The results validate Bordieu's (1986) theory linking families' social and cultural capital to digital and educational inequalities. Students who attended private schools in Kazakhstan and Hungary, having their own rooms and infrastructure for learning at home,

were less likely to experience challenges in remote learning. Their teachers interacted with students more by responding to their learning needs and emotions (Radó, 2021), as opposed to the teachers from public schools, who struggled with providing and delivering high-quality online content for their students (Kovyazina et al., 2020).

A possible explanation of the differences in schools' provision of remote online education is that schools and governments in both countries were not ready for ERE and lockdown (Bokayev et al., 2021; Csapó & Molnár, 2019). Most state school teachers felt forced to use the national LMS that did not create and deliver authentic remote online education to both teachers, families and students (ibid). As a result, this limitation of user-friendly national LMS affected student progress and assessment. In turn, it concerned most of the parents in our sample of participants. There are similarities between the families' views expressed in Dong et al. (2020), Garbe et al. (2020) and Greenhow et al. (2021). These studies, conducted during the pandemic, suggest that interaction is crucial in remote online learning and that a high level of engagement is essential. Interaction can happen in both synchronous and asynchronous online learning through live streaming videoconference lessons in breakout rooms for group work, teachers polling students to give immediate feedback in real-time, adding online applications for quiz, and more (Greenhow et al., 2021).

Secondly, significant qualitative changes in the division of labour took place with the increasing parental involvement in ERE. It presented families with different types of challenges. For example, most participants from the study struggled to assist their children in professional pedagogical and subject knowledge and instructional support. Some higher educated, middle-class families struggled to balance work and their child(ren)'s learning at home in semi-private or fully private schools. Others were freelancing from home and providing emotional support to children in navigating learning at home. Therefore, these families chose to hire a few private tutors for one or two of their children.

On the other hand, the families who could not afford a private tutor had to either search for lesson explanations on YouTube or ask for teachers' feedback at local LMS. This strategy shows that lower-educated working-class families could have faced more challenges in finding time for children and larger financial worries or had less time for themselves. This result aligns with the findings of Ullah and Ali (2018), indicating that parents whose children attended private schools were more actively involved with their children's learning and provided private tutors. It has been shown in the European countries that families of lower SES are less likely to provide a quiet room to study and the support during school closures (European Commission, 2020).

These findings are rather disappointing, as they signal that most education systems, including Kazakhstan and Hungary, are not ready for the digital world and online learning opportunities. The findings illustrate growing inequalities in accessing quality education for students of diverse backgrounds. Specifically, families and students from the poorest backgrounds experienced learning losses and limited social mobility.

The results of this study show that families who had previous experience in using Web applications for their work or for providing online learning to their children prior to COVID-19 were more positive about remote online education. Specifically, their beliefs about integrating Web applications into children's remote online education provided their children with richer learning experiences. For example, participants from both countries reported that transferring responsibility for learning to children had affected them positively. Specifically, they saw how the children could self-regulate themselves, create and follow a daily routine in remote online learning conditions and manage their learning. This result supports other studies in this area, linking student participation as an unexpected advantage of learning at home remotely (Reimers & Schleicher, 2020; Scheerder et al., 2017; van Deursen & van Dijk, 2011). However, research prior to COVID-19 suggests that children need guidance from teachers, motivation and self-management skills to study online remotely (Lewin et al., 2018, p.50). Further research needs to closely examine self-motivation and self-management in remote online learning concerning the aspects of students' SES, family's educational background, types of schools and age.

Three families from Kazakhstan that participated in the study reflected on increased trust in remote education. It is an important finding that needs to be further researched in order to understand parents' views. None of the families in Hungary, on the contrary, mentioned whether their attitudes had changed due to schooling during the pandemic being remote.

The Bronfenbrenner's (1989) theory illustrates how the COVID-19 pandemic introduced massive changes in the lives of families with school children. The impact of the pandemic is reflected in the fact that the affected families had to be involved with their children's learning more closely and invest into technology devices to access remote learning. As Bond (2020) asserts, close parental involvement was evident in more than 50% of the reviewed 89 studies on teaching and learning during the COVID-19 pandemic (p. 206). However, as Popyk (2020) highlights, many families could not provide or fix technology devices to support student learning at home remotely. In this line of research, the study of Race (2020) is noteworthy since it discusses how poor Internet connectivity and lack of Internet quota limited students in accessing education remotely. On the other hand, Bubb and Jones (2020) report on how some students thrived in remote learning during the pandemic because they could own the pace of their learning.

The final result shed light on the participant family that did not experience large changes, challenges or learning points related to ERE. The reasons for this family's experiences in adapting to ERE included the male parent's ability to balance his job and establish ground rules with the child on his self-management and self-regulation from the primary school years. The student's academic progress, access to technology and the ability to use it did not change at large compared to the pre-COVID times. The family's priorities can explain this finding in the child's learning beyond his academic achievement, the support from other family members working at home with flexible work schedules and middle-class family's SES. Family 3 from Hungary was the most distinctive since the pandemic and learning at home remotely had not impacted their son's learning in comparison to other participants from both Hungary and Kazakhstan.

Conclusion

The findings support the emerging trend in educational research that COVID-19 mediates the changing nature of traditional school education to remote online education. The paper outlined the ways in which Kazakhstani and Hungarian families contributed to their children's learning at home remotely not only by purchasing new devices for remote learning but also by substituting teachers for their children, upskilling the parents' digital literacy and increasing parental engagement on the whole. However, disadvantaged children and families found themselves unable to enjoy learning during ERE. This happened because educational policies directed at upgrading digitalization of education, including the development of school ICT infrastructure, teachers' professional development of ICT skills, as well as training and supporting families on scaffolding learning for their children in ERE, were not in place. This study contributes to the discussion and literature on the digital divide and social and cultural capital (Bourdieu, 1986) of educational inequalities in Kazakhstan and Hungary. We found that the digital divide existed in these countries and related to the families with low SES and educational background, schools attended by children and the ability to use Web applications.

Digital skills are essential for the technological era. Existing inequalities in accessing technology and developing skills could further intensify social and cultural capital gaps as school children transition to higher education and the job market. The study contributes to the literature on the developmental ecology framework in parental involvement in Kazakhstan and Hungary. By employing the framework as an analytical approach, it is possible to understand larger influences of multiple systems within the social context of these families' challenges in the transition to ERE in Kazakhstan and Hungary. Some actions could neutralise the negative influences of the disadvantaged

families within students' ecosystems. For instance, we need to review digital education policies, to train school teaching staff on ICT skills, to upgrade schools regarding ICT infrastructure, to equip the disadvantaged families with ICT devices and to build collaboration between schools, families, students and communities. What we have learnt from this study is that all children need support during remote online learning. However, the disadvantaged children and families had less access to continue education from home remotely because of the existing social and educational inequalities in their societies.

Limitations of the study

Initial recruitment of the participants progressed slowly, resulting in extended 'waiting time' to find the participants open to talk about their experiences related to the research question. The author anticipated that hiring Kazakh-speaking and Hungarian-speaking assistants could increase the chances of gaining access to Kazakh-speaking and Hungarian-speaking families from rural settings. However, due to travel restrictions and health measures during the global pandemic and remote locations of families residing in rural areas, it was not possible to include these participants in the study. Namely, participants' lack of stable Internet connection in villages, absence of experiences and perceptions of virtual interviews and access to high-quality technical device functionality to hold virtual interviews limited the author in recruiting participants of diverse backgrounds for the study.

As previously reported, participants' demographic data showed that they were predominantly female parents from middle-class and working-class SES. It would facilitate capturing more diverse views if participants represented different family roles, a variety of income levels and types of schools. The research aimed at participants who had organized home learning and been in lockdown for almost a year since the pandemic outbreak. Additional research needs to explore and understand the long-term effects of the pandemic on students' re-adjusting to traditional schooling conditions when it becomes safe to come back to brick-and-mortar schools. Furthermore, this research could add to understanding schools and parents as funds of knowledge in critical times.

The research could offer further insight into virtual synchronous data collection to consider risks and opportunities in methodological considerations in the research population and sample. Specifically, this refers to the issues of which decisions to take in gaining access to key participants and organizations, developing a procedure for involving colleagues to assist, guidance and solving unforeseen challenges during the fieldwork, including researcher's physical and mental capacity.

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Uloga porodice u dečjim iskustvima učenja na daljinu tokom pandemije COVID-19: Kazahstan i Mađarska

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Pandemija COVID-19 primorala je škole širom sveta da se zatvore. Usled toga, porodični dom postao je dominantno okruženje za učenje, a članovi porodice postali su osobe koje treba da obrazuju učenike. Dosadašnja istraživanja pokazuju da su porodice različito reagovale na nove uloge i izazove u vezi sa učenjem na daljinu. Pored toga, istraživanja iz početnih faza pandemije COVID-19 ukazuju da su socio-ekonomski status i nivo obrazovanja članova porodice povezani sa dečjim iskustvima učenja na daljinu. Ovo istraživanje teži da unapredi naše razumevanje učenja na daljinu u ranoj fazi pandemije kroz analizu iskustava tri kazahstanske i tri mađarske porodice. Porodice koje su učestvovale u istraživanju se razlikuju po socio-ekonomskim karakteristikama, uključujući jezik koji govore, tip naselja u kom žive, nivo obrazovanja i status zanimanja članova porodice. Podaci prikupljeni kroz polustrukturirane onlajn intervjue sa roditeljima analizirani su kvalitativnom analizom sadržaja. Rezultati istraživanja pokazuju sledeće: a) roditelji su, pored svoje primarne uloge staratelja, preuzeli ulogu nastavnika; b) prilike za učenje kod kuće tokom pandemije COVID-19, kao i rizici, povezani su sa socio-ekonomskim statusom porodice; v) pojedinim porodicama bilo je teško da podrže svoju decu usled nedostatka pedagoških znanja i znanja predmetnih sadržaja. Može se zaključiti da postojeće društvene i obrazovne nejednakosti u Kazahstanu i Mađarskoj mogu imati dugotrajne negativne efekte na decu iz porodica koje se nalaze u nepovoljnjijem socio-emocionalnom položaju.

Ključne reči: učenje na daljinu u situaciji krize, izbijanje pandemije COVID-19, roditelji, učenje od kuće

The predictive effects of students' perception of teaching practices in TV instruction on students' self-efficacy[1]

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The COVID-19 pandemic forced school closures worldwide. TV instruction became one of the main distance-learning modalities across the globe. Given the scarce evidence of effects of TV instruction on students and broad evidence that quality of teaching is a vital factor of students' achievements and motivational beliefs, the main objective of this study is to examine the relationship between the perceived quality of TV teaching practices and one of the most important student outcomes – academic self-efficacy. Sample consisted 1904 primary and lower secondary students. We constructed two measures of self-efficacy: a general measure of student's self-efficacy with regard to the subject and a situational measure of self-efficacy towards the current TV lesson. Students' perception of teaching practices was measured by a composite scale made of ten statements. We conducted regression and mediation analysis in order to identify potential mediation of general self-efficacy in the given subject. Students' perception of teaching practices was found to be a significant predictor that explained 40.55% of the variance of situational self-efficacy towards the current lesson, and the 14% of total effect was mediated by general students' self-efficacy. The results indicate that, even in the indirect and asynchronous TV instruction, teachers can nurture student self-efficacy towards current lessons and tasks by creating a supportive environment, providing clear representation of knowledge, emphasizing the relevance of the learning content by linking the new material and concepts to the students' life experiences and prior knowledge, and by giving challenging tasks to enhance students' engagement.

Keywords: TV instruction, academic self-efficacy, teaching practices, educational effectiveness

Introduction

Teachers matter **but do they matter in TV instruction?** Many influential studies and meta-analyses (see Hattie, 2009; Marzano, 2003; OECD, 2005; Scheerens, 2016) showed that among many different influences on learning,

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including students' homes and socio-economic backgrounds, schools, teachers and curriculum – teachers can be considered as one of the strongest predictors of students' outcomes. Aside the general consensus that teachers can make a difference, the key question is which factors that come from teachers have the strongest effects on students' academic and non-academic educational outcomes. Hattie, who synthetized over 800 meta-analyses, warns that only teachers who use highly effective teaching practices, set high expectations for all students, and create positive climate have relatively high effects on students (Hattie, 2009, pp. 126). The most recent meta-analysis, which presents the state-of-the-art in the area of effective teaching factors, was conducted by Scheerens (2016), who re-evaluated findings from the last 40 years of teaching effectiveness research. The teaching factors that had the highest effect sizes[3] on students' achievements included: "teaching learning strategies (0.21), teacher characteristics, such as high expectations and constructivist beliefs about teaching (0.15), a cognitively challenging teaching approach (0.13), a learning environment and support (0.11), a clear and structured teaching approach (0.13) and 'active' teaching, characterized by a variety of didactic approaches (0.12)" (Scheerens, 2016, pp. 195–196). There have been several attempts to combine the findings of numerous research studies and meta-analyses within a single theoretical model. One of the prominent models, which contains effective teaching factors identified by Scheerens (2016) (under somewhat different names), is The Dynamic Model of Educational Effectiveness (Creemers & Kyriakides, 2008). The model describes dynamic relations between four most important factors that have effects on students' outcomes: student, classroom, school, and system. When it comes to instruction, authors postulate eight factors of its effectiveness: (1) goal orientation, (2) structured presentation, (3) posing questions, (4) modelling, (5) application, (6) assessment and (7) management of time and (8) environment (Kyriakides, et. al, 2017, pp. 2; for further reading, see Creemers & Kyriakides, 2008). While individual teaching practices showed small correlations with students' outcomes, Muijs and Reynolds (2000) found that the composite variable of teaching quality explained large proportions of variance in student achievement, even after student background factors had been controlled for. This implies that the combination of many small individual teaching practices effects produces a large effect on students. Existing models of educational effectiveness have been used for various purposes: in basic research, for the development and evaluation of professional development programmes, but they are not fully applicable to TV instructions that has no direct interaction between teachers and students. For example, teachers in TV instruction do not have the opportunity to assess students' knowledge and skills, or to give them individualized feedback. However, in the circumstances of a pandemic that has been going on for more than a year

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3   The effect sizes are expressed as Fischer-Z coefficients, which can be interpreted as corre-
     lations (Scheerens, 2016:194).

and there is no indication that it will stop soon, it is important to examine whether a teacher can still make a difference in crucial outcomes, such as self-efficacy of students in distance learning, without the possibility of direct interaction, as is the case in TV instruction. It is important to obtain answers to these questions as hundreds of thousands of students around the world have participated in this type of distance learning starting from March 2020.

Namely, the COVID-19 pandemic forced school closures worldwide and countries had to find fast solutions to switch 1.6 billion of students to remote learning (UNICEF, 2020). Most countries have introduced some form of distance learning through a variety of media, starting from print-based learning, radio and TV broadcasting to web tools such as social media and learning platforms (UNESCO, 2021). The day after the Government of the Republic of Serbia declared state of emergency, TV instruction was launched on national television and, besides TV classes, students had interaction with their school teachers through Internet platforms or social media (Ministry of Education, Science, and Technological Development of the Republic of Serbia, 2020a). The video lessons aligned to the national curriculum were pre-recorded and available both online and on three national television channels according to the pre-known schedule (MoE of RS, 2020a). TV instruction was chosen as an optimal solution to increase access to remote learning in the given circumstances since it surpassed a "digital divide" between the disadvantaged and students that possessed more socio-economic and cultural resources. Namely, a survey from 2018, showed that 68 percent of households in Serbia had an Internet connection and 99.6 percent of households had a television (Statistical Office of the Republic of Serbia, 2018). In the light of this fact, it seems that TV instruction had the potential to provide all students with the same quality of teaching, regardless of their socio-economic opportunities (digital devices, tools, programmes or Internet access), as well as the level of digital competencies of students, their parents and teachers. During the last trimester of the 2019/2020 school year, a combination of digital (through different online platforms) and non-digital (through TV instruction) ways of remote education was used, but almost the whole population of primary school students (95%, according to MoE RS, 2020b) were engaged in TV instruction. According to a UNICEF report, TV instruction was also used globally in 87% of 135 countries that provided data (Lennox, Reuge, & Benavides, 2021). More than a year later, almost one half of the students in the world is still in situation to be engaged in distance learning (UNESCO, 2021).

TV instruction (televised instruction, telecourses) is defined by Luskin's working group as video teaching, in which the learning of a certain subject is aligned with the established curriculum and standards of academic achievement (Luskin, 1983). It was widely used since the 1970s, when it was accompanied by a great research interest. The rapid progress of information

and communication technologies (ICT) reduced the need for TV instruction in the developed countries in favour of the web-based types of distance learning, and research interest in TV instruction declined. Available studies were mainly focused on comparing the effects of TV classes and face-to-face instruction in school. According to literature reviews of Machtmes and Asher (2000) and Ritchie and Newby (1989), several individual research studies found no significant differences between the effect of TV and face-to-face instruction on students' achievement (Clark, 1983; Dubin & Hedley 1969; Moore and Thompson 1990; Schlosser and Anderson 1994; Schramm 1962; Stickell 1963; Whittington 1987). There is one older literature review made by Schramm (1962), who reviewed 203 studies that had examined the effects of TV instruction in grades 3 to 9, which approximately corresponds with the age of primary school students in the Serbian education system. Schramm found that about one third of the studies indicated greater effectiveness of TV instruction, 11% of them showed lower effects and the remainder showed no differences in those two. Hence, he concluded that the modality of instruction (TV or face-to-face) was not a significant factor of students' achievement.

When it comes to non-cognitive educational outcomes of TV instruction, there are only a few older studies, mostly focused on comparing the attitudes towards the subject, teachers or the future profession of students who attended traditional classes and those who attended TV classes. Most of these studies are focused on university education and the professional development of employees. For example, Snowball and Collins (1980) found that students who watched TV lessons had a significantly more positive attitude towards the profession of an accountant than the group of students who attended accounting classes in the traditional way, although the difference was small. On the other hand, Moskowitz (1964) showed that the fifth– and sixth-grade primary school students had more negative attitudes towards learning the foreign language via TV. In addition to these disagreements in evidence, we can add that previous findings of the effects of TV instruction that is planned and voluntary accepted by students and teachers cannot easily be extrapolated on the TV instruction during the COVID-19 pandemics. The latter was sudden, unprepared, for both students and teachers, and took place in a situation of health crisis, that consequently caused a large-scale economic and psychosocial crisis. In addition, evidence collected decades ago may be of limited usefulness in "the digital age" that is characterized by enormous changes in ICT and a widespread use of computers and mobile devices which potentially changed teachers' and students' views on the use of technologies for educational purposes.

We found no studies on the effects of TV instruction on students' self-efficacy, which is essentially an important factor of learning both in regular classroom (see Džinović & Vujačić, 2017; Hattie, 2009; Jakšić et al., 2017, Jovanović, 2011; Pavlović-Babić, 2007) and emergency distance learning

during the COVID-19 pandemics (Pelikan et al., 2021). Namely, Pelikan and his colleagues examined self-efficacy, motivation and procrastination of secondary school students in Austria during the COVID-19 school closures, and asked them to describe their difficulties, gains and areas where they needed support. Results showed that all students faced similar problems during emergency distance learning, but those who had higher self-efficacy perceived the situation of independent distance learning as less stressful, they had better strategies for managing time and resources for learning and they had less need for support. This finding emphasizes the importance of self-efficacy in distance learning as the essential non-cognitive educational outcome.

"Whether you think you can or you think you can't – you're right." This widely used phrase, attributed to Henry Ford, strongly attests to the importance of self-efficacy for the success in any area of human life. It is based on the idea of the priority of the subjective experience of personal competence in the realization of various goals over real capacities (e.g. knowledge and skills). Self-efficacy refers to the extent of confidence individuals have in their ability to perform the tasks that are required of them. In his socio-cognitive model, Bandura defined it as „people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, pp. 391). Self-efficacy can predict the level of engagement in a given activity and the level of persistency and resistance when facing obstacles (Schunk & Pajares, 2005). Translated to learning, this refers to students' beliefs about their learning capabilities, e.g. to successfully conduct a particular task or to master the subject material. Self-efficacy is a subject-specific phenomenon, e.g. a person may believe that he or she is very good at languages but unsuccessful at math. Moreover, self-efficacy can vary within the same subject in relation to specific areas and specific tasks. In this case, we call it situational self-efficacy. It concerns the answer to the question: „Can I do this task in this situation?"

The importance of self-efficacy for educational processes and outcomes has been recognized both internationally and in Serbia. Linnenbrink & Pintrich (2003) emphasize the role of self-efficacy in behavioural (hard working, help seeking), motivational (intrinsic motivation, positive emotions towards learning) and cognitive engagement (paying attention, using learning strategies). Large-scale studies on representative samples of students in Serbia showed that self-efficacy explained about 10% of variance of the test score in mathematics, both in the first and second cycle of compulsory education (Jakšić et al., 2017, Pavlović –Babić, 2007), in sciences (Džinović & Vujačić, 2017) and reading literacy (Jovanović, 2014). It is the strongest predictor of *progress* in reading literacy (Jovanović, 2014). Self-efficacy is related not only to students' academic outcomes (achievement, task participation) but also to socio-emotional outcomes (i.e. depression and anxiety) (Hattie,

2009). It seems plausible to assume that self-efficacy is likely to be even more important in the current context, because of the numerous challenges posed by distance learning, for instance, to remain focused and motivated in spite of the lack of teacher direct and immediate supervision and feedback.

Bandura (1997) considered that self-efficacy had four main sources: *mastery experience* (perception of previous achievement in a related task/ subject), *vicarious experience* (observing success or failure of the model that students see similar to themselves), *social persuasions* (encouragement and feedback of significant others, especially teachers) and *presence of emotional and physiological arousal or anxiety* (that are interpreted by students as an indicator of personal in/competence). It can be assumed that teachers have an impact on all four sources of self-efficacy. Teachers who give clear instructions and explain the material in a simple way by linking it to students' prior knowledge and experience can facilitate success in a learning activity, task or content. Teachers who encourage all students by expressing positive beliefs in their capacities can convince the students that they are capable of successfully mastering a given task or material. Teachers who publicly praise students' success can encourage vicarious reinforcement and those who create a positive socio-psychological climate, reduce anxiety and promote self-efficacy beliefs.

The Aim of the Present Study

The main question of this study is whether the above-mentioned teaching practices still have effects on students' self-efficacy, given that TV instruction is based on one-way communication. Hence, given the scarce and contradictory evidence of the effects of TV instruction on students' non-cognitive outcomes, and the broad evidence that quality of teaching is a vital factor of students' outcomes, the main aim of this study is to examine the relationship between the perceived teaching practices in TV instruction and one of the essential outcomes – academic self-efficacy, i.e. confidence in own ability to perform the tasks that are required. Considering the lack of interaction in TV instruction, we can assume that the domain of instructional support from the model of effective teaching by Hamre et al. (2013) has the greatest potential to affect students' learning, motivation, and self-efficacy. Based on this model and the studies reviewed by Scheerans (2016) in his meta-analysis, we make an assumption that, in order to increase positive effects on students' self-efficacy, teachers have to give clear and engaging explanation which corresponds to prior knowledge and experiences of students, present subject matter using concrete examples, and vary representation formats. Further, teachers should use interesting

pictures and learning materials and give students a chance to cognitively engage by posing various questions.

More specifically, we aim to address the following research questions.

(1) How do students generally perceive the quality of teaching practices in TV instruction?

(2) How are students' perceptions of teaching practices in TV instruction related to their situational self-efficacy (their confidence in mastering the contents of a particular lesson)?

(3) Are the connections between situational self-efficacy and students' perceptions of the quality of teaching practices mediated by students' general self-efficacy in the given subject?

Methodology

Samples

The survey was conducted during May 2020. The sample of school subjects included the following: the World around Us (WAU; Serbian: *Svet oko nas*) and Nature and Society (N&S; Serbian: *Priroda i društvo*) for primary education (the first cycle of compulsory education in Serbia) and History, Biology, and Geography for lower secondary education (the second cycle of compulsory education) (Table 1). This choice was made in accordance with the assumption that teaching methods were similar in the given subjects (compared to mathematics, language and arts). The sample included 1904 students, from primary (23.84% of sample) and lower secondary education (76.15% of sample) who watched TV lessons of the selected subjects. When it comes to gender, 56% participants were female, and when it comes to the type of settlement, 62% were from cities, while the remainder of students lived in rural areas. Sample structure of by subject and grade is shown in Table 1.

Table 1
Sample structure by subject and grade

Subject	n	%	Grade	n	%
WAU	133	7.0	1st	79	4.1
N&S	321	16.9	2nd	55	2.9
Biology	597	31.3	3rd	149	7.8
Geography	477	25.0	4th	172	9.0
History	376	19.7	5th	383	20.1
Total	1904		6th	380	19.9
			7th	366	19.2
			8th	320	16.8
			Total	1904	

Procedure

During May 2020, we invited schools to participate in research using publicly available database of public schools. We asked the school principals or psychologists to distribute the links to survey to the teachers of the mentioned subjects, and the teachers contacted students. Schools were asked to provide parental consent, and data were collected completely anonymously.

Measures

Self-efficacy: We used two separate measures of self-efficacy: a general measure of students' self-efficacy with regard to the subject (GSE), and a situational measure of self-efficacy specifically towards the current TV lesson (SSE). GSE refers to the judgments of one's own success in a given subject, and it was measured with 5 items. The content of the statements covered by the scale is based on an overview of the relevant literature in the field of academic self-efficacy (i.e. *I think I'm really good at this subject. I am successfully coping with the requirements of this subject.*) and two items are similar to the items that measure subject self-efficacy in international studies we referred to. One of them is similar to the item that measures self-efficacy in the TIMSS 2015 context questionnaire framework (*I learn topics from this subject quickly*; Hooper, Mullis & Martin, 2013, with an exception that the subject was predefined in TIMSS) and the other is similar to the item from PISA conceptual framework (*It's easy for me to understand even the most difficult topics in this subject*; OECD, 2009). The GSE score was calculated as a mean of five items and the reliability of the scale was good (α= .83). In order to determine situational self-efficacy, we asked the participants to evaluate their capability to master the content of a particular lesson via pairs of opposing statements regarding their confidence in learning of the specific content on a 10-point scale (for example (1) *I've failed to learn anything in this lesson* to (10) *I've learned this lesson well*). The SSE score was calculated as a mean of four items and the reliability of the scale was good (α= .82). We conducted a principal component analysis and revealed unidimensionality of constructs.

Starting from the finding that not a single teaching practice has a large effect on students' outcomes, but a lot of small effects stem from different efficient practices (Creemers & Kyriakides, 2008; Hattie, 2009; Scherens, 2018), students' evaluations of the quality of teaching practices (SPTP) were measured by a composite scale made of ten statements. The scale is somewhat similar to the *Students' Views on Engaging Teaching* (SVET) scale from TIMSS 2015, but adapted for TV instruction that is characterized by one-way communication (items implying interaction are excluded, e.g. *My teacher*

tells me how to do better when I make a mistake; *My teacher listens to what I have to say*.). We preserved two original items from SVET (*The teacher does a variety of things to help us learn.* and *I am interested in what the teacher says*.). Also, we adapted two items for TV instruction and made six original items. We started from a set of effective teaching practices extracted from Scherens (2018) meta-analyses and The Dynamic Model of Educational Effectiveness (DMEE; Creemers & Kyriakides, 2008) and then analysed 12 TV classes (two classes of every subject) to assess which of them could be implemented in TV instruction that is characterized by one-way communication. Further, we considered the practices from DMEE, described on page 2. There were not (1) goal orientation practices from the DMEE model in TV classes (in terms of pointing out educational outcomes, i.e. what students would know and be able to do) but there was some kind of emphasising the importance of the topic of the lesson. Hence, we created an item that reflects student perception of the lesson (*I feel this is important for me to know*.). We assessed (2) the structured presentation from DMEE with three items (*The teacher explains very well. The images that teacher uses are incomprehensible. It's really hard for me to understand this teacher*.). (3) Posing questions was operationalized by one item (*The teacher asks lot of questions to give us opportunity to test our knowledge*.). (5) Application was represented by two items (*The teacher connects the material with things outside of school. I don't see any connection of what I heard with my life*.). (6) Assessment was not present, as well as (4) modelling. (7) Management of time was represented by one item (*The teacher talks too fast*.) and (8) stimulating environment was represented by two items we kept from the SVET described above. The students answered by rating statements on a five-point Likert scale. The ratings on the negatively formulated items were recoded to inverse values and the score on the scale was calculated as a mean value for all 10 statements. The scale had good reliability (α = .82) and principal component analysis revealed one-dimensionality of construct. Finally, we examined construct validity by checking correlations between the average ratings of all students that had watched the same class on SPTP and observational ratings of the author of this study for the same classes on the protocol that measures similar constructs, r = .74, p <.000 (see Plazinić, 2021).

Besides these measures, we used sex and grade as control variables.

Analyses

All statistical analyses were performed using the SPSS Statistics for Windows (IBM Corporation, 2012). The macro PROCESS was used for the analyses of potential mediation effects (Hayes, 2018).

Results

In order to determine how students generally perceive the quality of teaching practices in TV instruction and how they rate their subject-specific self-efficacy, as well as the confidence in mastering the contents of a particular lesson in TV instructions, we conducted a descriptive analysis. In addition, we performed a correlation analysis to determine how students' perceptions of the quality of teaching practices in TV instruction were related to their general subject and situational self-efficacy. Means and standard deviations of all the variables in this research and correlations among all measures are shown in Table 2.

Table 2

Means, Standard Deviations and Correlations for the measures

Variables	*Min*	*Max*	*M*	*SD*	SPTP	GSE	SSE
1. SPTP	1.80	5.00	3.98	.73	1	.386**	.604**
2. GSE	1.60	5.00	3.94	.85		1	.419**
3. SSE	1.00	10.00	7.84	2.01			1

Note. *p <.05; **p <.01.

On the average, students perceive the quality of teaching practices moderately high (Table 2). More precisely, students report that teachers generally explain the lessons well, have a generally appropriate pace of presentation, and use adequate visual material to help explain facts and concepts of a given lesson in an obvious way. On the average, students think that teachers make moderately high efforts to help students master the lesson by employing different ways of explaining, making meaningful connections between the material and students' school– and life-experience in order to make the material relevant to them. Teachers relatively frequently ask questions which help students to test their knowledge and understanding. Students' confidence in the given subject, as well as their confidence that they will successfully master the current lesson, are higher than the theoretical average of the scales and can be assumed moderately high on the average.

In order to examine how the measures of students' perception of teaching practices relate to student outcomes, situational and subject-specific self-efficacy and the perceptions of teacher practices were checked by a simple correlation analysis (Table 2). All correlations were statistically significant and positive. As shown in Table 2, students' perception of teaching practices has stronger correlations with situational self-efficacy towards the current TV lesson than with the general measure of students' self-efficacy with regard to subject. Further, results show that students' general self-confidence in a given subject is significantly related to their current self-confidence regarding mastering a given lesson, as expected, but this connection is less intense than the connection between situational self-efficacy and the perception of teaching practices quality in a given lesson.

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The results of hierarchical regression analysis (Table 3) show that students' perceptions of teaching practices are a significant predictor of SSE. The direction of the Beta coefficient indicates the following: the more positive students' perception of teaching, the higher their self-confidence that they will master the lesson. The introduction of general subject self-efficacy in the next step of the analysis is also a significant predictor. It increases the percentage of the explained situational self-efficacy (from 36.5% to 40.6%), but it slightly decreases the independent contribution of the perceptions of teaching practices in its prediction. This presumes a potential mediating role of GSE in the relationship between SPTP and SSE.

Table 3

Students' perceptions of teaching practices and general subject self-efficacy as the predictors of situational self-efficacy towards a TV lesson (*N*=1904)

Model	R	R2	Change in R2	β	*p*
Step I	.604	.365			
SPTP				.604	.000
Step II	.637	.406	.041		
SPTP				.519	.000
GSE				.219	.000

To test whether general self-efficacy in a given subject served as a mediator of the relation between students' perceptions of teaching practices and situational self-efficacy, we used the macro program PROCESS in SPSS (Hayes, 2018). The outcome variable for the analysis was SSE, the predictor variable was SPTP, while the mediator variable was GSE. Since there are possible sex and age (grade) differences in self-efficacy, we introduced these variables as covariates in further analyses to control for their effects. Results showed that the indirect effect of SPTP on SSE was significant [Effect = .08, 95% C.I, (.0535, .1046)]. Figure 1 represents the model and standardized coefficients are shown on arrows.
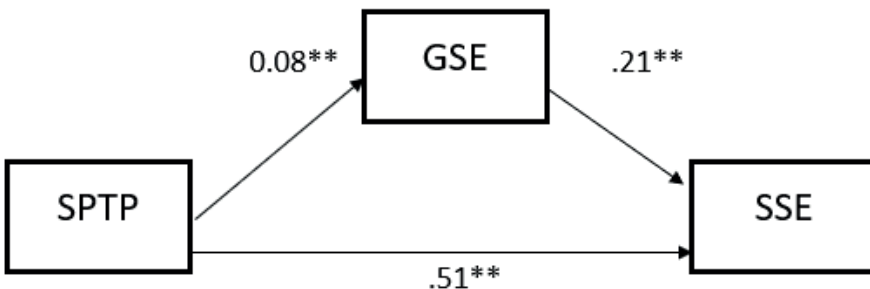

Figure 1. Standardized path coefficients of the research model (**p <.001)

We can explain 41% of situational self-efficacy (R^2 = .41, p<.00) from students' perceptions of teaching practices, with general self-efficacy serving as a mediator of that relationship, and sex and age as covariates. The direct effect of SPTP on SSE was significant (B = .51, p <.000), but the association of SPTP with SSE was mediated by general self-efficacy in a given subject (B = .08, p <.000), when we control for sex and grade. However, the size of this mediation effect was small. The proportion of the total effect of students' perception of teaching practices on their situational self-efficacy towards the current TV lesson that operates indirectly through general self-efficacy in a given subject is 13.99%, and nearly 86% of the effect functions directly.

Discussion and conclusion

Just as the pandemic came on abruptly, the measures of social distancing, necessary for its prevention, also came unexpectedly and without prior preparation. As part of these measures, distance learning entered the educational scene around the world, with TV instruction as a common solution, which aimed to make teaching available to all students, regardless of their socio-economic status, the level of development of their digital competencies, or the competences of their parents and teachers. Although praised in the media as a quick adaptation to emerging circumstances, TV instruction has also raised concerns about its effects on students and their educational outcomes.

A central question in this research was understanding whether and to what extent the quality of instruction in TV lessons had the effect on important student outcomes such as self-efficacy in a given lesson. Self-efficacy explains about 10% of variance of test scores in different school subjects (Jakšić et al., 2017; Pavlović –Babić, 2007; Džinović & Vujačić, 2017; Jovanović, 2014) and enhances behavioral, motivational and cognitive engagement of students (Linnenbrink & Pintrich, 2003). Even more, self-efficacy is not just a precursor of academic goals, but also of other psychologically important outcomes such as the level of persistency and resistance when facing obstacles (Schunk & Pajares, 2005). In the situation of the COVID-19 crisis that dramatically changed the ways of teaching and learning, students' confidence in their abilities to perform tasks that are required predicts the level of the stress they perceive and coping strategies they use (Pelikan et al., 2021). Given the great importance of self-efficacy, we wondered whether teachers, as essential actors in the educational process and important factors of educational effectiveness, had any effect on it. In particular, we wished to investigate whether the way in which students perceived teaching practices in a relatively new form of teaching, TV instruction, was related to their confidence in capabilities to successfully conduct a particular task or to master subject material of particular lesson. Numerous empirical data have shown that the quality of

teaching affects the quality of students' educational outcomes in learning and in non-cognitive achievements, but does the perceived quality of instruction affect self-efficacy even when teaching takes place through the media such as TV, where students have no direct contact with a teacher? This was the main question of our research. For this purpose, we constructed the Students' perception of teaching practices scale, based on the selection of the most effective teaching factors found in meta-analyses and postulated in The Dynamic Model of Educational Effectiveness (Creemers & Kyriakides, 2008). The selection was made considering whether the given practices can be found in TV instruction. In addition to the main question, we wanted to find out how students in compulsory education in Serbia, who participated in TV instruction for the first time during their schooling, evaluated the teaching practices in this form of distance education, and how low or high they assessed their self-confidence to master the given TV lessons. Further, we wanted to find out if their general self-confidence in a given subject mediated the relationship between situational self-efficacy and the perception of teaching practices.

The results of descriptive statistics showed that students, on the average, evaluated the desirable teaching practices in teaching via TV relatively high. This finding supports the conclusion that the teachers who participated in TV instruction showed a satisfactory level of skill and resourcefulness, judging by the experience of students, despite their unpreparedness for this situation. Also, on the average, students' perceptions of confidence in a given subject and confidence that they would successfully master the current lesson were moderately high as well (higher than the theoretical average of the scales). This finding addresses the concerns about students' coping with this unprecedented situation.

According to our central question, regression analysis showed that the way in which students perceived the teaching practices explained more than a third of their self-confidence that they would successfully master the given lesson. It is important to notice that we did not measure what the teacher actually did, but how students perceived what the teacher did. When students' perception of teaching practices increases by one unit, situational self-efficacy increases by 0.52 (see *b* coefficient in Table 2). Although regression analysis cannot reveal causal relationships, we can conclude that the students' perception of teaching practices and their situational self-confidence are moderately inter-related. The better the assessment of the teacher's way of explaining, the pace of presentation, and making connections with school and extracurricular knowledge, the greater the students' confidence that they had mastered the subject content of the given lesson. Students respond with increased self-confidence when they perceive that the teacher employs questioning practices by giving opportunities to students to test their learning, when various representation formats are used (e.g. pictures, photographs,

diagrams, videos, simulations; modelling abstract concepts) and efforts are invested to make content more comprehensible, relevant and applicable. Mediation analyses showed that there was a mediator effect of general self-efficacy towards the given subject, but very limited in strength (more than four-fifths of the perceived teaching effect on situational self-efficacy comes directly from the perception of teaching, and less than 15% indirectly, from general subject self-efficacy). It is possible that students who have more self-confidence in a given subject based on previous educational experiences cope better in the conditions of distance learning, and thus perceive the teaching, as well as their capabilities, to respond to current lesson requirements somewhat better.

The results indicate that the quality of teaching, based on students' perceptions, affects their confidence in own capabilities to perform the tasks that are required. In a practical sense, these results can be used for designing the appropriate practices to encourage the desirable students' outcomes. Namely, in the case of re-transition to TV instruction, this research could inform teachers and educational authorities on teaching practices that can contribute to the encouragement of desirable non-cognitive educational outcomes, which are expected to have a reciprocal effect on the cognitive achievements.

The limitation in applying the results of this study lies in the way of operationalization of the construct of teaching practices. Namely, the presence of different effective practices was not measured directly, but through students' perceptions. We can take structured presentation as an example. We did not directly observe or ask students how often the teacher structured lectures, how often s/he gave examples of abstract concepts etc. – we simply asked them to evaluate how well the teacher explained, how understandable s/he was, how comprehensible are the images used etc. The same is true for other teaching practices. We hence suggest that the future studies employ qualitative analyses of students' experience of quality teaching, as well as systematic observation that could measure the frequency of effective teaching strategies and examine their relationship with students' outcomes. Therefore, from a theoretical point of view, this research was not intended to verify nor it can be considered as a direct confirmation of The Dynamic Model of Educational Effectiveness, but rather an indication in favour of it.

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Učenička percepcija nastavnih praksi kao prediktor učeničke samoefikasnosti u TV nastavi

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Pandemija COVID-19 dovela je do zatvaranja škola širom sveta. U ovim okolnostima, jedan od glavnih modaliteta učenja i nastave na daljinu postala je TV nastava. S obzirom na brojne dokaze da je kvalitet nastave jedan od ključnih faktora učeničkih postignuća, ali i motivacionih uverenja, kao i malobrojne podatke o efektima TV nastave na učenike, glavni cilj ove studije bio je da ispita odnos između percipiranog kvaliteta nastavnih praksi u TV nastavi i jednog od najvažnijih obrazovnih ishoda – akademske samoefikasnosti. Podaci su dobijeni od 1904 učenika, od prvog do osmog razreda, osnovnih škola tokom maja 2020. godine. Koristili smo dve mere samoefikasnosti: meru generalne predmetne samoefikasnosti učenika i meru situacione samoefikasnosti u odnosu na zahteve konkretnog TV časa. Učenička percepcija nastavnih praksi merena je kompozitnom skalom sačinjenom od deset tvrdnji. Podaci su analizirani regresionom i medijacionom analizom, kako bi se identifikovala potencijalna posredujuća uloga generalne predmetne samoefikasnosti u relaciji između percepcije nastavnih praksi i situacione samoefikasnosti. Utvrđeno je da je učenička percepcija nastavnih praksi značajan prediktor koji objašnjava 40,55% varijanse situacione samoefikasnosti, a 14% ukupnog efekta posredovano je generalnom predmetnom samoefikasnošću učenika. Rezultati pokazuju da, čak i u indirektnoj i asinhronoj TV nastavi, nastavnici mogu negovati samoefikasnost učenika stvaranjem podsticajnog okruženja, zadavanjem izazovnih zadataka, jasnom prezentacijom i naglašavanjem relevantnosti nastavnog sadržaja kroz povezivanje sa životnim iskustvima i prethodnim znanjima učenika.

Ključne reči: TV nastava, akademska samoefikasnost, nastavne prakse, obrazovna efektivnost

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To be connected: Supporting self-regulated learning in higher music education before and during the pandemic

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In online learning, students are expected to take on more responsibility for their education, while teachers are expected to support students' self-regulated learning (SRL) skills. In this research, we explore whether young musicians perceive a difference in the actions that their major music teacher (MMT) took to support their SRL skills before and during the pandemic, and investigate their view on how the MMT could further support their learning. The sample included 144 students of the Faculty of Music in Belgrade, who filled in the online inventory comprised of 24 questions – 17 parallel Likert-type items (referring to the MMT's actions supporting SRL skills, before and during the pandemic), and one question was a short letter to the MMT. Data were analysed using dependent *t*-test, ANOVA and reflexive thematic analysis. Students perceived that SRL skills were more encouraged before than during the pandemic. Additionally, our findings show that music students who did not have in-person and online communication, separately, with their MMTs perceived they had lower support to self-regulate their learning. The findings from qualitative analysis inform educational practice by pointing to specific teacher's actions that students perceive as important for their further development.

Keywords: self-regulated learning, COVID-19, teachers' support, music teacher, higher music education.

In a quest to improve the quality of education, self-regulated learning (SRL) is often perceived as a Holy Grail. SRL has become one of the main concepts in educational sciences as it is recognized as the core competence

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required for learning to learn, i.e. for becoming a lifelong learner. Even though there are many SRL models, they highlight similar characteristics of the SRL process – it is a cyclical process that includes cognition, metacognition, motivation, behaviour, and emotions, and it is comprised of a set of skills that can be developed (Panadero, 2017; Panadero & Alonso-Tapia, 2014). In essence, self-regulated learning occurs when a student has systematic control of motivation, thought, and behaviour in pursuit of learning goals (Zimmerman & Moylan, 2009). In this study, we rely on Zimmerman's cyclical model of SRL (Zimmerman & Campillo, 2003). This model consists of three cyclical phases: (a) the Forethought phase, when students analyse the task, set goals and plan how to reach them, and activate motivational beliefs and learning strategies; (b) the Performance phase, when students execute the plan, which includes the use of self-control and self-observation strategies to monitor the progress and maintain motivation; and (c) the Self-reflection phase, when students assess how well they have performed the task and make attributions about their success or failure which can, in turn, positively or negatively influence how students approach tasks in the future (Panadero, 2017; Panadero & Alonso-Tapia, 2014; Zimmerman & Moylan, 2009).

In this paper, we deal with teachers' support to SRL in higher music education (HME) before and during the COVID-19 pandemic in Serbia. As SRL is often considered crucial for high instrumental and interpretative performance skills, and online education in the time of the pandemic demands and favours students who are good in self-regulation, the specific context in which we examine SRL in this study could be considered especially intriguing, so as to say – double trouble.

Online higher education in the time of the pandemic: Why SRL matters?

The COVID-19 pandemic is nowadays commonly referred to as one of the greatest disrupts in education in recent history. In most parts of the world, schools and universities were closed in the early spring of 2020, and many still operate, totally or partially, in an online teaching/learning mode. According to some analyses, responses by higher education providers were diverse – from having no response, through meeting basic government requirements for social distancing on campus, to emergency curriculum redevelopment to provide fully online education to students (Crawford et al., 2020).

Even though online learning can include synchronous communication with the teacher and peers, many online courses at universities today are organized in the form of asynchronous and self-paced learning. However, such a manner of work may result in reduced opportunities for interaction with the teacher and peers (Wang et al., 2013). Moreover, online learners are often expected to structure their learning, determine when and how to engage with course content and tasks, manage their time efficiently, etc.

(Broadbent, 2017; Moore & Kearsley, 2005). Therefore, to learn effectively in an online environment, students are expected to be self-regulated, i.e. to be autonomous in planning and monitoring of own learning (Broadbent, 2017; Broadbent & Poon, 2015; Dabbagh & Kitsantas, 2004; Serdyukov & Hill, 2013; Wang et al., 2013). As studies suggest, students who had had prior experience with online learning also had more effective learning strategies than those who did not have such experience (King et al., 2000; Wang et al., 2013). Therefore, support to students' capacities for SRL could be considered a matter of priority in the pandemic, given that it was the first encounter with online learning for many students.

Previous research has shown that students performed better in online learning using SRL strategies, than when they did not use them (Anthonysamy et al., 2020; Barnard-Brak et al., 2010; Broadbent & Poon, 2015; Broadbent & Fuller-Tyszkiewicz, 2018; Puzziferro, 2008; Wang et al., 2013). There are only a few studies on SRL in higher education during the time of the pandemic. Studies show that students with self-efficacy in self-regulation reported lower study related stress during the pandemic (Keyserlingk et al., 2021), while self-organization skills were found to be positively correlated with learning achievement (Klein et al., 2021).

Higher music education and SRL

It is argued in the literature that SRL is inherent to music education, as "understanding how musicians reach the highest levels of musical achievement involves understanding how they think about the task, themselves, and their performance, as well as the amount of time they spend practicing" (McPherson et al., 2017, p. 19). Empirical studies with advanced musicians indeed show that they rely greatly on self-regulation in their practice (Araújo, 2015). Therefore, future musicians need to learn how to integrate efforts they put into practicing, which by itself is not sufficient for becoming an expert musician, with SRL skills that should help them to systematically monitor their thoughts, feelings, and actions as they strive to reach their learning goals (McPherson et al., 2017; Miksza, 2015; Miksza et al., 2018; Nielsen, 2015). Looking at a wider scale, it is quite likely that most of the musicians have never received proper instruction on how to use SRL (Hatfield et al., 2016; Miksza et al., 2018). However, studies show that complementing traditional practicing activities (such as slowing and repetition) with support for SRL (instructing students on goal setting, planning of learning, self-evaluation, reflection etc.) significantly improves the performance of tertiary music students (McPherson et al., 2017; Miksza, 2015). Several research studies have found that more self-regulated music students tend to report being more self-efficacious, display greater determination towards goals, spend more time practicing, demonstrate metacognition and self-awareness while practicing, are more proactive, and

tend to employ a variety of practice strategies (Boon, 2020; Hatfield et al., 2016; Miksza, 2011; Miksza & Tan, 2015; Miksza et al., 2018).

Several research studies on HME were conducted in Serbia using the SRL theory as a background. The SRL model, developed by Zimmerman and Campillo (2003), was used and adapted for the research of sight-reading music while playing or singing as self-regulated performance (Bogunović et al., 2020; Bogunović & Vujović, 2012). It was confirmed that co-cognitive factors, i.e. the particular pattern of personality and motivational attributes, measured by the NEO-P-R, had a certain role in efficient self-regulated performance, especially in the Preparation and Performance phases, such as Emotional stability, Competence, Dutifulness, Achievement striving, Discipline, and Deliberate thinking (Bogunović, 2018).

The SRL studies that were specifically related to HME in the online context are not common. One recent study on SRL in blended learning within music education showed that SRL behaviours correlated with academic achievement, whereby regularity of student's access to the learning platform was the strongest predictor of student success (Montgomery et al., 2019). Another study, although not focused specifically on SRL, provided valuable insights on certain aspects of SRL (goal-setting, task analysis, intrinsic motivation, self-control) that are important for learning online in the time of pandemic. Namely, it was found that the impact of COVID-19 reflected negatively on music students who expressed a need for clear goals and total concentration, while students who felt that their skills matched the challenges of a situation and frequently had autotelic experiences, were able to use the impact of COVID-19 to their advantage (Habe et al., 2021).

(Music) teacher support to SRL in higher education

Despite widespread agreement on the importance of SRL, not all university teachers embed support for SRL into their teaching (Russell et al., 2020). Moreover, it is often assumed that students are already proficient in SRL (Bjork et al., 2013; Russell et al., 2020), whereas studies show that they are usually not adequately prepared for the expectations related to learning that await them at the university (Christie et al., 2013; Heikkilä et al., 2012) and do not use digital technologies to regulate their learning (Yot-Domínguez & Marcelo, 2017). Therefore, much emphasis needs to be placed on enhancing students' SRL skills through the careful design of learning and assessment activities. In general, teachers should provide both direct instruction and opportunities for students to practice SRL. We wonder to what extent university teachers support SRL development or whether take it for granted, especially in the HME, where the role of the major music teacher (MMT) is fairly prominent.

One previous study has found that teacher's engagement in self-regulation, especially when it is made visible to students, plays a key role in promoting SRL among students (Russell et al., 2020). Guided and independent practicing is another way to help improve students' SRL, which implies that students are given opportunities to practice different learning strategies, while the teacher observes and offers help if it is needed, intending to strengthen students' independent use of strategies (Lee et al., 2010; Schunk & Zimmerman, 2007). Studies show that teachers who are more motivated to design their teaching to foster SRL had the following characteristics: their pedagogical beliefs were aligned with SRL theory; they tended to self-regulate their work and learning; they had a sense of agency (believed that they could adapt the curriculum to achieve their teaching goals); they were eager to experiment and reflective; and they valued lifelong learning, student's participation, listening and understanding students (Moos & Ringdal, 2012; Russell et al., 2020).

As for HME, direct instruction, e.g. video instruction on the principles of SRL and practice behaviours, seems to be effective in terms of improving music students' performance and self-efficacy (Miksza, 2015). Special training programmes for music students aimed to support their SRL skills were also shown to help enhance students' concentration, self-efficacy, self-reflection, coping skills, and reduce their performance anxiety (Hatfield, 2016). Microanalysis, as a structured interview involving context-specific questions while the respondent is engaged in an authentic activity, is recognized as an effective tool to investigate SRL but also to support it in music students' practice, i.e. to cue students to think about what they are doing and reflect critically on the strategies they can use to improve their performance (McPherson et al., 2017; Miksza et al., 2018). Studies show that it is a useful aid for reflection on students' specific self-regulatory deficiencies and for addressing them in a manner respective to their needs (McPherson et al., 2017; Miksza et al., 2018).

In HME, the MMT's position and role are more specific, especially in the time of the pandemic, because teaching takes place in a one-to-one setting or small groups. Therefore, teacher's role and responsibility are essential for SRL, as well as for the outcomes of tuition and further professional career. Usually, the master-apprentice type of relationship is present, as opposed to the mentor-friend (Reid, 1997). This type of relationship is often characterized by tension between teachers' aspirations to facilitate student autonomy in learning and the transmission-oriented teaching process. Namely, studies show that teaching technical and musical skills primarily through teacher-led reflection-in-action could inhibit the development of students' self-responsibility and an individual artistic voice (Gaunt, 2007). From the students' perspective, tension emerges between trust in a single teacher and the way in which teachers encourage students to become more responsible for their learning. Namely, the development of planning and reflective

strategies, related to either learning processes or professional performing career development, were rarely prioritized (Gaunt, 2010). Similar results were gained in HME in Serbia – even though the indisputable value of individual vocal/instrumental tuition has been confirmed, findings point to the existence of a traditional pattern in the 'desired' teacher's attributes, i.e. the teacher/master-apprentice relationship model, with the prevailing one-way communication (Bogunović & Mirović, 2014).

Taking into account the importance of SRL in HME and a lack of research on whether and how it could be supported in an online teaching/ learning context, our research aims to investigate to what extent and how SRL is fostered by the MMT, perceived by students, before and during the COVID-19 pandemic in Serbia. In addition, we wanted to explore students' opinions on the ways in which the MMT can further support the acquisition of SRL skills and musical development in the online setting.

Method

Sample

The convenience sample (N = 144) consisted of 88 undergraduate and 56 graduate students from the Faculty of Music (FoM) in Belgrade, aged 18 to 45 (M = 23.10, SD = 3.98), 53 males and 91 females. The sample included students from music performing (82) and theoretical (62) departments, and represents approximately 19% of the students who attended the FoM during that school year.

Students completed the survey during regular classes of psychology courses at the end of the winter semester 2021 (this was the second semester during which some of the classes were not held in person, and the semester during which a relatively coherent solution for teaching was found at the FoM). They were informed about the purpose of the study, confidentiality was guaranteed and students had the opportunity to refuse to participate in the research, as well as to withdraw from the research at any time.

Instrument

The questionnaire was designed for the purposes of the study. It contained 32 questions distributed in three parts, but for the purpose of this paper, the answers collected on 24 questions are analysed. The first part of the instrument had 6 questions concerning: general data (age, gender, study level, department, and the major subject average grade) and the average number of in-person and the average number of online student-teacher per week contacts during the pandemic (2 items; 0–10 scale, assuming it was unlikely

that there could have been more than 10 in-person and 10 online per-week contacts, separately).

The second part of the questionnaire (SRL scale) comprised 17 parallel Likert-type (1–7 scale) items, referring to the period before and during the pandemic (from October 2020 until the moment the data were collected). Each item stated the specific teachers' actions that could foster students' SRL skills concerning vocal-instrumental practicing/composing music/learning materials since these are the activities typical for the students of different departments. Participants were asked to assess the degree to which their MMT was supporting their SRL behaviour. Items were organized into 3 subscales, in line with the cyclical SRL model (Zimmerman & Campillo, 2003), representing the Forethought phase (6 items – the MMT suggests making the work/timeline plan based on task analysis, setting long-term, specific and realistic goals, assessing the success probability, building up awareness of the task importance for the student development), the Performance phase (6 items – the MMT encourages a student to monitor own progress, to seek for assistance when needed, to pay attention to difficult parts, to use mental rehearsing strategies, to challenge oneself) and the Self-reflection phase (5 items – the MMT encourages a student to summarize what has been achieved after each learning session, to think about the possible causes of the mistakes that occurred and make a plan for overcoming them, to take time to think about how satisfied he/she is with the achievement, and to assess how close he/she is to achieving the goal). Initially, 34 parallel items were derived from Zimmerman and Campillo's model (2003), and Peter Miksza's work (2011, 2015; Miksza et al., 2018), and subsequently adapted to the specificities of the FoM's curriculum. In order to make the questionnaire time efficient and constructed of the same length subscales, through logical analysis, 17 parallel items that best corresponded to the research aim were selected. Two principal component analyses confirmed a 3-component solution; the SRL subscales had adequate internal consistencies (the value of Cronbach's alpha ranging from .75 to .90; see Appendix A).

The third part of the instrument contained a request for participants to write a short message/letter to their MMT with the suggestions on how to support him/her in further performing/composing/learning process, based on the collaboration experience with the MMT during the pandemic.

Procedure

Data collection was performed in January 2021. The questionnaire was administered in an online form (Qualtrics XM), and took 30 to 60 minutes to be filled in.

The approval of the FoM's Ethics commission was obtained (No. 1559/20).

Data analysis

Data were analysed using both quantitative and qualitative methods. For quantitative analysis, IBM SPSS Statistics 21.0 software for Windows was used (*t*-test and ANOVA), and MAXQDA 2018 was used to support the qualitative analysis. Since we strived to capture both the semantic and latent meanings (Braun & Clarke, 2020a; 2020b) of the obtained data, reflexive thematic analysis was applied for the analysis of students' letters/messages to the MMT, following the steps provided by Braun and Clarke (2006). After familiarizing with the data and creating initial notes, we performed a systematic inductive coding of the data. Initial first-level codes that were similar in their content were later on grouped under the second-level codes. In the further course of the analysis, two key themes were generated and their belonging codes were specified (see Table 5).

Results

Differences in students' perceptions of the MMT's support in fostering the SRL skills before and during the pandemic

Descriptive statistics for the SRL scale and its subscales referring to the period before and period during the pandemic, separately, are presented in Table 1.

Table 1

Means and standard deviations of scores on the SRL scale and its subscales for the periods before and during the pandemic

Score	Before		During	
	M	*SD*	*M*	*SD*
SRL scale	85.77	20.13	83.51	23.11
Forethought subscale	30.34	8.37	29.85	9.04
Performance subscale	32.09	6.84	30.77	8.33
Self-reflection subscale	23.15	7.20	22.56	7.88

When comparing the arithmetic means of the parallel SRL scale scores, it was found that students perceived that the MMT had supported them to foster SRL skills to a greater extent before than during the pandemic, $t(135) = 2.29$, $p < .05$, $r_{pb} = .19$. By comparing the means of parallel subscales, it was found that students assessed that their MMT had supported them in the Performance phase to a greater extent before than during the pandemic, $t(140) = 3.10$, $p < .01$, $r_{pb} = .25$.

Since we wanted to examine whether students' contact frequency with the MMT per week had a role in the perceived difference in the SRL support,

some data transformation had to be made. The average number of in-person and the average number of online student–teacher contacts per week during the pandemic were among the control variables in this research (range 0–10, each). Based on the distribution of responses, these two variables, separately, were transformed into two categorical ones. In order to make relatively balanced groups on both variables, responses were divided into three groups presented in Table 2.

Table 2
Number of in-person and online student-teacher per week contacts during the pandemic: Means, standard deviations, and distribution of respondents into groups

Modalities	*M*	*SD*	*n* Group 1 (0 contacts)	*n* Group 2 (1 to 2 contacts)	*n* Group 3 (≥3 contacts)
In-person	1.83	1.98	33	64	29
Online	2.35	2.49	19	72	35

In order to explore whether our respondents perceived a difference in the actions that their MMTs had taken before and during the pandemic to support their SRL skills, we created four composite variables. Scores obtained on the SRL scale and its subscales, separately, referring to the period during the pandemic, were subtracted from parallel scores on the scale and three subscales referring to the period before the pandemic. These new variables present the perceived differences in the MMT's support to SRL skills received before and during the pandemic, for the whole SRL scale and for the Forethought, Performance, and Self-reflection subscale, separately.

Groups based on the frequency of in-person contacts. As can be seen in Table 3, ANOVA showed a significant effect of an average number of in-person student-teacher per week contacts in each of the three groups concerning the difference in the SRL support received before and during the pandemic. A significant effect of the average number of student-teacher in-person per week contacts on the levels of the perceived difference in support before and during the pandemic was found in each of the three phases. The results of Hochberg's post hoc test suggest that all of the observed differences were due to students who had no in-person contact with their MMT during the pandemic. These students perceived a greater difference both in total SRL support and in the support in each of the SRL phases compared to the students who had one or more such contacts with the MMT per week.

Table 3

Means, standard deviations and two-way ANOVA statistics for the perceived differences in the MMT's support to the SRL skills before and during the pandemic, for the SRL scale and its subscales, for in-person student-teacher contacts

Difference in parallel scores	G1		G2		G3		F	df	ω	Hochberg's post hoc test[a]		
	M	SD	M	SD	M	SD				G1–G2	G1–G3	G2-G3
SRL scale	8.31	20.23	0.63	6.70	-0.04	4.22	5.94**	2, 129	.26	Y	Y	N
Forethought subscale	2.36	6.02	-0.03	2.85	-0.18	2.26	5.19**	2, 133	.24	Y	Y	N
Performance subscale	3.79	8.51	0.71	3.48	0.28	1.77	5.29**	2, 134	.24	Y	Y	N
Self-reflection subscale	2.44	6.67	0.15	2.06	-0.21	1.17	5.38**	2, 131	.25	Y	Y	N

Note. G1 = Group 1, G2 = Group 2, G3 = Group 3
[a] Statistically significant difference between two groups, Y = found, N = was not found
**$p < .01$

Groups based on the frequency of online contacts. There was a significant effect of the average number of online student-teacher per week contacts on the levels of the perceived difference in the SRL support received before and during the pandemic, as can be seen in Table 4. The results of Hochberg's post hoc test suggest that students who had no online contact with the MMT during the pandemic perceived greater difference in the SRL support than the students who had one or two per week contact with the MMT. The effect of the average number of student-teacher online per week contacts on the levels of the perceived difference in the support that students had received before and during the pandemic in fostering skills referring to the Performance phase was also found.

Table 4

Means, standard deviations and two-way ANOVA statistics for the perceived differences in MMT's support to SRL skills before and during the pandemic, for the SRL scale and its subscales, for online student-teacher contacts

Difference in parallel scores	G1		G2		G3		F	df	ω	Hochberg's post hoc test[a]		
	M	SD	M	SD	M	SD				G1-G2	G1-G3	G2-G3
SRL scale	9.44	23.67	1.16	9.46	1.72	4.72	3.66*	2, 120	.20	Y	N	N
Forethought subscale	2.61	7.29	0.08	3.08	0.61	3.20	2.96	2, 123				
Performance subscale	4.28	9.22	1.08	4.76	0.76	2.42	3.19*	2, 125	.18	N	N	N
Self-reflection subscale	2.56	7.48	0.26	3.17	0.50	1.72	2.64	2, 121				

Note. G1 = Group 1, G2 = Group 2, G3 = Group 3
[a] Statistically significant difference between two groups, Y = found, N = was not found
*$p < .05$

There was no statistically significant effect of the respondent's age, sex, the average grade in the major subject, the department in which the student is enrolled or the cycle of studies on the level of the perceived difference in fostering the SRL skills before and during the pandemic.

Students' perspective on the support they need

When it comes to writing a short letter/message to the MMT, eight of the 144 respondents chose not to write it. After the initial reading, 20 letters were excluded from the analysis because they did not contain specific suggestions to the MMT on how to further support students' learning, but mainly expressed students' gratitude and content with the MMT's approach, and stated that they had nothing to suggest or add (e.g. "*I would not add or change anything, and I completely agree with my major teacher's work so far.*"). Data analysis was conducted on the content of 116 letters. Some letters, or their parts, conveyed the message that there was no improvement needed, while in others, space for improvement was perceived. Table 5 presents the two key themes that were generated through the analysis, as well as their belonging codes.

Table 5

Key themes and corresponding codes generated in the letter analysis

Key theme	First– and second-level codes (number of coded segments)	
Teacher needs to (do)…	give instructions (2)	containing additional information (17)
		through feedback (11)
		that are individualized (5)
		that challenge students' abilities (5)
		that encourage students' independence (3)
	organize (1)	continuous/frequent classes and consultations (22)
		different teaching modalities (17)
	provide	access to information source (7)
		opportunities to perform in front of an audience (6)
	motivate (13)	
	put an effort (10)	
Teacher needs to be…	supportive (37)	
	devoted to teaching and students (25)	
	close(r) (10)	
	open-minded (4)	
	less demanding (3)	

Codes and 119 coded segments within Theme 1 describe the practices of a supportive MMT – what students expect the MMT to do and what the MMT is already doing to support their learning. When it comes to giving

instructions, students often mentioned providing additional instructions, explanations, examples, information (e.g. "*A couple of professors just lecture, some don't even do that, but just send the lesson, and they don't ask us at all if any part isn't clear to us and if we would like him/her to explain it again, I think they should work on that.*") and, also, feedback. Some participants expressed the opinion that the MMT who supported musical development tailored his/her approach to the particular student, encouraged students' independence (e.g. "[...] *and then to let me play my music, and to correct only stylistic mistakes that happen. This way I just copy his way of playing, which is a waste of time for me.*") and challenged their abilities with the big amount of tasks and task requirements. Additionally, respondents pointed out to the importance of frequently held classes and consultations, not losing continuity, the importance of face-to-face encounters, as well as to the need for synchronous online communication; a part of the coded segments within this code indicated some asynchronous online communication's advantages (e.g. "*Sending recordings is a great thing, it trains absolute accuracy, so it is possible to do it even when the teaching is face-to-face.*"). Segments in the third code within this theme indicated that the MMT is expected to provide access to information sources needed for learning/practicing and assignments, as well as to provide opportunities for students to perform, regardless of the performance's modality (online or in-person) and the persons in the audience (class colleagues or concert audience). The motivational potential of some of the MMT's activities was also pointed out (e.g. "*It doesn't matter that we are at the faculty and that no one should force us to practice because it is our responsibility, it would still help a lot if the professors would check the students from-time-to-time, to motivate them and try to help them regain motivation.*"). Finally, students noticed when the MMT made an effort and, in most of these coded segments, they expressed gratitude because of it.

Seventy-nine coded segments made up the codes within Theme 2. They describe the qualities the MMT has or should have and what the MMT should be like in order for the musically gifted students to perceive and feel he/she helps them to learn and progress. Students felt that the MMT was supportive when he/she was 'there' for students, showed interest in their well-being and understanding when it comes to mistakes they made (e.g. "[...] *to show concern why I didn't send the recording for three weeks or asked for advice or something like that.*"). Students felt supported when the MMT was available for providing them help or advice, when he/she maintained contact (online or offline) and spent time with them (e.g. "[...] *distance learning truly distanced me from the professor whose help I needed many times over.*"). The MMT encourages students' musical development by being devoted to teaching and students, which is expressed through responsibility, interest, desire, enthusiasm, and initiative when teaching, by transferring responsible work attitude to students, by being student-centred, and even by showing patience

while teaching. According to our respondents, the MMT who helps students' progress is open to new information and students' perspective and, finally, adapts his/her approach to current circumstances by being less demanding when it comes to the amount of material and shows flexibility with deadlines.

Discussion

If we start from the 'double trouble' issue at the beginning of this paper, what do our data tell us? How well were music students supported by their MMTs to self-regulate their learning before and during the pandemic, how responsive were they to the performing/composing/learning and psychological needs of their students?

Examining the differences between students' perceptions of the MMT's support to their SRL skills before and during the pandemic, we have found that students' perception was that MMTs supported them to a greater extent before the pandemic than during the pandemic, especially in the Performance phase of the SRL process. Namely, students perceived that before the pandemic, the MMT had encouraged them more to build up awareness of the task importance, challenge themselves, engage in mental practicing, apply problem-solving strategies when facing difficulties, and summarize what had been achieved after each session (see Appendix B). The Performance phase is undoubtedly essential for music skills development (technical and interpretative), whereas the MMT's ongoing evaluation and feedback, which 'mirrors' skills execution and enhancing, is vital for student's advancement (McPherson & Zimmerman, 2011).

Our findings show that music students who did not have in-person communication with their MMTs had less support to self-regulate their learning. Students who had at least one in-person contact per week gained beneficial cognitive (to make a plan, to engage in solving problems, to pay attention to difficulties) and motivational (to make a long-term plan, to challenge oneself) interventions and reflexive suggestions (to do a periodic assessment, to make a plan to overcome mistakes, to evaluate task success; see Appendix C). When it comes to online communication, students who did not have online contact with their MMT were deprived of some suggestions (how to make specific goals, seek help, how to do mental rehearsing; see Appendix D). From these data, we have learned that in-person interaction, at least once a week, brings more fruit as the MMT's interventions per contact, aimed to support SRL, are more numerous, instructive, and stimulative. Our findings also indicate the importance of maintaining contact with the MMT, regardless of its frequency, which would imply that students lacking any contact with the MMT during the pandemic were seriously deprived in terms of learning. The literature highlights the importance of guided self-reflective discussions about the process of learning, which should help students assess

the effectiveness of their learning strategies and discover alternative strategies they could use, including discussions on students' emotions related to learning and how these can facilitate or hinder the learning process (Nugent et al., 2019; Russell et al., 2020). In the field of HME, microanalysis, which involves such discussion, has been proven to help students advance their SRL skills (McPherson et al., 2017; Miksza et al., 2018). In the context of online learning in the time of the pandemic, a need for such discussions is certainly intensified. Hence, taking into account the presented findings, the question arises for HME and MMTs – how to bridge the gap in support to students' development created during the pandemic?

Analysing the messages/short letters students wrote to their teachers, we have generated two key themes – the first one telling what the MMT *should do* and does to help student progress, and the second one telling how he/she *should be* and is. A closer look at some coded segments comprising the codes 'supportive', 'devoted to teaching and students', and 'closer', within the theme 'Teacher needs to be...' indicates the need for emotional support and for the MMT to be a partner in affective interaction (Ivić et al., 2001). The fact that students look upon the MMT as a pillar of strength raises questions of the complexity of the teachers' role in the context of HME, especially in individual teaching. We point out that the code 'Teacher needs to be close(r)', coupled with a need for the MMT to be devoted and supportive, is in congruence with the findings from quantitative analysis. Namely, the coded segments convey the message on the importance of contact with the MMT and that, to feel supported, students need a teacher who is available when they seek help. Students feel supported when they see that the teacher is putting in an effort and when he/she is trying to motivate them. Apart from the need for classes to be more regular, students stress the importance of different teaching methods and feedback for their learning, which is in line with the insights from the literature on how to best support SRL in students. Namely, opportunities for students to practice and develop SRL can be provided by designing learning activities that promote peer learning, critical thinking, use of different learning strategies, etc. (Dignath-Van Ewijk et al., 2013; Nugent et al., 2019; Russell et al., 2020), and by providing good formative feedback (Hattie & Timperley, 2007; Ion et al., 2017; Nicol & Macfarlane-Dick, 2006). Appropriate teachers' interventions could potentially raise the self-motivation beliefs in a Forethought phase of the SRL (Zimmerman & Campillo, 2003).

We could assume that one part of reasons behind the limited contacts is related to technological resources available to teachers and students and their competence to use those resources. With limited organizational and systematic support, they were left to their resources and capacities, which was certainly reflected in the quality of online teaching/learning. Indeed, some teachers responded to the challenge with more success than others, since in 81 coded segments, students expressed their satisfaction with the teaching

during the pandemic and/or stated that there was no need for improvement, while in 117 coded segments, we could observe that there was room for improvement.

Our findings bring up another important question – how self-regulated are music students? The insights we obtained suggest a strong students' relatedness to the MMT's intervention. This is especially visible from students' letters where they demonstrated strong and diverse demands from the MMT – to give them instructions, to organize for them, to provide, motivate, and put in an effort. The list is long and indicates that students do not have highly developed SRL skills at the end of their three-level specialist music education (Nogaj & Bogunović, 2015). It also suggests that the student-teacher relationship is more of the 'master-apprentice' kind (Lehmann et al., 2007; Reid, 1997), which brings about difficulties in building students' responsibility for their own professional and personal development, as stated by Gaunt (2007).

Limitations

This study was exploratory and conducted on a relatively small convenience sample, which limits the generalization of findings. In addition, the research instrument, although it showed good reliability, has been used for the first time. Both limitations call for subsequent research with more participants. Another thing to keep in mind is that students retrospectively assessed the support received before the pandemic, and hence there is a possibility that their answers were "coloured" by their impressions of the present situation. Finally, since "interpretation is inherent to the (TA) analytic process" (Braun & Clarke, 2020b, p. 13), here we draw attention to the fact that the depth of our findings is conditioned by our skill in applying this method of analysis (Braun & Clarke, 2020b).

Conclusion

Considering the importance of fostering SRL skills in the musically gifted students and the importance of SRL skills in the context of online teaching/learning, we examined whether students in HME perceived the change in the MMT's support to the development of SRL skills during the pandemic. Given that the pandemic is ongoing, we also wanted to obtain insight into students' perspectives on how the MMT can further support their learning.

By analysing the answers of 144 under– and postgraduate music students, we obtained the findings that students perceived their SRL skills as having been supported by the MMT to a greater extent in the period before the pandemic. Further quantitative analysis indicated the importance of maintaining the

student-teacher connection during the pandemic, since students that had no contact with the MMT perceived lower support to the development of their SRL skills. Our results give ground to conclude that SRL in HME probably relies on the quality of the contact with the MMT. Qualitative analysis of students' expectations from the MMT focused again on the significance of the teacher's role as a partner in affective interaction (Ivić et al., 2001) and informed educational practice by pointing to specific teacher's actions that students perceived as important for their further development.

Based on the results, it may be inferred that HME students count on the MMT's cognitive instructions, motivational interventions, and emotional support, in spite of being involved in the system of music training for over a decade. Evidently, the development of strong SRL and performing skills is not supported systematically and in an adequate manner. These findings call for re-thinking of the SRL model in the specific field such as music education, where we evidence the impact of students' developmental changes, a specific role of motivational and personality features that contribute to the acquisition of SRL skills, as well as educational and personal influences of the MMT and of the HME setting in general. It seems that the SRL model can be affected by the features of the professional setting as well, and that it is worthwhile to investigate further in that direction.

Although the research has its limitations, it is a contribution to a better understanding of the educational needs of the musically gifted in Serbia in the time of the pandemic. Still, it is not limited to this. Regular teacher-student interaction is undoubtedly an essential prerequisite for developing students' SRL skills. However, it is not sufficient in itself. Supporting SRL requires a conscious commitment to it and careful planning of the teaching/learning process. Therefore, further research should explore the MMTs' awareness of the importance of SRL and the ways in which they incorporate support to SRL in their everyday teaching. Furthermore, we point out the importance of exploring the relative significance of teachers' affective role in one-to-one, small and large group teaching setting. Finally, findings that the MMT who supports students' learning is devoted to students and teaching and invests an effort, points to the significance of addressing the topic of teacher's motivation during online education.

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Biti Povezan: Podržavanje samoregulisanog učenja u višem muzičkom obrazovanju pre i nakon pandemije

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Tokom onlajn učenja, od studenata se očekuje da preuzmu veću odgovornost za sopstveno obrazovanje, a od nastavnika se očekuje da podrže veštine samoregulisanog učenja svojih studenata. U ovom istraživanju ispitivali smo da li mladi muzičari opažaju razliku u postupcima kojima je nastavnik glavnog predmeta podržavao njihove veštine samoregulisanog učenja pre i tokom pandemije, kao i viđenje studenata na koji način nastavnik glavnog predmeta može dodatno podržati njihovo učenje. Uzorak čine 144 studenta Fakulteta muzičke umetnosti u Beogradu, koji su popunili onlajn inventar sačinjen od 24 pitanja – 17 paralelnih ajtema Likertovog tipa (koji se odnose na postupke kojima je nastavnik glavnog predmeta podržavao veštine samoregulisanog učenja pre i tokom pandemije), a jedno je predstavljalo kratko pismo nastavniku glavnog predmeta. Podaci su analizirani upotrebom *t*-testa za zavisne uzorke i ANOVA-e, kao i upotrebom refleksivne tematske analize. Studenti opažaju da su veštine samoregulisanog učenja u većoj meri ohrabrivane pre nego tokom pandemije. Dodatno, naši nalazi pokazuju da studenti muzike koji sa svojim nastavnikom glavnog predmeta nisu imali neposrednu i onlajn komunikaciju, zasebno, opažaju da su bili manje podržani da samoregulišu sopstveno učenje. Nalazi kvalitativne analize informišu obrazovnu praksu time što ukazuju na konkretne postupke nastavnika koje studenti opažaju kao bitne za njihov dalji razvoj.

Ključne reči: samoregulisano učenje, COVID-19, podrška nastavnika, nastavnik muzike, visoko muzičko obrazovanje

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Appendix A
Results from the Principal Component Analyses of the SRL scale

Two principal component analyses (PCA), conducted on 17 items referring to the period before and 17 items referring to the period during the pandemic (rotation method: Oblimin, Eigenvalues 0.95), confirmed a three-component solution. The Kaiser-Meyer-Olkin measures verified the sampling adequacy for the analysis, KMO_{before} = .87; KMO_{during} = .92, and Bartlett's tests of sphericity indicated that correlations between items were sufficiently large for PCA, χ^2_{before}(136) = 1273.63, p < .001, χ^2_{during}(136) = 1522.85, p < .001. Three components referring to the period before the pandemic in combination explained 60.84% of variance. Three components referring to the period during the pandemic in combination explained 65.85% of the variance. The obtained solutions, with deviations of individual items, correspond to the structure of the SRL scale's subscales, which can be kept in mind when refining the instrument. Data on the reliability (Cronbach's alpha) of each of the SRL subscales, referring to the period before and during the pandemic separately, are given in Table A1.

Table A1

Reliability of the SRL scale's subscales referring to the period before and during the pandemic (N = 144)

Period	Forethought subscale	Performance subscale	Self-reflection subscale
	α	α	α
Before the pandemic	.87	.75	.86
During the pandemic	.90	.84	.89

Appendix B
Statistically significant differences between arithmetic means of parallel items of the scale assessing students' perceptions of the MMT's support in fostering SRL skills before and during the pandemic

Item The MMT encouraged the student …		*M* (SD)	*t*-test	*df*	*p*	r_{pb}
to build up awareness of the task importance (F)	Before	4.69 (1.87)	2.26	140	.025	.19
	During	4.52 (1.94)				
to strive for independent problem-solving (P)	Before	4.69 (1.94)	3.18	141	.002	.26
	During	4.39 (2.01)				
to pay attention to difficult parts (P)	Before	6.13 (1.18)	2.20	140	.030	.18
	During	5.94 (1.46)				
to use mental rehearsing strategies (P)	Before	5.02 (1.84)	3.57	141	.000	.29
	During	4.73 (1.99)				
to challenge oneself (P)	Before	5.41 (1.80)	3.20	141	.002	.26
	During	5.14 (1.98)				
to summarize what has been achieved (S-R)	Before	4.94 (1.78)	2.03	140	.044	.17
	During	4.77 (1.89)				

Note. F = Forethought phase; P = Performance phase; S-R = Self-reflection phase.

Appendix C
Means, standard deviations and two-way ANOVA statistics for the perceived differences in the MMT's support to fostering SRL skills before and during pandemic, for in-person student-teacher contacts; statistically significant, item level

Item The MMT encouraged the student ...	G1		G2		G3		F	df	p	ω
	M	SD	M	SD	M	SD				
to approach a task with a plan based on analysing it (F)	.64	1.41	-.04	.50	.07	.46	8.19	2, 135	.000	0.31
to set practicing/learning long-term goals (F)	.48	1.37	.07	-.44	-.03	.63	4.11	2, 135	.019	0.21
to strive for independent problem-solving (P)	.79	1.69	.14	.92	.14	.69	4.19	2, 135	.017	0.21
to pay attention to difficult parts (P)	.67	1.58	.05	.80	.07	.65	4.48	2, 134	.013	0.22
to challenge oneself (P)	.76	1.48	.18	.76	.03	.63	5.40	2, 135	.006	0.24
to make periodic assessments of progress (S-R)	.58	1.66	.05	.59	-.10	.41	4.83	2, 134	.009	0.23
to devise a plan for overcoming mistakes (S-R)	.64	1.54	.09	.72	-.17	.60	5.89	2, 133	.004	0.26
to assess own satisfaction with the achieved (S-R)	.61	1.50	-.04	.56	-.07	.53	7.01	2, 134	.001	0.28

Note. F = Forethought phase; P = Performance phase; S-R = Self-reflection phase; G1 = Group 1; G2 = Group 2; G3 = Group 3

Appendix D
Means, standard deviations and two-way ANOVA statistics for the perceived differences in the MMT's support to fostering SRL skills before and during pandemic, for online student-teacher contacts; statistically significant, item level

Item	G1		G2		G3		F	df	p	ω
The MMT encouraged the student ...	M	SD	M	SD	M	SD				
to set specific goals for each session (F)	.50	1.58	-.26	.98	.09	1.04	3.94	2, 124	.002	.21
to seek advice and help from different sources (P)	.94	2.07	.13	1.18	-.12	.64	4.48	2, 125	.013	.23
to use mental rehearsing strategies (P)	.94	1.70	.25	.93	.12	.48	4.54	2, 125	.012	.23

Note. F = Forethought phase; P = Performance phase; S-R = Self-reflection phase; G1 = Group 1; G2 = Group 2; G3 = Group 3

The "ups" and "downs" of the upside-down: constructivist and self-determined learning in the flipped classroom during COVID-19

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The flipped classroom method (FCM) is based on individual online learning followed by student-teacher group interactions and has shown some advantages over traditional learning even in the pre-COVID-19 pandemic context. FCM is conducive to the constructivist learning approach, characterized by active knowledge construction rather than passive consumption of predetermined concepts. Both approaches are expected to facilitate the satisfaction of the basic psychological needs of autonomy, competence, and relatedness as proposed by self-determination theory (SDT). Given the outbreak of the COVID-19 pandemic, however, FCM has been imposed on many universities that lack the resources to take a constructivist approach and satisfy students' basic psychological needs. Considering the challenges of inverted teaching induced by the pandemic, this review paper aims to further address the following problems in an integrated theoretical framework: What are the pros and cons of the pandemic-constructed flipped classroom?; Is constructivist learning possible and to what extent during the pandemic?; How can a constructivist environment be created in the pandemic-constructed flipped classroom? Can the flipped classroom be used as a virtual mediator between the constructivist learning environment and students' basic psychological needs? More specifically, the purpose of this paper is to integrate constructivist learning within the flipped classroom method and to explore how constructivist learning may facilitate basic psychological needs through the characteristics of the flipped classroom. The paper proposes a conceptual framework of the constructivist environment associations with basic psychological needs through the perceived usefulness of technology-mediated flipped classrooms. Specifically, it explores whether the communicative, instrumental, and pedagogical functions of the flipped classroom could help satisfy students' basic psychological needs. Challenges to the practical and empirical applications of the framework are discussed.

Keywords: constructivist learning, flipped classroom, basic needs, pandemic

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Introduction

The outbreak of the COVID-19 infection at the end of 2019 and the subsequent pandemic declaration by the World Health Organization (WHO) on March 11, 2020 brought about substantial changes in almost every basic domain: public health, food systems, and the world of work (Chriscaden, 2020). On top of that, one greatly affected domain, requiring rapid adaptation to the new circumstances, is education (e.g. Di Pietro et al. 2020; Jain et al. 2020: Tadesse & Muluye, 2020). The COVID-19 pandemic prompted a rapid transition of global learning systems to online teaching, disrupting everyday routines, with consequences for teachers' and students' psychological well-being. To cope with the transition more effectively, the flipped classroom method (FCM) has been increasingly applied as a teaching method. Out of 316 research articles on flipped learning published between 2012 and 2018, 85% were related to higher education context (Birgili et al., 2021), but flipped learning has yielded positive outcomes in secondary education as well (e.g. Cevikbas & Kaiser, 2020; Sergis et al., 2017). One of the positive aspects of flipping the classroom is reflected in constructivist learning – a learner's ability to construct their own meaning of the learned material (McLeod, 2019), which might be an especially challenging task during the pandemic. On the other hand, motivation to construct meaning and engage actively in learning might be reduced due to the deprived basic psychological needs of autonomy, competence, and relatedness. In this theoretical synthesis, we are interested in describing and integrating these main concepts into a common framework, with the aim of investigating their dynamic processes in more detail.

In this context, the main goal of our paper is to explore in more depth whether constructivist learning is sustainable in the flipped classroom, and whether constructivist approach might further enable satisfying the basic psychological needs of autonomy, relatedness, and competence, in students. Regarding our main concerns, we first describe the flipped classroom method (FCM) and outline its (dis)advantages during the pandemic. We then reflect on the relationship of the constructivist learning approach with flipped learning in the time of the pandemic. We further reflect on self-determination, considering the integration of constructivism and flipped learning during the pandemic. Finally, we conclude by proposing a tentative conceptual framework of the outlined concepts with challenges to their practical and empirical application.

The Pros and Cons of the Pandemic-Flipped Classroom

The flipped classroom model (FCM) is a teaching method in which instructional material (e.g. slides, presentations, videos) is first learned prior

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to the class, followed by an in-class application of the knowledge acquired (van Alten et al., 2019). This teaching method is a form of blended learning, an umbrella term used to describe various combinations of face-to-face and online learning (Hrastinski, 2019). In a conventional flipped classroom, students learn their materials in advance through online learning platforms, followed by face-to-face discussion with teachers and peers during the class. Unlike traditional teacher-centred learning, where lectures are delivered in a one-size-fits-all fashion, with limited time for further questions (van Alten et al., 2019), the flipped classroom is a student-centred approach, encouraging independent learning at student's own pace and the in-class consolidation of the acquired knowledge (Sergis et al., 2018). Given the decentralization of the teacher's role, in-class lecturers play numerous additional roles, such as a theme expert, instructional designer, or media developer, giving students an opportunity to apply their knowledge and engage actively in the class (Shih & Tsai, 2017).

To this point, the flipped classroom (or flipped learning, as it is usually called) has been used successfully in various subjects, especially the STEM (Science, Technology, Engineering, Mathematics) fields (Talley & Scherer, 2013), to indicate environment-independent learning (Birgili et al., 2021). Compared with the traditional method, the flipped classroom has a positive effect on students' learning outcomes, satisfaction with the learning environment, and self-determination (Sergis et al., 2018). A content analysis of scientific papers published on flipped classrooms shows that flipped learning has a positive effect on academic achievement and enhanced students' cognitive (higher-order thinking), affective (motivation, engagement, enjoyment, interest), and soft (interaction, flexibility) skills (Birgili et al., 2021).

Importantly, in the pre-pandemic normal, blended learning was referred to as "the new normal" in education (Norberg et al., 2011), and about 35 to 63% of institutions of higher education offered some form of flipped learning (Dziuban et al., 2018). In unprecedented times, such as the pandemic, however, universities around the world transitioned to fully online learning, including online interactions instead of live face-to-face ones. As a result, the implementation of the flipped classroom significantly increased during lockdown (Collado-Vallero et al., 2021). The mitigating circumstances in this transition were found to be the prior use of a pre-pandemic conventional FCM and technology-supported small group discussions (e.g. Zoom breakout rooms) as a substitution for live group discussions in the classroom (Beason-Abmayr et al., 2021).

Research on pandemic-induced classroom flipping has provided mixed results. On the one hand, students were equally as effective in the fully flipped

classroom as in the conventional flipped classroom (Hew et al., 2020), and they evaluated the fully flipped classroom more positively compared with online learning (Tang et al., 2020). Additionally, flipping was shown to be useful for improving a wide range of students' social skills (Latorre-Cosculluela et al., 2020). On the other hand, students were dissatisfied with their instructors' involvement with the course and knowledge of technology, as well as their own lack of technical skills (Torres Martín et al., 2021), and communication in online learning (Tang et al., 2020). In addition, students evaluated the establishment of learning goals, an effective learning environment, and effective communication as the most important characteristics of a learning experience (Dziuban et al., 2018).

Given the above, could flipped learning fulfil the requirements for excellence? According to van Alten et al. (2019), with proper designation, the flipped classroom could have promising results. Considering the high demands of online teaching during the pandemic, the (dis)advantages of the FCM in these challenging times must be explored. We attempted to synthesize the pros and cons of flipped learning in various sources, as outlined in Table 1. In addition, we tried to present them based on their reciprocity.

On the plus side, the transition to flipped learning proceeded seamlessly at universities that were familiar with the method and used online platforms (e.g. Moodle), without the need to rebuild organizational structures (Birgili et al., 2021). All the while, some universities were unprepared for online learning, in which case a new way of teaching was considered more to be crisis management than a new teaching method (Tang et al., 2020). Furthermore, defining the structure in flipped learning could be an advantage because a well-organized learning platform is expected to support internally motivated or self-determined learning (Shih & Tsai, 2017). Student performance may also be reinforced by pre-class individual learning (Birgili et al., 2021). Still, to be able to provide high-quality materials for students, teachers must invest greater effort in creative solutions, which is time-consuming (Cevikbas & Kaiser, 2020). In addition, teacher scaffolding may not fully satisfy

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Table 1

Pros and cons of flipped learning

Pros	Cons
Easy and low-cost transition	Lack of preparedness
(Birgili et al., 2021)	(Tang et al., 2020)
Structure definition	
Pre-class preparation	Time-consuming materials preparation
(Birgili et al., 2021;	(Cevikbas & Kaiser, 2020)
Shih & Tsai, 2017)	
Teacher scaffolding	Teacher over-reliance
(Cevikbas & Kaiser, 2015)	(Tang et al., 2020)
Independent learning	Great amount of cognitive load
free time for reflection	on self-determined learning
and material consolidation	Lack of syllabus adaptation for online teaching
active engagement	(van Alten et al., 2019)
(Tang et al., 2020; van Alten et al., 2019)	
Variety of presentation media	Technology knowledge requirements
(Hew et al., 2020)	Resistance to change
	(Birgili et al., 2021; Torres Martín et al., 2021)
Increase in general motivation	Not always functional
(Abeysekera & Dawson, 2015)	(Tang et al., 2020)

student needs, as in some cases students prefer more teacher-centred traditional teaching. Furthermore, even though the FCM may fulfil all the pre-conditions for self-determined learning, students may still be reluctant to participate due to the higher demands on their learning capabilities (van Alten et al., 2019). The FCM offers numerous ways to present material (Hew et al., 2020), but this largely depends on the instructor's technical skills and, hence, the instructor's willingness to adapt to fast contextual changes. For example, nearly 70% of students agreed that teachers did not adapt the course syllabus to online teaching (Torres Martín et al., 2021).

It has been proposed that the FCM should promote the basic needs of autonomy, competence, and relatedness, which would increase the general motivation for learning (Abeysekera & Dawson, 2015). It is worth mentioning, however, that the FCM is not always equally effective, as more complex contents (e.g. science and engineering majors) are better grasped through traditional learning (Tang et al., 2020).

One important advantage of the FCM is that it enables constructivist learning. This does not preclude the facilitation of constructivist learning by other teaching methods, but the pillars of the FCM (Flipped Learning Network, 2014) could be closely associated with a constructivist environment, which we further detail in the following section.

Flipped-Classroom Mediated Constructivist Learning in a Pandemic

Constructivist theories comprise three broad branches of cognitive constructivism (by Piaget, 1954), social constructivism (by Vygotsky, 1978), and radical constructivism (by von Glaserfeld, 1974). Although all three schools are influential, in this section we focus on social constructivism since it provides the most appropriate background for self-regulated learning.

Social constructivism is an approach to teaching and learning that holds that learning is a collaborative process and that meaning is constructed from existing knowledge in social interactions (McLeod, 2019; Vygotsky, 1978). As such, constructivist learning is based on several principles (Kwan & Wong, 2014; McLeod, 2019):

– All knowledge is constructed – the learner is not a passive absorber of pre-determined concepts;
– Learners are active participants in their learning – they use and accommodate their existing knowledge in social interactions;
– Knowledge is socially constructed – it develops as a result of social interaction; and
– Knowledge is personal – it comprises personally relevant experiences, attitudes, and values.

The constructivist learning approach is usually operationalized as a classroom environment and measured with the Constructivist Learning Environment Scale for pupils (CLES; Taylor et al. 1997) or its comparative student version (CLES-CS; Nix et al., 2005). On a conceptual level, both versions encompass five dimensions: Personal Relevance, Uncertainty (of Science), Critical Voice, Shared Control, and Student Negotiation. The constructivist learning environment scale was first developed to monitor the constructivist approach in math and science teaching (Taylor et al., 1997) but can be adapted to other fields (e.g. liberal studies; Kwan & Wong, 2014). Given that higher education is to some extent science-based, this instrument is an appropriate choice for operationalizing the constructivist approach.

The five dimensions of the constructivist learning approach are as follows. *Personal relevance* consists of out-of-the-class experiences that may be used as a context for developing students' scientific skills. *Uncertainty* is related to the provisional status of scientific knowledge that is socially or culturally dependent. *Critical voice* assesses the extent to which it is acceptable to question teaching practices and the teacher's willingness to foster student criticism towards learning. *Shared control* is related to sharing control with teachers over learning and consists of several indicators: learning goals, learning activities management, and assessment criteria. Finally, *Student negotiation* assesses the opportunity for students to share their ideas with others, reflect on them, and attentively listen to others' ideas (Taylor et al., 1997).

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Personal relevance, critical voice, and shared control seem to have a stable, though differential, pattern of relationships with various outcomes in terms of student preference, learning motivation, critical thinking, and academic success. Personal relevance and critical voice were viewed more favourably by students than was shared control (Kwan & Wong, 2014), which was the least preferred constructivist environment dimension in several studies (Ahmad et al., 2015; Cetin-Dindar, 2015; Kwan & Wong, 2014). Personal relevance and critical voice were positively correlated and shared control negatively correlated with critical thinking (Kwan & Wong, 2014). Personal relevance and critical voice were positive predictors of learning motivation in a high-achieving student group, whereas in a low-achieving group, only shared control was a positive predictor of learning motivation (Ongowo et al., 2014). In terms of academic achievement, relatively successful students perceived their environment as more constructivist, were less anxious about assessment (Cetin-Dindar, 2015), and had a higher preference for a constructivist environment (Ongowo et al., 2014).

The Constructivist Learning Environment Scale is recommended for use in systemic reforms, as constructivism is a major referent of learning environment transformations (Taylor et al., 1997). One such transformation seems to be underway during the pandemic. Christian et al. (2020, p. 2) referred to George Kelly's (1955) theory of personal constructs, which proposes that people create constructs to predict continuously changing contexts. Literally translating classrooms to online teaching would probably be misguided (Christian et al., 2020), since many students' and teachers' experiential and existential concerns would remain unresolved. According to Kelly, this state would cause anxiety, as an individual cannot anticipate events because existing constructs and interpretations are no longer useful (Fulgosi, 1997). Thus, it is important to integrate a constructivist approach in the long-term environmental changes caused by the COVID-19 pandemic. Additionally, the constructivist learning environment was positively correlated with the evaluated adequacy of educational facilities, which are necessary for implementing a constructivist approach in learning (Ahmad et al., 2015), especially following the transition to a fully flipped classroom.

Given this, how could the flipped classroom method be conducive to constructivist learning? The often-cited four pillars of flipped learning are known as FLIP: a *flexible* environment, *learning* culture, *intentional* content, and *professional* educator (The Flipped Learning Network, 2014). As described in Cevikbas and Kaiser (2020), a "flexible environment" is one that can be arranged to adapt to individual or group work; a "learning culture" encourages a student-centred approach according to one's Zone of Proximal Development (ZPD; Vygotsky, 1978). "Intentional content" is prepared with the aim of enhancing students' deeper understanding of the

content. "Professional educator" serves as a constant observer providing support, comprehensive feedback, and student assessment. For this reason, we believe that the flipped classroom could be important as a facilitator of a constructivist environment of self-determined or internally motivated learning.

Figure 1 presents a tentative hypothesis of the potential associations of the constructivist learning environment with the FCM through the four pillars of flipped learning.
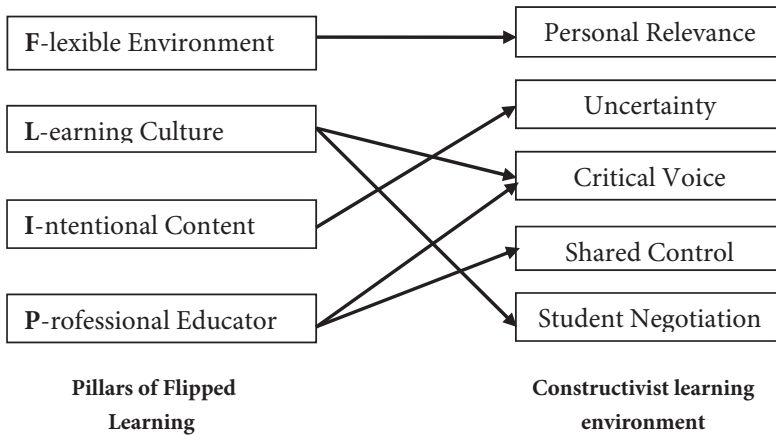

Figure 1. Facilitation of a Constructivist Environment through the Four Pillars of Flipped Learning. Hypothesized manifestations of the four pillars in a constructivist environment.

We are not aware of any empirical studies specifically testing the constructivist-environment dimensions in the flipped classroom, as defined by Taylor et al. (1997), though some studies have been published on the topic (e.g., MacKinnon, 2015; Özüdoğru & Aksu, 2020; Xu & Shi, 2018). It would be interesting to investigate further how the learning dynamics, as presented through the four pillars, could be associated with evaluation of the learning environment.

As Figure 1 shows, it could be expected that the flexible environment of the flipped classroom contributes to better evaluation of the personal relevance of studying material. For example, personal experience-based learning was evaluated as more constructivist than traditional lecture-based learning (Alt, 2015). We could, therefore, expect the flipped classroom learning culture to be associated with critical voice and student negotiation, given that it promotes a dynamic learning according to the ZPD (Zone of Proximal Development; Vygotsky, 1978), and both these dimensions are based on social interaction.

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In relation to the second pillar associated with dynamic learning, one study found that a learning potential or gain, defined as an increase in intelligence score after applying an instructional intervention, was not correlated with personality, although personality was correlated with intelligence (Đapo et al., 2012). This finding suggests the importance of dynamic learning in line with ZPD, as such learning could presumably alleviate the potential negative effects of personality or other dispositions on learning. Similarly, it was found that student mathematical potential was developed by teacher scaffolding and applying the constructivist approach in the flipped classroom (Cevikbas & Kaiser, 2020). The intentional content of flipped learning could also facilitate the acceptance of uncertainty in science or the learning material. Thus, content should be prepared strategically to create an environment that supports critical skills as well as unbalanced situations that question the truth (Tunca, 2015). Finally, the professional educator who is providing constant feedback to students should presumably facilitate the students' critical voice and shared control. Although shared control was negatively correlated with critical thinking, empowering students by encouraging their involvement in assessment decisions and practices may not be a bad strategy. For example, one study showed a high congruence between medical students and family physicians on the logicality and practicality evaluation of the multiple-choice test questions on cardiac and pulmonary pathophysiology (Secic et al., 2017). This finding implies that students should be involved in the qualitative assessment of exam questions, which would be in line with constructive alignment (Biggs, 1996; Biggs & Tang, 2007, quoted in Secic et al., 2017) or the reconciliation of the intended learning outcomes, teaching and learning activities, and assessment tasks, so that students could adjust their learning to the learning requirements. Giving students more important roles in assessment would also support a student-centred approach (Secic et al., 2017).

Given the above, it would be interesting to explore whether similar relationships could be identified during the pandemic. Although it seems that there are few studies specifically addressing the constructivist environment during the pandemic, we did find a few studies that could shed more light on this topic. As mentioned, flipped learning during the pandemic has apparently shown a decrease in communication or technology support. As one study found, although students had better grades as they progressed through the semesters, they still experienced a decrease in peer negotiations and social support (Zuckerman et al., 2021). Other findings showed difficulties in using self-learning modules, as indicated by unfamiliar words, a lack of supporting resources, and slow internet connections, which imposed additional demands on teachers to create a productive learning environment (Funa & Talaue, 2021). These findings point to the necessity of further exploring other critical

aspects of self-regulated learning, such as basic psychological needs, in order to maintain a constructivist environment. The lack of peer interactions and flawed technology may be associated with an unsatisfied need for relatedness and competence, respectively, which we describe in more detail in the next section.

Self-Determined Learning in the Constructivist Pandemic-Induced Flipped Classroom

As stated, a constructivist flipped learning environment does not always mean that self-determined learning is happening. Numerous studies have been conducted on the benefits of flipped learning, most relating to cognitive learning outcomes, but its relationship with motivation remains unexplored (Sergis et al., 2018). A meta-analysis of 114 studies (van Alten et al., 2019) could not include studies on the effects of the flipped method on motivation since there were so few of them. The same applies to constructivist environment research. As noticed by Loyens and Gijbels (2008, quoted in Alt, 2015), past research focused on the cognitive outcomes of constructivist learning instead of numerous other variables affecting student self-efficacy, including motivation. Later studies stressed the positive contributions of a constructivist learning environment to motivation. For example, Cetin-Dindar (2015) pointed out that motivation should be integrated into constructivist learning if the latter is organized beyond rote memorization. This was supported by her finding of a negative correlation between a constructivist learning environment and motivation to learn science, except when students had an opportunity to relate science to real-world issues (in which case the correlation was positive).

Regarding the importance of motivation, one might be curious how motivation is specifically associated with a constructivist learning environment. Self-determined learning is guided by internal motivation, but not all motivation is internal, and there are fluctuations on the external – internal regulation continuum. Müller and Louw (2004) identified four types of motivation, with an emphasis on education, differing by degree of internalization (Ryan and Deci, 2000): external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation describes learning regulated by external rewards and reinforcements (e.g. grades). Introjected regulation describes behaviour that is manifested but not internally regulated by the person (e.g. the preservation of self-esteem in front of others). Identified regulation is related to valuing the learned material (e.g. students believe that assessment is important). Integrated regulation is related to integrating values into a coherent self. This continuum has been verified in various contexts, including psychotherapy (Alispahić et al., 2013), where extrinsic regulation was negatively, and integrated and identified regulation positively, correlated with intrinsic motivation.

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According to self-determination theory (Deci & Ryan, 2000), transformation from external regulation to self-determined (intrinsic) motivation depends on the satisfaction of the three basic psychological needs: autonomy, competence, and relatedness. Autonomy is a sense of freely initiating and regulating one's own actions. Competence is a sense of having skills and being effective and competent at an activity. Relatedness is a sense of belonging, shared purpose, and connection with other significant people, and is manifested as a need to be with other people and integrated within social community. Although relatedness seems to be secondary to intrinsic motivation, as people can be engaged in intrinsically motivating activities in solitude, relational support may manifest as a sense of secure base and have a distal effect on intrinsic motivation (Deci & Ryan, 2000). Self-determined learning can be achieved through the implementation of instructional design that promotes basic needs, as proposed by Müller and Louw (2004): support for autonomy is viable through various options for learners, support for competence is provided through consistent feedback on a learner's progress, and support for relatedness is achieved by creating a cooperative atmosphere. The pedagogical relevance of integrating basic needs into the educational context is reflected in the potential for a student to gradually develop an interest in an activity in which they were initially uninterested. Another argument for this integration would be an almost tangible resemblance among the constructivist dimensions of personal relevance, uncertainty, critical voice, shared control, and student negotiation and basic needs, where these dimensions "apparently cover the needs for motivation to learn" (Cetin-Dindar, 2015, p. 235).

As research has shown, basic psychological needs are associated with numerous learning outcomes, situational interest, and intrinsic motivation. For example, support for autonomy, competence, and relatedness was a good predictor of interest in vocational learning in the progressing stages of the project, with social relatedness being the most influential need in all stages (Minnaert et al., 2011). Another interview-based study found relatedness to be the most salient psychological need, followed by competence and autonomy (Trenshaw et al., 2016). The importance of relatedness was described as the need being promoted through projects, as the need that enables competence building, and as a prerequisite, along with competence, for motivation. Based on these findings, it seems that the presumed importance of autonomy should not be taken for granted. Instead, Trenshaw et al. (2016) proposed the term "structural stability conceptualization," according to which the aggregate contribution of all three needs is necessary to build motivation, but in different students the satisfaction of some needs may be absent, which makes the particular need salient. As recommended by the authors, rather than automatically pursuing autonomy, it would be more appropriate to take a holistic stance towards basic needs.

Given the pandemic, it would be interesting to observe whether any significant changes took place regarding the salience of individual needs. In an analysis of nine studies published during the pandemic in Asia and the United States that encompassed different influential motivation theories, including self-determination theory, the most relevant topics were motivation, socialization, and self-directedness (Chiu et al., 2021). In the pandemic-related circumstances, it seems that competence plays a prevailing role in university students' well-being. In two cross-cultural, large-scale studies on the student sample from Austria and Finland (Holzer, Lüftenegger, et al., 2021) and on the adolescent sample from eight countries across North America, Asia, and Europe (Holzer, Korlat, et al., 2021), competence was a consistent predictor of positive emotion and learning motivation, while relatedness and autonomy, although correlated with positive emotion, self-regulated learning and intrinsic motivation, seemed to play a secondary role. This coincided with digital competence being the most significant positive predictor of student engagement (X. Wang et al., 2021). Social relatedness may have minor relevance due to the phenomenon of cocooning (Holzer, Lüftenegger, et al., 2021) – taking precautionary measures of self-isolation to stay healthy and safe – which could reflect a contextual interpretation of relatedness. On the other hand, social relatedness was an important predictor of positive emotions in the adolescent sample, pointing to the importance of being socially connected during the pandemic (Holzer, Korlat, et al., 2021). The importance of autonomy may also be reframed to have characteristics other than autonomy support (Holzer, Korlat, et al., 2021). In times of great insecurity and unsafety, having too much autonomy could presumably be associated with a loss of structure. For example, as a therapist style, supportive autonomy was found to predict personality plasticity indirectly through the perception of a therapy benefit (Hadžiahmetović et al., 2016). This finding shows that the perception of contextual usefulness may mediate how autonomy-supportive style contributes to behavioural flexibility. Since the contextual benefits in the pandemic are presumably smaller than under the usual circumstances, autonomy might not facilitate flexibility in these times or thus be as important.

As for the seemingly minor relevance of relatedness, studies point to an assumption that it may come to the fore through the satisfaction of other learning-relevant needs, especially competence, through dynamic online supportive systems. For example, two pre-pandemic studies showed that the flipped classroom was positively evaluated with respect to peer interactions (van der Velde et al., 2020; Zainuddin & Perera, 2017), autonomous learning skills, intrinsic motivation, and online competence with the assignments (Zainuddin & Perera, 2017). First-year students, however, though appreciating relatedness and pre-class preparation in flipped learning, also needed explicit guidance and expectations from the instructor, as well as

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occasional external incentives (van der Velde et al., 2017). It seems that, for less experienced learners, more straightforward instructions are required to give them a sense of competence. Taking into consideration that many students have experienced flipping for the first time during the pandemic, this may well apply to them. In line with this, a study conducted under the pandemic conditions (Zhou et al., 2021) showed that relatedness was not directly associated with perceived learning gain and satisfaction but indirectly mediated by online self-regulated learning. This finding indicates that the closer students felt to their teachers and peers, the more they engaged in self-regulated learning by goal-setting, task strategies, self-evaluation, environment structuring, help-seeking, and time management, which in turn enhanced their perception of learning gains and satisfaction. The effects of competence and autonomy on positive emotion, moderated by self-regulated learning, were partially confirmed in other study (Holzer, Lüftenegger, et al., 2021). Thus, while relatedness may not seem as salient during the pandemic as other needs, support for relatedness may be an initial step in taking control over learning. The learning environment, however, may also play a very important role. For example, experimentally instructed digital support for the three basic needs enhanced students' sense of autonomy, relatedness, and competence, which subsequently predicted the student learning engagement (Chiu, 2021). Considering the importance of the learning environment to the satisfaction of basic needs, we attempted to examine these relations closely within a common conceptual framework.

A common framework

We have elaborated previously on the importance of integrating autonomy, competence, and relatedness support into the constructivist approach, as well as pointed out the importance of the flipped classroom as a conduit of the constructivist environment. Thus, following this rationale, our further steps would be to integrate all three concepts into a common framework. This framework is presented in Figure 2. It is important to note that the intended framework is only a conceptual outline or a scheme rather than a theory-driven model, leaving space for accommodation based on future findings. Another important point is that this framework should probably be applicable to pre– or post-pandemic education, but the middle term – the usefulness of the flipped classroom – could carry more weight during the pandemic.

According to the common framework, a constructivist environment is presumed to facilitate the support of the basic needs of autonomy, competence, and relatedness, which in turn could positively affect learning outcomes – but only if the pandemic-induced flipped classroom is perceived as useful. As a "venue" where constructivist learning takes place, the organization and

conduction of the flipped classroom during the pandemic has been placed under the great pressure of responsibility. The flipped classroom might not necessarily be effective, in which case the perceptions of the method by students, as active protagonists of learning, becomes crucial, since further use of the method depends on the students' perceptions of its success (Colomo-Magaña et al., 2020).

For this reason, we believe that the perception of the usefulness of the FCM may moderate the constructivist facilitation of basic needs. Considering this, we propose the three usefulness dimensions of communicative, instrumental, and pedagogical function of the flipped classroom (Colomo-Magaña et al., 2020) because the usefulness of alternative online learning methods during the pandemic may be of central importance.

Another important reason for specifically proposing these three dimensions rather than other ways of measuring the flipped classroom's efficacy is that these dimensions are presumably most closely associated with the basic needs of autonomy, competence, and relatedness, as presented in Figure 2. As described by Colomo-Magaña et al. (2020), the communicative dimension assesses information presentation – the way a message is conveyed and social interactions in the class – and the improvement of communicative competence. The instrumental dimension involves the assessment of operational classroom functions, problems and situations originating from technological resources, and the development of cognitive skills or cognitive competence. The pedagogical dimension focuses on the assessment of learning and teaching processes, the acquisition and regulation of learning, and types of learning and feedback. As such, we presume that this dimension is most closely related to autonomy and self-regulated learning.
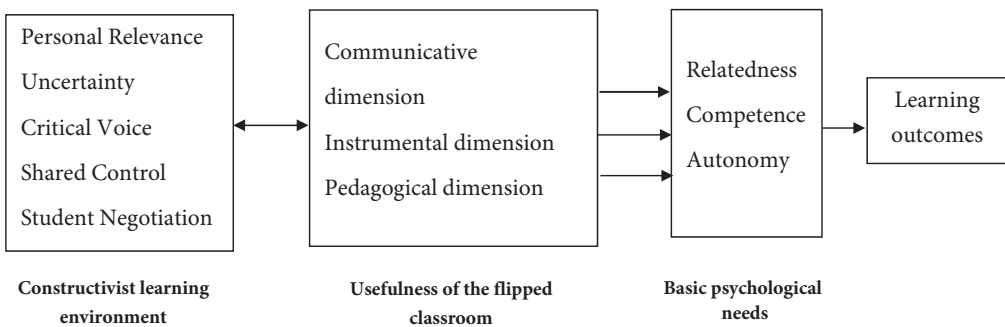

Figure 2. A Common Framework. A proposed scheme of the relationships among the constructivist environment, flipped classroom, and basic psychological needs.

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As proposed in Figure 2, it would be worth further investigating whether the greater perceived usefulness of flipped learning leads to a more positive perception of personal relevance, uncertainty, critical voice, shared control, or student negotiation, as well as whether the perception of usefulness enhances a sense of autonomy, competence, and relatedness, in which case one positive effect of the constructivist environment on basic psychological needs would be expected in those flipped classrooms that are perceived as having a positive influence on communicative, cognitive, and self-regulated competence. It is also important to underline the hypothesized recursive relationship between the constructivist environment and the flipped classroom, as the usefulness-mediated relationship between the constructivist environment and basic needs could be equally conceivable. In that case, the positive evaluation of a constructivist environment would increase the perception of its usefulness, which in turn would also increase the support for the basic needs of autonomy, competence, and relatedness – and hence learning outcomes. In other words, either proposition is inclined to take the usefulness of flipping into consideration, which could help in strategically planning for the support of basic needs. The relationship between the constructivist environment and the usefulness of the flipped method would also reflect the hypothesized relationship between the four pillars of flipped learning and the constructivist environment. The proposed relationship should be interpreted cautiously and more as an orientation than a well-rounded model until novel pandemic-related findings can shed more light on hypothesized relations.

Questions Raised

Rather than referring to this section as a "discussion," because the discussion is far from over, or a "conclusion," as we have more questions now than at the outset of this endeavour, we refer to the remaining issues as "questions raised". In this review paper, we made efforts to synthesize three broad constructs in a common conceptual framework under the extraordinary conditions of the COVID-19 pandemic. The integration of the flipped classroom method, the constructivist learning approach, and basic SDT needs proved an interesting and explorative, although arduous, endeavour. While we probably pointed out potential new directions in future research, new questions have been raised in the process. Some predecessors of this topic (e.g. Chiu et al., 2021, pp. 3–4) have already summarized the major challenges in future developments: maintaining student and teacher motivation in the transition from face-to-face to online learning, preparing students for future learning, addressing the psychological needs of students through online learning, promoting a technology-supported, peer-collaborative environment, enhancing instructors' efficacy at applying motivational theories in practice, supporting

instructors' well-being, addressing equity in technology-mediated learning, and re-examining policy responses to fight the COVID-19 pandemic through cross-cultural comparisons. The outlined challenges could be used as practical directions for proceeding further in the implementation of new instructional designs in the new normal. In addition, we would extend the list of main concerns by pointing out the domains that emerged as important theoretical and empirical challenges in this review process:

– A variety of conceptualizations and a variety of research practices: on the one hand, it is very encouraging to have open access to all pandemic-related scientific reports from which to plan further studies. On the other hand, there is little space for the comparability of the findings, given the variety of methods (e.g. the flipped classroom, online learning, or online-supported collaborative learning). This calls for more meta-analytic or cross-cultural research applying the same methodology to generalize the findings beyond the respective universities.

– In this respect, the effects of the FCM seem to be more extensively studied in higher education, while the constructivist environment studies seem to be more prevalent in secondary education. Thus, testing a proposed framework with regard to age groups might be a useful practice prior to potential implementations.

– Quickly updating pandemic-related publication record: while it is a good practice and necessary to have a great amount of research on education during the pandemic, it remains too early to draw general conclusions about what works, which makes any synthesis harder.

– Transference between pre-pandemic and pandemic research findings (except for longitudinal studies initiated prior to the pandemic): sometimes it seems difficult to capture the consistency and change adequately, which makes it harder to register the changes specifically caused by the pandemic (e.g. whether the increased need for relatedness is caused by the flipped method *per se*, the pandemic, or their combination).

– The remains of pre-pandemic issues: for instance, what did not work in the flipped classroom (e.g. technical equipment) prior to the pandemic continues to be a problem during the pandemic.

As for the questions we raised in the beginning, we could summarize the synthesis provided in the following as:

– The pros and cons of the flipped classroom should be considered interdependently; on the one side, the FCM enables constructivist learning. In unprecedented times, such as the pandemic, applying the FCM could provide a flexible venue for students and teachers to construct their own meaning of learning materials and give more personal relevance

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to it possibly as never before. On the other hand, as flexible as this venture may seem, additional education on how to apply the FCM for those with a lack of prior experience may be critical in its implementation. More specifically, it would be necessary to provide technical support and educate on how to adapt syllabi to the new circumstances.

– Constructivist learning is possible, as long as the tenets of flipped learning are respected; the flipped learning principles, including flexible environment, learning culture, intentional content, and professional educator, should be applied especially during the pandemic to better facilitate constructivist learning. *Flexible* environment could be implemented as a combination of online and live lectures/tasks. *Learning* culture could be implemented through different teaching approaches which could meet the individual student's needs. *Intentional* content could be adjusted in a way that the challenges posed by the pandemic could be integrated in learning materials. The principle of *professional* educator should consider flexible communication between teachers and students, as well as implementing creative learning tasks with more frequent feedback on task accomplishments.

– Constructivist environment can be created in the pandemic-constructed flipped classroom, but communication, technology, and digital competence seem especially important for the flipped classroom constructivist approach – as shown in research, a lack of knowledge about digital platforms on the part of teachers or students seems to be the main obstacle in effectively maintaining constructivist environment.

– The flipped classroom and constructivist approach may facilitate basic needs, but it is important that the environment is evaluated as useful with regard to each need specifically; as proposed in a common framework, communicative dimension of the usefulness of the flipped classroom may be related to need for relatedness, instrumental dimension may be related to need for competence, and pedagogical dimension may be related to need for autonomy, but these hypothetical relations should be empirically explored in the future, and

– Competence seems to be more important during the pandemic, but relatedness may indirectly be related to learning outcomes – as research has shown, satisfying need for competence may be an important prerequisite for satisfying need for relatedness as well, but more research on this topic would also be needed to verify these assumptions.

While the list of theoretical, empirical, and practical implications is far from exhaustive, we hope to have offered an initial synthesis as a starting point for further investigation of the common framework during the pandemic.

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Prednosti i nedostaci obrnute učionice: Konstruktivističko i samoodređeno učenje za vreme pandemije COVID-19

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Metoda obrnute učionice (MOU) je zasnovana na samostalnom onlajn učenju koje je praćeno naknadnim interakcijama učenika sa nastavnikom i pokazala je određene prednosti u odnosu na tradicionalno učenje, čak i u predpandemijskom kontekstu. MOU može da posluži i za primenu konstruktivističkog pristupa učenju koje karakteriše aktivna konstrukcija znanja umesto pasivne konzumacije unapred određenih koncepata. Oba pristupa bi trebalo da omoguće zadovoljenje osnovnih psiholoških potreba autonomije, kompetencije i povezanosti, kako pretpostavlja teorija samoodređenja (TSO). Međutim, nakon izbijanja pandemije COVID-19, metoda obrnute učionice je nametnuta mnogim univerzitetima uz manjak resursa za primenu konstruktivističkog pristupa i zadovoljenje osnovnih psiholoških potreba studenata. Uzimajući u obzir izazove obrnutog poučavanja indukovanog pandemijom, ovaj pregledni rad ima za cilj da se usmeri na sledeće probleme uz korišćenje integrativnog teorijskog okvira: Šta su prednosti i nedostaci obrnute učionice indukovane pandemijom?; Da li je konstruktivističko učenje omogućeno tokom pandemije i u kojoj meri?; Na koji način je moguće kreirati konstruktivističko okruženje u obrnutoj učionici nastaloj kao rezultat pandemije?; Može li obrnuta učionica biti korišćena kao virtuelni medijator između konstruktivističkog okruženja i osnovnih psiholoških potreba? U radu je dalje prikazan konceptualni okvir o povezanosti konstruktivističkog okruženja i osnovnih psiholoških potreba preko percipirane korisnosti obrnute učionice posredovane tehnologijom. Konkretno, u radu se dalje istražuje da li komunikativna, instrumentalna i pedagoška funkcija obrnute učionice može da doprinese zadovoljenju osnovnih psiholoških potreba studenata. Na kraju se razmatraju izazovi praktične i empirijske primene teorijskog okvira.

Ključne reči: konstruktivističko učenje, obrnuta učionica, osnovne psihološke potrebe, pandemija

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UPUTSTVO ZA AUTORE

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Radovi koji nisu adekvatno pripremljeni neće se recenzirati.

Autori iz celog sveta pozivaju se da pošalju svoje radove.

U pripremi rada treba se držati sledećih uputstava:

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Rad mora biti napisan u tekst procesoru Microsoft Word, na stranici formata A4, fontom Times New Roman (12 tačaka), latinicom, s proredom od 1,5 redova. Sve stranice moraju biti numerisane. Rad treba da bude dužine do jednog autorskog tabaka (30.000 slovnih mesta ili 20 strana bez referenci i priloga). Izuzetak su pregledni radovi koji mogu biti dužine do 50.000 znakova i prikazi koji mogu biti dužine do 5.000 znakova. Redakcija zadržava pravo da objavi i radove koji premašuju tu dužinu u slučajevima kada izlaganje naučnog sadržaja zahteva veću dužinu, odnosno prostor. Rad treba da bude lektorisan.

Jezik rada

Časopis objavljuje radove na srpskom i engleskom jeziku.

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Sažetak

Sažetak dužine od 150 do 250 reči treba da bude na početku rada. Sastavni delovi sažetka treba da budu: cilj istraživanja, metod, rezultati i zaključak. Sažetak po pravilu ne sadrži reference. Bez obzira na jezik rada, prilažu se sažetak i ključne reči i na srpskom i na engleskom jeziku.

Ključne reči

Na kraju sažetka treba navesti do pet ključnih reči. Pri odabiru ključnih reči, poželjno je odabrati one pojmove koji se često koriste za pretragu časopisa.

Tabele, grafikoni i slike

Tabele i grafikoni treba da budu sačinjeni u Wordu ili nekom Word kompatibilnom formatu. Isti podaci ne mogu se prezentovati i tabelarno i grafički. Svaka tabela, grafikon

ili slika treba da budu označeni brojem, s naslovom koji ih jasno objašnjava. U slučaju tabela, u jednom redu navodi se broj tabele, običnim fontom i bez tačke na kraju, a u novom redu naslov tabele ispisan kurzivom, kao u donjem primeru. Treba izbegavati linije i senčenja koja nisu neophodna.

Tabela 1

Struktura uzorka prema polu i uzrastu u tri istraživanja

	Godina istraživanja			
Karakteristike	1996 ($n = 1280$)	2001 ($n = 1200$)	2006 ($n = 1220$)	Total ($N = 3700$)
Pol				
Muški	49.2%	47.8%	50.7%	49.2%
Ženski	50.8%	52.2%	49.3%	50.8%
Uzrast				
15–29 godina	20.8%	19.0%	25.5%	21.8%
30–49 godina	38.5%	38.5%	41.4%	39.4%
50 i više godina	40.7%	42.5%	33.1%	38.8%

U slučaju grafičkih priloga (npr., slike, grafikoni), oznaka slike/grafika uz redni broj navodi se italikom, nakon čega, u produžetku, sledi naslov slike/grafika i kratko pojašnjenje njegovog sadržaja slovima u normalu (videti primer grafika ispod). Ti elementi navode se ispod odgovarajućeg grafičkog priloga. U tekstu se treba pozvati na svaku tabelu, grafikon ili sliku, upućivanjem na brojčanu oznaku.

Grafik 1. Promene u raširenosti vrednosti autonomije. Grafik ilustruje podatak da svaka uzrasna kohorsta s vremenom sve više prihvata vrednosti autonomije.

Statistika

Oznake primenjenih statističkih testova pišu se italikom (npr., *F*, *t*, *p*), izuzev ukoliko se ne radi o simbolima grčkog alfabeta (npr. χ^2, α). Rezultati statističkih testova treba da budu prikazani u sledećem obliku: $F(1,8) = 19.53$; $p < .01$ i slično za druge testove (npr.: $\chi^2(3) = 3.55$, $p < .01$ ili $t(253) = 2.061$, $p < .05$). Treba navoditi manji broj konvencionalnih nivoa značajnosti *p* (npr.: .05, .01, .001).

Citati

Svaki citat, bez obzira na dužinu, treba da bude praćen referencom s brojem strane. Za svaki citat duži od 350 slovnih mesta autor mora imati pismeno odobrenje vlasnika autorskih prava, koje treba da priloži.

Fusnote i skraćenice

Fusnote treba izbegavati. Skraćenice, takođe, treba izbegavati, osim izrazito uobičajenih. Skraćenice koje su navedene u tabelama i slikama treba da budu objašnjene.

Navođenje referenci u tekstu

U radovima na srpskom jeziku preporučljivo je da se imena stranih autora navode u srpskoj transkripciji, prilagođenim (fonetskim) pisanjem prezimena, a zatim da se u

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Reference

Reference se navode u skladu sa APA uputstvima, 6. izdanje (http://www.apastyle. org/), na kraju rada, u odeljku koji treba da bude naslovljen „Reference". U spisku referenci navode se samo one reference na koje se autor pozvao u radu, abecednim redom po prezimenima autora. Ne treba navoditi reference koje nisu pomenute u tekstu. Ukoliko je tekst pisan na engleskom jeziku, za izvore na srpskom jeziku naslove knjiga, članaka itd. potrebno je dati i engleske prevode u zagradi. Uobičajeni izvori navode se na sledeći način:

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Primer: Green, D., Palmquist, B., i Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. New Haven: Yale University Press.

b) **Poglavlje u knjizi ili zborniku**; sadrži prezime i inicijal imena (svih) autora, godinu izdanja, naslov poglavlja, inicijal imena i prezime urednika ili redaktora, naslov knjige (*kurzivom*), strane poglavlja u zagradi, mesto izdanja i ime izdavača.

Opšti format: Autor, A., i Autor, B. (godina). Naslov poglavlja. U A. Urednik, B. Urednik & C. Urednik (ur.), *Naslov knjige* (str. xxx–xxx). Mesto izdanja: Izdavač.

Primer: Popkin, S., i Dimock, M. (1999). Political knowledge and citizen competence. U S. Elkin & K. Soltan (ur.), *Citizen competence and democratic institutions* (str. 117–146). University Park: Pennsylvania State University Press.

c) **Članak u časopisu**; sadrži prezime i inicijale (svih) autora, godinu izdanja u zagradi, naslov članka, pun naziv časopisa (kurzivom), volumen (kurzivom) i stranice.

Opšti format: Autor, A., Autor, B., i Autor, C. (godina). Naslov članka. *Naziv Časopisa*, *xxx*, xxx–xxx.

Primer: Kuzmanović, B., Popadić, D., i Havelka, N. (1995). Social changes and changes of values. *Psihologija, 28*, 7–26.

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Primer: Maksić, S., i Ševkušić, S. (2011, februar). *Problemi identifikacije kreativnosti učenika u školi*. Saopštenje sa XVII naučnog skupa Empirijska istraživanja u psihologiji, Beograd.

e) **Web dokument**; sadrži prezime i inicijale (svih) autora, godinu, naziv dokumenta (*kurzivom*) i Internet adresu sajta.

Opšti format: Autor, A., Autor, B., i Autor, C. (godina). *Naziv dokumenta*. Preuzeto sa http://xxxxxxx.

Primer: Foa, R. (2007). *Socioeconomic development and parenting values*. Preuzeto sa http://www.roberto.foa.name/Parenting_Attitudes_Foa.

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U prilogu treba dati samo one sadržaje koji bi bili korisni čitaocima za razumevanje, evaluiranje ili ponavljanje istraživanja.

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Sve radove anonimno recenziraju dva kompetentna recenzenta. Na osnovu recenzija redakcija donosi odluku o objavljivanju rada i može doneti jednu od cetiri odluke: da rad objavi u formi kakva je priložena, da rad objavi nakon minimalnih izmena od strane autora u skladu sa uputstvima recenzenata, da rad objavi nakon neophodnih ozbiljnijih izmena prerade od strane autora u skladu sa uputstvima recenzenata, ili da odbije da objavi rad. Redakcija šalje obe recenzije autoru na uvid i uz odgovarajuće obrazloženje obaveštava autora o svojoj odluci najduže tri meseca od prijema rada. Ukoliko se autor odluči da koriguje tekst u skladu sa preporukama recenzenata, može ponovo podneti rad za objavljivanje, i tada je dužan da u formi pisma redakciju upozna sa svim izmenama koje je načinio u tekstu (broj stranice na kojoj se nalazi takva izmena). Ukoliko autor smatra da neka od preporuka recenzenata nije opravdana, ili je iz nekog razloga nije moguće ispuniti, potrebno je da o tome napiše detaljno obrazloženje redakciji. Redakcija zadržava pravo da konačnu odluku o objavljivanju donese samostalno.

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Redakciji časopisa *Psihološka istraživanja*

IZJAVA AUTORA

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The journal *Psihološka istraživanja* publishes theoretical papers, review papers, original research papers, professional papers and book reviews from all fields of psychology, not previously published elsewhere and not already under concurrent consideration for publication in another journal. An important criterion in the selection of papers is social relevance of the analysed topic (see the *Publication Policy* section). Manuscripts should comply with the standards of the journal *Psihološka istraživanja*, i.e. with APA (American Psychological Association) Publication Manual, 6th edition (http://www.apastyle.org/). Manuscripts should be submitted via e-mail to: ps.istrazivanja@gmail.com, accompanied by the signed *Author's Statement* provided at the end of this document.

The papers that are not adequately prepared will not be reviewed.

Papers are invited from authors throughout the world.

The manuscript should conform to the following preparation guidelines:

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Papers should be written in the text processor Microsoft Word, page format A4, in Times New Roman font (12 pt), in Latin alphabet, 1.5 line spacing. All pages must be numbered. Contributions should not exceed the length of one author's sheet (30.000 characters with spaces or 20 pages without references and appendices). Exception is made for review papers that may not exceed 50.000 characters with spaces, and book reviews that may not exceed 5.000 characters with spaces. The Editorial Board retains discretion to publish papers beyond this length in cases when clarity of scientific content presentation requires greater length, that is, space. Papers should be proof read.

Language

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Paper title should be as concise as possible. Author's full name and affiliation should follow the title. The footnote containing the e-mail address of the author (one of the authors) should be inserted after the full name of the first author.

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Summary ranging between 150 and 250 words should be submitted at the beginning of the paper. It must include research goal, method, results and conclusion. Up to five key words must be supplied at the end of the summary. As a rule, summary must not contain references. Regardless of the language in which the paper is written, the summary and key words should be submitted in both Serbian and English.

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Up to five key words should be given at the end of the summary. When choosing key words, it is recommended to select those concepts that are often used in journal searches.

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Tables and figures should be made in the MS Word or MS Word compatible format. Same data should not be presented both in tables and figures. Each table, figure or picture should be numbered, with a self-explanatory title. In case of tables, the first line should contain the table number, written in the normal font and without the full stop after the number, while the second line should state the title of the table in italic, as in the example given below. Unnecessary lines and shading should be avoided.

Table 1

Sample structure by sex and age in three surveys

| | Year of the survey | | | |
Characteristics	1996 ($n = 1280$)	2001 ($n = 1200$)	2006 ($n = 1220$)	Total ($N = 3700$)
Sex				
Male	49.2%	47.8%	50.7%	49.2%
Female	50.8%	52.2%	49.3%	50.8%
Age				
15–29 years old	20.8%	19.0%	25.5%	21.8%
30–49 years old	38.5%	38.5%	41.4%	39.4%
50 years and older	40.7%	42.5%	33.1%	38.8%

In case of visual materials (e.g. figures, graphs), the number of the figure/graph should first be given in italic, and, in the same line, the title of the figure/graph and its short description are given in normal font (see the example of the graph below). These elements should be provided below the respective graph/figure. A reference to each table, figure or picture should be made in the text.

Graph 1. Changes in the valuing of autonomy. The graph shows the increasing valuing of autonomy in each age cohort with time.

Statistics

The denomination of the used statistical tests should be given in italics (e.g. F, t, p), except in cases when the Greek alphabet symbols are used (e.g. χ^2, α). The results of statistical tests should be provided in the following form: $F(1,8) = 19.53$; $p < .01$ and similar for other tests, e.g. $\chi^2(3) = 3.55$, $p < .01$ or $t(253) = 2.06$, $p < .05$. Lower number of conventional p levels should be stated (e.g.: .05, .01, .001).

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Footnotes should be avoided. Abbreviations should be avoided as well, except the fairly usual ones. The abbreviations used in tables and pictures should be explained.

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a) ***Book***; should contain surname and initials of (each) author, year of publication, book title (*in italic*), place of publication and a publisher.

General form: Author, A., Author. B., & Author, C. (year). *Title of work*. Location: Publisher.

Example: Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. New Haven: Yale University Press.

b) ***Chapter from a book or an edited book***; should contain surname and initials of (each) author, year of publication, chapter title, name initial and surname of the editor, book title (*in italic*), chapter pages in parentheses, place of publication and a publisher.

General form: Author, A., Author, B., & Author, C. (year). Title of chapter. In A. Editor, B. Editor, & C. Editor (Eds.), *Title of book* (pp. xxx—xxx). Location: Publisher.

Example: Popkin, S., & Dimock, M. (1999). Political knowledge and citizen competence. In S. Elkin & K. Soltan (Eds.), *Citizen competence and democratic institutions* (pp. 117–146). University Park: Pennsylvania State University Press.

c) ***Article from a journal***; should contain surname and initials of (each) author, year of publication in parentheses, title of the article, journal title in full (*in italic*), volume (*in italic*) and pages.

General form: Author, A., Author, B., & Author, C. (year). Title of article. *Title of Journal*, *xx*, pp—pp.

Example: Kuzmanović, B., Popadić, D. & Havelka, N. (1995). Social changes and changes of values. *Psihologija*, *28*, 7–26.

d) ***Conference paper***; should contain surname and initials of (each) presenter, year and month of the meeting or symposia in parentheses, title of the presentation (*in italic*), conference name and location.

General form: Presenter, A. (Year, Month). *Title of paper*. Paper presented at the Name of the Conference, Location.

Example: Maksić, S., & Ševkušić, S. (2011, February). *Problemi identifikacije kreativnosti učenika u školi*. Paper presented at the Seventeenth International Symposium Empirical Research in Psychology, Belgrade.

e) ***Web document***; should contain surname and initials of (each) author, year, document title (*in italic*) and Internet site address.

General form: Author, A., Author, B., & Author, C. (year). *Title of document*. Retrieved from http://xxxxxxx.

Example: Foa, R. (2007). *Socioeconomic development and parenting values*. Retrieved from http://www.roberto.foa.name/Parenting_Attitudes_Foa.

f) ***Unpublished Master's or PhD thesis***; should contain surname and initials of the author, year in parentheses, title of the thesis, identification of the work as a thesis in parenthesis, name of the institution and location.

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Example: Smith, B. (1995). Youth and political participation (Unpublished doctoral dissertation). Institute of Psychology, Vienna.

Multiple citations of one author are given chronologically according to the year of reference publication, from the oldest towards the new ones. Multiple reference citations of a single author from the same year should be labelled alphabetically according to titles, e.g. (1995a), (1995b).

It is undesirable to cite non-published works (e.g., manuscripts et al.). If such citations are necessary, data should be given in as full as possible.

References to secondary literature or its citation (e.g., Marsh, 1980, quoted in Stevenson, 2005) should be avoided as much as possible.

Appendix

Appendix should include only descriptions of material that may be useful for readers to understand, evaluate or repeat the research.

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All papers are reviewed anonymously by two competent reviewers. On the basis of reviews, the Editorial Board make one of the following decisions: to accept the paper for publication without changes, to accept the paper after minor revisions, to accept the paper after substantial revisions or to reject the paper. The Editorial Board send both reviews to the authors and inform the contributing author about the final decision within the period of three months from paper reception. If the author resubmits the revised paper for publishing, it is obligatory to enclose a letter informing the Editorial Board about the corrections made in the text (along with page numbers where the revisions were made), in keeping with reviewers' recommendations. If the authors think that some of the reviewers' comments are not justified, or if they are impossible to meet, they must enclose a detailed elaboration and send it to the Editorial Board. The Editorial Board have the right to decide on the manuscript status independently.

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Complying with the instruction of the Ministry of Science and Technological Development, the articles published in the journal *Psihološka istraživanja* will be categorised in one of the following categories:

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