

Student Engagement in Online and Face-to-Face Classes in Times of Pandemic¹

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Abstract

Since the outbreak of the COVID-19 pandemic several studies on students' access to remote education and their perceptions of remote education have been conducted, but mixed-method studies on student engagement in an online setting are lacking. The aim of this study was to determine and compare the levels of school engagement in synchronous online classes and in face-to-face classes. Secondary school students ($N = 132$, 81.8% female, $M_{age} = 16.3$) filled out an online questionnaire comprising the School Engagement Measure Questionnaire (addressing online and face-to-face settings) and one open-ended question on the perception of differences between online and face-to-face classes. Statistical analyses showed that students were more engaged in face-to-face classes than in online classes ($F(1, 131) = 106.316, p = .000, \eta^2 = .448$), with the best achievers having the highest decrease of engagement in online classes. A thematic analysis of answers yielded four themes, named: active learning ($f = 42$), learning strategies and resources (15), time organization (15) and assessment (6). Evaluative analysis showed that different students described the same themes in different ways – while in some cases active

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learning in online classes was higher, for the majority – it decreased; while some students organized their time for studying more effectively in an online setting, others were more efficient in a face-to-face setting. It can be concluded that negative effects of online classes on students' learning strategies and engagement prevail and that teachers need additional support in organizing individualized and differentiated teaching to encourage higher levels of engagement and self-regulation in emergency remote education.

Keywords: *online, classes, education, engagement, student.*

Introduction

After the outbreak of the COVID-19 pandemic in 2020 the majority of educational systems worldwide shifted to distance education, which resulted in significant changes in the way teachers organize their teaching and students engage around school. The abrupt cancellation of face-to-face classes resulted in academic institutions carrying out so-called *emergency remote teaching* (ERT) (Hodges et al., 2020). In contrast to the detailed instruction design of online learning in regular circumstances, ERT was characterized by an unprecedented lack of preparation time (Bond, 2020a). Simultaneously, the requirement to immediately adjust to this new academic reality was often complicated by the underdeveloped digital competencies of teachers, as well as scarce resources in terms of equipment, Internet access or lack of space for students' studying at home (Ferri et al., 2020).

Research shows that students faced multiple educational challenges in ERT, such as: lower motivation (Yates et al., 2021), impaired attention, heavier workload (Hermanto & Srimulyani, 2021), inability to learn practical skills (Adedoyin & Soykan, 2020), difficulties in self-organization and limited socialization among peers (Vuletić et al., 2021). These issues were significantly related to students' heightened stress, anxiety and depression levels (AlAzzam et al., 2021; Giannopoulou et al., 2021). Some authors pointed also to the wider consequences of ERT, like increasing digital inequality in learning communities (Khlaif et al., 2021). On the other hand, some studies showed that online learning during COVID-19 had some positive aspects, offering students flexibility and a more independent role in the learning process (Butnaru et al., 2021). When it comes to learning and school achievement, results are still inconsistent (Ulum, 2022).

Background

As in many other countries, in Serbia schools were closed from mid-March 2020 and the entire education system was switched overnight to remote teaching and learning (TV lessons, use of online platforms and direct provision of educational materials to students without access to TV or the internet) due to the pandemic. In the school year 2020-21 in most cases education was hybrid, meaning that one half of the students were attending classes in school, while the other half was attending classes from home. Classes were shortened from 45 to 30 minutes and the number of classes in higher grades was cut to up to five. In the school year 2021-22, however, a complex model (so called "traffic lights" model) was introduced. Schools had to carefully monitor the epidemiological situation among

their students and staff, inform superiors and make data-based decisions about the model of schooling for every upcoming week. The hybrid model was required in the case of moderate numbers of infected people in the municipality and/or among students/school staff, meaning that one half of the class attended 45-minute in-school classes on Monday, Wednesday and Friday, and another group attended classes on Tuesday and Thursday, while in the week after the schedule was the opposite. While at home, students were invited to follow the lessons if teachers recorded them, to watch the TV lessons or use any other educational materials available online. When the epidemiological situation happened to be very negative, schools were closed, and all students shifted to online education.

This complex model enabled students to have experience of both in-school and online education with the same teachers within the same school year. This encouraged us to initiate a study that would compare face-to-face (in the context of the "traffic light" model) and online classes from the perspective of students themselves and to investigate in more detail the way students engage and learn in both settings. Although there were studies in Serbia that addressed access to education (UNICEF & MoESTD, 2020), students' adjustment and perceptions of online education, teacher practices and support in learning (IEQE, 2021; Forum of Belgrade High Schools, 2021; UNICEF & MoESTD, 2020), there were no studies that investigated students' engagement combining both quantitative and qualitative data.

Theoretical framework

School engagement

School engagement is usually defined as a multidimensional construct that encompasses behavioral, emotional, and cognitive engagement (Appleton et al., 2008; Fredricks et al., 2004). Behavioral engagement, as an explicit and observable form of engagement, involves exerting effort, persevering and maintaining attention, asking questions and participating in decision-making in classes, as well as absence of disruptive behavior. Emotional engagement includes positive and negative reactions to teachers, peers and values that the school promotes, as well as feelings of boredom, interest or anxiety in class. Cognitive engagement is based on the idea of investing cognitive effort in comprehending complex material and mastering a variety of skills (Fredricks et al., 2004; Fredricks & McColskey, 2012). Emotional engagement is the leading impetus of student engagement, which has a direct or indirect impact on behavioral engagement and cognitive engagement in the learning process (Hu & Li, 2017).

Research has determined positive relations between student engagement and student academic outcomes, such as higher achievement and lower dropout rates (Eccles, 2007; Epstein & Sheldon, 2002; Finn & Zimmer, 2012; Fredricks et al., 2004; National Research Council & Institute of Medicine, 2004; Perry, 2008). Higher engagement is positively related to developed social competencies, as well as lower levels of substance use, physical and mental health issues, conduct problems and violence (Carter et al., 2007; Loukas et al., 2010). This makes school engagement a relevant concept that has to be studied in regular circumstances, but in emergency circumstances as well.

School engagement in an online setting – before and after the pandemic

The concept of engagement is derived from the traditional view of teaching in a classroom, but scholars agree that we can use it in an online context as well because in both in-person and online settings a quality education needs students' participation. Before the pandemic, studies that investigated students' engagement in online classes were sporadic, showing that online education can have a positive impact on critical thinking and academic outcomes (Bullen, 1998; Northey et al., 2015; Perkins & Murphy, 2006), but is characterized by poor communication and interaction, as well as issues with attention and motivation as drawbacks (Allen & Seaman, 2010; Ng, 2019). Pre-pandemic studies show that the most important factor for learning motivation and outcomes in an online setting was the quality of teaching, irrespective of the method (asynchronous vs. synchronous learning) (Bond, 2020a). Providing clear explanations and assessment with feedback, promoting strategies for independent work at home and opportunities for peer interaction/collaboration proved to be particularly beneficial in terms of academic performance and engagement (Northey et al., 2015; Van der Kleij et al., 2015). Using collaborative technologies and platforms, like Google Docs, Google Classroom or Edmodo, were linked to higher levels of student engagement, while the use of non-school related technology (e.g., social media) were more likely to lead to disengagement (Bergdahl et al., 2020; Bond, 2020b).

Since 2020, more studies have been conducted on academic engagement in remote teaching. Overall, current research indicates that school closings during the pandemic led to a decline in students' academic engagement, reported by students and teachers alike. In a study by Bray et al. (2021), teachers noted 40% lower class attendance for those who previously attended regularly, while the so-called "reluctant attenders" were present online 70% less frequently compared to regular classes. Similarly, students showed increased class dropout rates over time, especially if the course started during or after school closures (Spitzer et al., 2021). Most teachers believed their students were doing less or much less work than usual, believing one third of them did not engage with materials at all (Lucas et al., 2020). At the same time, students reported spending less time studying and having less motivation than while going to school (Yates et al., 2021). Disengagement was most prominent among students from deprived, less affluent schools, particularly those from socio-economically disadvantaged backgrounds with little or no Internet access, limited equipment and study space at home (Bray et al., 2021; Lucas et al., 2020; Mac Domhnaill et al., 2021).

Levels of engagement in the online learning process during COVID-19 were significantly related to teaching methods – live synchronous lessons, interactive and collaborative classes, and videos made by teachers were related to higher levels of student engagement (Bond et al., 2021). Opportunities for meeting academic needs also proved to be relevant – perceived relatedness was the primary predictor of behavioral and emotional engagement, perceived competence was the most important predictor of cognitive engagement, while perceived autonomy was a significant factor for all, but not the most influential factor for any of the dimensions of student engagement (Chiu, 2022). It seems that, like in regular face-to-face teaching, the teacher's approach and teaching methods in ERT make a diffe-

rence between effective classes with high student engagement and less effective classes, where students are disengaged.

Present study

In the present study our aim was to determine if the findings about lower engagement in ERT found in many countries worldwide, apply to Serbia as well, and to understand the way students learn and engage in online and face-to-face settings. Given that the study was conducted in the period of hybrid, "traffic light" mode of schooling, when students had direct experience with both synchronous online and in-school classes, students were able to reliably report on and compare these two modes of classes. An additional aim was to compare if there were differences in the levels of engagement in these two settings between students who had different school achievements. Based on our findings, we seek to provide recommendations for the improvement of students' educational experience in ERT.

Methods

Participants and procedure

A convenience sample was selected in October 2021 from a vocational school in Belgrade which was an associated partner in the project "Illumine - A Community for Exploring and Sharing Uses of Evidence-Based Teaching Strategies" that this study was part of. The IRB approval for conducting this study had been obtained beforehand, as well as consent from the school's parents' board. Teachers shared a link to the online questionnaire with their students, and students provided their informed consent before filling out the questionnaire.

In total 132 students (81.8% female) submitted their answers. The students attended second and third grade, and the mean age was 16.30 ($SD = .651$). The majority of students (55.3%) had very good school achievement (with the GPA 3.50–4.49 out of a maximum 5), followed by good and satisfactory (GPA 1.51-3.49, merged, 27.3%) and excellent (GPA over 4.50, 17.4%).

Instruments

The initial version of the School Engagement Measure Questionnaire (SEMQ, Fredricks et al., 2004) contains three subscales and 19 items in total, but in this study we applied two subscales – one measuring Behavioral Engagement (5 items, e.g., "I pay attention in class.") and one measuring Emotional Engagement (5 items, e.g., "I feel bored in school") on a five-point Likert-type scale. First, we asked about behavioral and emotional engagement in face-to-face classes and then we asked the same set of questions for online classes (both referring to the period of the pandemic when the "traffic light" model was in place). Afterwards we introduced an open-ended question about the differences in engagement and learning between in-school and online classes ("Is there a difference between the way you learn (how you organize your time, memorize, what learning strategies you apply) and engage in classes when they are in school and online? If yes, please elaborate.").

Data on students' gender, age, grade and achievement in the previous school year (with four categories: satisfactory, good, very good and excellent) were also recorded. For the purpose of further analyses, we merged two categories of achievement (satisfactory and good) so as to have enough participants in each category for the analyses.

Data analysis

Scores for emotional and behavioral, as well as overall engagement were calculated, and descriptive statistics were performed. To compare the levels of engagement (emotional, behavioral and overall) in online and face-to-face settings we applied one-way Repeated Measures ANOVA, where the repeated factor was the type of classes (face-to-face or online). To compare students with different school grades, we applied six one-way ANOVAs, with the classification factor school achievement, and engagement in different settings (behavioral/emotional/overall engagement in an online setting and behavioral/emotional/overall engagement in a face-to-face setting) as a dependent variable. We chose to perform more ANOVAs instead of one MANOVA because they are more suitable for the design of our study and the interpretation of the results.

For qualitative data we applied a thematic and evaluative analysis, an inductive approach. In the first phase, two authors coded the answers searching for recurring patterns or themes, as suggested by Clarke & Brown (2006). Given that students spontaneously described some strategies and outcomes of online vs. face-to-face as positive or negative, in the second phase we applied evaluative analysis (Kuckartz, 2014). Again, two coders assigned a positive, a negative or neutral valence to each of the themes previously identified.

Results

Engagement in online and face-to-face classes – quantitative data

The results showed that students reported different levels of engagement in different types of classes. Emotional, behavioral and global engagement were higher in the face-to-face setting (Table 1). Differences proved to be statistically significant for all three dependent variables – for overall engagement ($F(1, 131) = 106.316, p = .000, \eta^2 = .448$), behavioral ($F(1, 131) = 88.995, p = .000, \eta^2 = .405$) and emotional engagement ($F(1, 131) = 77.473, p = .000, \eta^2 = .372$).

Table 1
Descriptive statistics for engagement in two settings

Type of engagement	Face-to-face classes		Online classes	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Overall engagement	3.998	.608	3.223	.715
Behavioral engagement	4.509	.528	3.980	.701
Emotional engagement	3.572	.829	2.602	.945

Engagement in online and face-to-face classes and school achievement

When we compared differences in engagement of excellent, very good and good (merged with satisfactory) students in two settings (see Table 2), we found statistically significant differences in the face-to-face setting for all three types of engagement – for overall engagement ($F(2, 129) = 6.396, p = .002, \eta^2 = .090$), behavioral ($F(2, 129) = 3.572, p = .031, \eta^2 = .052$) and emotional engagement ($F(2, 129) = 6.137, p = .003, \eta^2 = .087$). The obtained effects are considered medium size (value of η^2 between .05 and .12), and we see that differences are greater in the case of emotional engagement compared to behavioral. However, when we did the same analysis for the online setting, no differences between these three groups of students appeared.

Table 2

Descriptive statistics for engagement in students with different achievements in two types of settings

School achievement	Overall f2f		Overall online		Behavioral f2f		Behavioral online		Emotional f2f		Emotional online	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Good and satisfactory	3.863	.645	3.308	.584	4.361	.651	3.950	.726	3.449	.832	2.773	.842
Very good	3.941	.608	3.168	.775	4.512	.491	3.907	.681	3.466	.849	2.552	1.017
Excellent	4.389	.361	3.296	.709	4.730	.328	4.260	.680	4.101	.524	2.602	.945

Note. f2f stands for face-to-face

To understand the pattern of differentiation we performed Sidak's post-hoc tests when comparing groups in face-to-face classes. We can see from the descriptive measures (Table 2) that the excellent students were more engaged in every type of engagement, which was also proven by post-hoc tests (Table 3). With the exception of behavioral engagement, where there was no difference between excellent and very good students, excellent students proved to be more engaged than very good and good (merged with satisfactory) students in different types of engagement. There were no statistically significant differences between the groups of very good and good (merged with satisfactory) students in all three types of engagement.

Table 3

Multiple comparisons of school achievement groups for three types of engagement in a face-to-face setting

School achievement	School achievement	Overall Engagement		Behavioral engagement		Emotional engagement	
		MD	SE	MD	SE	MD	SE
Good and satisfactory	Very good	-.078	.119	-.151	.105	-.017	.162
	Excellent	-.524*	.156	-.369*	.138	-.652*	.213
Very good	Good	.078	.119	.151	.105	.017	.162
	Excellent	-.446*	.139	-.218	.124	-.636*	.191
Excellent	Good	.524*	.156	.369*	.138	.652*	.213
	Very good	.446*	.139	.218	.124	.636*	.191

Note. MD stands for Mean Difference; SE stands for Standard Error; * The mean difference is significant at the .05 level

Differences in engagement and learning in online and face-to-face settings – qualitative data

Out of 132 students, 85 provided their answers to the open-ended question on their engagement and learning in two settings; however, five students only wrote that there were no differences or that it was the same in online and face-to-face classes, without further elaboration. Therefore, 80 elaborate answers were analyzed using both thematic and evaluative analysis. This resulted in four themes, out of which two had positive, negative and neutral valence, and two had positive and negative valence. Positive valence referred to positive sentiments towards online classes, while negative valence referred to negative sentiments towards online classes (Table 4).

Table 4

Themes, valences, frequencies and typical examples derived through thematic and evaluative analysis of students' answers about engagement in online and face-to-face classes

Theme (referring to online classes)	f (tot*)	f (-)	f (+)	f (n)	Examples
Active learning	42	37	3	2	"I remember and concentrate better when I am in school and later it's easier for me to learn." (-) "I am more efficient online because I learn during the classes, while at school I learn after, when I come back home." (+) "There is no difference in the way I behave in online and face-to-face classes." (n)
Learning strategies and resources	15	7	1	7	"When we are in school, I can more easily take notes and understand what's less and what's more important." (-) "I have started searching online more when something is not clear." (+) "I study in completely the same way in online and face-to-face classes." (n)
Time organization	15	5	10	/	"When at home I am more relaxed, and I organize my time less well." (-) "I have more time to study, and I make a study schedule more easily." (+)
Assessment	6	2	4	/	"I feel more tense when I am to be assessed." (-) "When we are online, I don't see others, I don't have to talk loudly, so I am more relaxed, and I show my knowledge better." (+)

Note*. The total number of all categories exceeds the aforementioned number of answers because some participants mentioned two themes in their answers.

The first theme, which we named **active learning**, refers to the effort students put into carefully listening, focusing, comprehending and remembering while in classes. These were answers that typically contained words and expressions such as: effort, concentration, paying attention, comprehension, interest, motivation, repeating and remembering.

As presented in the Table, in the majority of cases engagement was perceived as lower in online classes. Some students explicitly related behaviors as manifestations of engagement to teachers' dedication and competence for teaching in an online setting, as in these examples: "I am more engaged when classes are face-to-face because teachers are then more engaged.", "Teachers are more dedicated when they teach face-to-face, so I can more easily remember more.", "Many professors are not skillful online".

The second theme was **learning strategies and resources**, which referred to concrete learning strategies (like asking teachers to better elaborate, taking notes, writing scripts or concept maps) and resources that were used while studying (textbooks, presentations, internet pages). Most answers referred to challenges in applying adequate learning strategies in an online setting, that is, the better use of strategies and resources in face-to-face classes. The majority of cases that were coded as neutral refer to answers that clearly demonstrated no difference in learning strategies, while in two cases students pointed to different strategies, but without acknowledging whether some are more or less effective.

The third theme was **time organization**, and it encompasses accounts of time distribution and consumption, making a schedule, and efficiency of studying. In some cases students pointed to a better organization of their time when studying from home, while for others face-to-face classes were associated with better organization.

Finally, the fourth theme, named **assessment**, referred to the examination of students' knowledge and grading, which is related to students' stress – either increased (in two cases) or decreased (in four cases) levels of stress in an online setting.

In general, there were many more answers that pointed to the negative effects of online classes on the process of learning and its outcomes, time organization and assessment (54 answers, 65.9%), than those that pointed to the positive effects (18 answers, 22%) of online classes. Online classes seemed to have a positive impact only on organization of time while studying, that is, using time more flexibly and effectively, and on assessment, because of their potential to decrease the level of tension students typically experience while being orally examined.

Discussion

In this study we sought to compare the levels of secondary school student emotional and behavioral engagement in online and face-to-face classes and to explore differences in the ways they learn and engage in both settings, by using quantitative and qualitative data. In addition, we compared the levels of engagement of students with different academic achievements.

Our results indicate that students perceive their engagement as significantly lower in online settings, which is in line with findings from international studies (Bray et al., 2021; Yates, 2021). This refers to both behavioral and emotional engagement. In the context of learning and engagement, students single out more negative outcomes of online classes, as compared to face-to-face classes, than positive or neutral ones. When classes are online students face more challenges in motivating themselves to study, in paying attention and focusing, as well as in applying typically effective learning strategies, such as taking notes,

and using available resources, such as textbooks. Some of them directly relate these negative outcomes to teachers' poor dedication and competencies, which was found in some other studies as well (Tulaskar & Turunen, 2022). On the other hand, online classes have positive effects on some students' time organization, suggesting that students were able to organize time for studying, extracurricular activities and leisure in a more effective way, compared to when they had to spend over five hours in school and a lot of time commuting. In addition, online classes have the potential to alleviate anxiety in assessment situations because students are less exposed.

When we compared students with different school achievements, it was determined that the highest achieving students tend to be more engaged in face-to-face classes than their peers with lower grades, which is in line with many previous studies (Fredricks et al., 2004); however, such a difference disappears in online classes. This means that the online organization of classes in times of pandemic impacts the best achievers the most negatively. Excellent students are at higher risk of drawing back from participating, feeling bored, less excited and happy during online classes than students with lower achievement who typically engage less in face-to-face classes. Although technology has proven to have the potential to provide a self-paced high quality learning experience for gifted students when it is carefully used (Swicord et al., 2013), in our case it was not used in a functional way.

Conclusions and implications

Although of limited scope, this study offers relevant evidence on the current state of students' engagement in online and face-to-face classes in Serbia. It shows that, despite the overall tendency to negatively impact student engagement, online education has some positive sides that should be further used and built upon, such as the potential to promote self-regulation and offer a more relaxed environment for learning and testing.

Teachers should use various types of software and tools, as well as digital textbooks and handbooks, as this has been proved to increase the effectiveness and quality of online learning (Ulum, 2022). In this way they could provide students with more digital tools and resources that could replace learning strategies and tools used in traditional classrooms, such as taking notes or going through hard-copy textbooks. As already suggested in previous studies on ERT (Bond et al., 2021), teachers should try to organize their classes in an interactive manner with many visual tools, to encourage individual or small group work and project-based learning that requires engagement after class, even in local communities, so students get more motivated and enthusiastic about the online classes. The literature highlights the importance of guided self-reflective discussions about the process of learning (Russell et al., 2020), so the discussions on students' emotions related to learning and how these can facilitate or hinder the learning process might be useful in ERT, especially for best achieving students.

Although the small sizes of subsamples of students based on their school achievement prevent us from generalizing, the finding that the engagement of the best achievers tends to decrease in an online setting calls for further reflections about the ways online instruction could be differentiated. Previous studies in Serbia focused on education of students

with disabilities or from low SES families, suggesting that they were negatively affected by ERT (UNICEF & MoESTD, 2020). However, one should not neglect gifted students, whose access to education was typically not affected, but whose engagement turned out to be negatively affected, leading potentially to long-term decrease in morale regarding school.

We can conclude that teachers have not used the pandemic and ERT to transform their teaching, which is in line with some previous studies in the Serbian context (Mičić et al., 2021; Vračar et al., 2020). Consequently, their students have not transformed their views of learning as a co-construction where teachers are only facilitators and where the internet can provide many sources of information and tools which support learning. Moreover, they have not even used online classes for further clarification and elaboration of learning material with teachers, as they would typically do in face-to-face classes (especially the highest achievers). Therefore, additional support to teachers on how to implement interactive, individualized and differentiated teaching and then how to integrate technologies into such teaching in a transformative way is needed. Further capacity building in promoting self-regulated learning among students is also recommended, as also recognized in some other studies in the Serbian context (e.g., Mutavdžin et al., 2021).

In future studies, ideally with bigger samples, it would be valuable to further investigate the impact of online education on the highest achieving students. For future studies it would be also useful to explore individual and school-related reasons for lower engagement and provide guidelines for schools, teachers, as well as students and parents on how to support higher engagement in ERT. In the case of the new wave of the pandemic and ERT, the educational system should shift its focus from access to quality of education for all groups of students.

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Angažovanost učenika u onlajn i neposrednoj nastavi u vreme pandemije

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Apstrakt

Iako je od izbijanja pandemije kovid-19 sprovedeno više studija o dostupnosti učenja na daljinu i načina na koji ga učenici doživljavaju, miks-metodska istraživanja koja se bave angažovanjem učenika u onlajn okruženju su malobrojna. Cilj ove studije je bio da se utvrde i uporede nivoi školskog angažovanja na onlajn časovima u odnosu na angažovanje pri neposrednoj nastavi. Učenici srednjih škola ($N=132$, 81,8% devojke, $M_{god}=16.3$) popunjavali su onlajn upitnik o školskom angažovanju (School Engagement Measure Questionnaire) uzimajući u obzir onlajn i neposrednu nastavu, i odgovarali na jedno otvoreno pitanje o svom viđenju razlika između ove dve vrste časova. Statističkom analizom je utvrđeno da se učenici više angažuju u neposrednoj nastavi ($F(1, 131) = 106.316$, $p = .000$, $\eta^2 = .448$), pri čemu oni koji inače postižu najbolji školski uspeh pokazuju najveći pad u angažovanju na onlajn časovima. Tematskom analizom odgovora na otvoreno pitanje ustanovili smo četiri teme: aktivno učenje ($f=42$), strategije učenja i resursi (15), organizacija vremena (15) i ocenjivanje (6). Evaluativna analiza je pokazala da učenici iste teme opisuju na različite načine – dok je u nekoliko slučajeva aktivno učenje u onlajn nastavi bilo izraženije, u većini slučajeva ono se smanjilo; dok su neki učenici efikasnije organizovali svoje vreme za učenje u onlajn kontekstu, drugi su bili efikasniji uživo. Možemo zaključiti da u slučaju strategija učenja i angažovanja učenika preovladavaju negativni ishodi onlajn nastave i da je nastavnicima potrebna dodatna podrška u organizovanju individualizovane i diferencirane nastave kako bi se podstakli viši nivoi angažovanja i samoregulacije u nastavi na daljinu u vanrednim uslovima.

Ključne reči: onlajn, nastava, obrazovanje, angažovanje, učenici

Вовлеченность учащихся в онлайн- и очном обучении во время пандемии

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Резюме *Несмотря на то, что после вспышки пандемии COVID-19 было проведено большое количество исследований на тему доступности онлайн-обучения и того, каким образом учащиеся воспринимают его, так называемые «микс-методические» исследования занимающиеся вовлеченностью учащихся в онлайн-среде весьма немногочисленны. Цель настоящего исследования состояла в определении и сравнении уровней вовлеченности школьников на онлайн-уроках по отношению к вовлеченности на очных занятиях. Ученики средних школ ($N = 132$, 81.8% девочки, $M_{\text{воз}} = 16.3$) заполняли онлайн-опросник о вовлеченности в школе (School Engagement Measure Questionnaire) - учитывая онлайн- и очное обучение - и отвечали на один открытый вопрос на тему их восприятия отличий между этими двумя видами уроков. Статистический анализ показал большую вовлеченность учащихся на очных занятиях ($F(1, 131) = 106.316$, $p = .000$, $\eta^2 = .448$), в то время как у тех, кто обычно добивается наилучших результатов в учебе, наблюдается наибольшее падение вовлеченности на онлайн-занятиях. Путем тематического анализа полученных ответов на открытый вопрос, мы обозначили четыре темы: активное обучение ($f = 42$), стратегии обучения и ресурсы (15), тайм-менеджмент (15) и оценка (6). Оценочный анализ показал, что учащиеся по-разному описывают одни и те же темы: если в единичных случаях активное обучение на онлайн-занятиях было более выраженным, то в большинстве случаев оно снижалось; если отдельные ученики более эффективно распределили свое учебное время в онлайн-контексте, другие были более эффективными на очных занятиях. Мы можем сделать вывод, что в случае стратегии обучения и вовлеченности учеников, преобладают негативные результаты в онлайн-обучении и что преподавателям необходима дополнительная поддержка в организации индивидуализированного и дифференцированного обучения дляощрения более высокого уровня вовлеченности и саморегуляции в дистанционном обучении в чрезвычайных условиях.*

Ключевые слова: *онлайн, преподавание, образование, взаимодействие, учащиеся.*