

Teaching Quality in Serbian Higher Education during Crises: A Qualitative Case Study of Professors and Students' Reflections¹

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This paper explores the perceptions of university professors and students on teaching quality in higher education during two overlapping crises in Serbia: the COVID-19 pandemic and the 2024–2025 student-led university blockades. A qualitative case study approach was employed, based on semi-structured interviews with 120 participants (90 students and 30 professors) from four major universities. Thematic analysis revealed that both crises disrupted traditional teaching practices while simultaneously accelerating digital transformation. Students reported challenges related to motivation, reduced interaction, unequal access to technology, and limitations in practical learning, whereas professors emphasized increased workload, difficulties in sustaining engagement, and the steep learning curve of digital platforms. Despite these difficulties, participants highlighted positive outcomes such as flexibility, recorded lectures, continuity of education, and the development of new digital competencies. Both groups identified hybrid teaching as the most sustainable long-term model. The findings underscore the role of socio-demographic factors, the need for professional development, and investments in digital infrastructure, while situating the Serbian case within the broader discourse on crisis-driven transformations in higher education. This research contributes context-specific insights and provides actionable recommendations for policymakers and institutions seeking to strengthen resilience in higher education.

Keywords: higher education, teaching quality, professors, students, qualitative case study, crisis, online learning, hybrid teaching, Serbia

Introduction

Higher education systems worldwide have faced multiple crises in recent years, most notably the COVID-19 pandemic, which forced universities to transition rapidly to online teaching (Pokhrel & Chhetri, 2021; Rashid & Yadav, 2020). In Serbia, the situation was further complicated by the 2024 Novi Sad Railway Station collapse, which not only caused significant societal disruption but also triggered large-scale student protests and blockades of faculties across the country. These blockades directly affected the organization of academic life and raised questions about the resilience of higher education institutions in times of crisis.

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The pandemic and subsequent blockades both illustrate how higher education must adapt to sudden and disruptive circumstances. Online learning provided opportunities for continuity and flexibility, but also revealed critical challenges such as reduced student engagement, unequal access to digital infrastructure, and difficulties in maintaining the quality of practical instruction (Bralić & Katić, 2020; Gupta & Sharma, 2020; Paudel, 2021). While these issues have been widely studied in international contexts, the Serbian case presents a unique dual crisis—health-related and socio-political—that demands further investigation.

In line with this aim, the study pursued the following objectives:

1. To explore the perceived advantages and disadvantages of online and hybrid teaching.
2. To identify the main challenges faced by both professors and students.
3. To examine the influence of socio-demographic characteristics on perceptions of teaching quality.
4. To propose recommendations for improving resilience and teaching quality in higher education.

By addressing these objectives, the study contributes to a better understanding of crisis-driven education in Serbia and offers insights relevant to higher education policy and practice in similar contexts.

Online Teaching during the COVID-19 Pandemic

The global COVID-19 pandemic reshaped higher education, forcing universities to rapidly transition to online teaching. Digital platforms enabled teachers to share multimedia content and create interactive environments that contributed to student satisfaction and skill development (Haider & Al-Salman, 2020). E-learning encouraged independent knowledge acquisition and critical thinking but also raised concerns regarding inequalities in access to technology and internet infrastructure (Jena, 2020). Research highlighted that while doctoral students benefited from flexibility and remote mentoring, undergraduates often struggled with self-regulation and motivation in the absence of structured deadlines.

Studies across different countries provide valuable insights into this transformation. In Russia, teachers viewed the shift to online learning as an intellectual challenge that redefined their role as facilitators (Almazova et al., 2020). In Libya, online learning was perceived as a positive contribution to teaching quality (Maatuk et al., 2022), while in India, inequalities in digital access proved to be a major barrier (Jena, 2020). Paudel (2021) emphasized that with proper preparation and training, teachers could achieve successful online delivery, while Stojanović (2020) documented the negative psychosocial effects of remote education in Serbia, including student anxiety, reduced motivation, and the absence of live interpersonal interaction.

The emergency transition to online learning exposed weaknesses in teacher preparedness. Short preparation time, lack of resources, and limited training led to

significant professional stress. Nevertheless, positive aspects such as new teaching tools, innovative knowledge assessment methods, and flexibility were widely acknowledged (Maatuk et al., 2022). From the students' perspective, emotional wellbeing was a recurring issue: many reported fear, helplessness, and anxiety (Pavlović et al., 2021). Similar findings were observed in China, where decreased social contact caused heightened levels of stress and anxiety.

Research suggests that students' preferences vary. While some preferred face-to-face interaction for better collaboration, others reported improved concentration in online environments (Karalis & Raikou, 2020). These findings indicate that no single teaching modality is universally superior; rather, adaptability to individual student needs is crucial. Online teaching requires greater responsibility for time management and self-directed learning (Paudel, 2021), while hybrid models appear to balance flexibility with the benefits of live engagement (Sousa & Mangas, 2024).

The role of digital infrastructure remains central. In Africa, many universities were unable to complete academic years due to unstable internet access (Dampson et al., 2020). Similar challenges were reported in Serbia, where students from smaller settlements had significantly fewer opportunities to participate in online classes compared to peers from urban centers (Stojanović, 2020). These findings underscore the widening gap in educational opportunities based on socioeconomic status and geography.

In Serbia, the COVID-19 pandemic was followed by a new disruption in the form of student-led blockades of faculties (2024–2025). While international literature on online education during emergencies is extensive, limited research has explored the intersection of pandemic-induced digital transformation with political and institutional crises. This study therefore positions Serbia as a unique case for examining how universities and students adapt to multiple overlapping crises, highlighting both the challenges and the resilience of higher education.

Methodology

The study investigates how university professors and students in Serbia perceived the quality of higher-education teaching during two overlapping crises—the COVID-19 pandemic and the 2024–2025 faculty blockades. Guided by this aim, the study pursued five objectives: (1) examine perceived advantages and disadvantages of online/hybrid teaching; (2) identify technological, pedagogical, and emotional barriers; (3) explore positive practices that may persist beyond crises; (4) assess the influence of socio-demographic factors (e.g., year of study, faculty type, place of residence, participation in blockades); and (5) formulate recommendations to strengthen resilience and teaching quality. Corresponding research questions asked: how professors and students perceive teaching quality during crises; what the principal barriers and opportunities are; how socio-demographics shape experiences; and what actions can improve resilience in Serbian higher education.

A qualitative case study was employed to enable in-depth exploration within a bounded system—Serbian higher education under dual crisis conditions. This

approach follows established guidance for context-specific inquiry into social phenomena (Yin, 2018; Stake, 1995).

The sample comprised 120 participants: 90 students and 30 professors from four public universities (Belgrade, Novi Sad, Niš, Kragujevac). Student variation (year of study, study program, urban/rural residence) was purposively sought due to its potential impact on access to digital tools and perceptions of online teaching. Professors represented social sciences, humanities, medical, and technical fields.

A purposive–random approach was used. Students were recruited via university mailing lists, faculty forums and professors were contacted through academic networks. The sample does not claim statistical representativeness but secures diversity of perspectives. No distinction was enforced between students involved in blockades and those not involved, as the focus was on perceptions of teaching quality, not political participation.

Semi-structured interviews were conducted online via Zoom and Google Meet between mid-May and early June 2025. In total, 120 participants (90 students and 30 professors) from four public universities in Serbia took part. Each interview lasted approximately 40–60 minutes. The interview guide, aligned with the research aim and questions, included open-ended prompts focusing on: experiences with online and hybrid classes during the crises; perceptions of teaching quality and student engagement; challenges related to technology, communication, and motivation; strategies used to maintain learning continuity; and recommendations for improving higher education resilience in crisis conditions.

Interviews were transcribed verbatim and analyzed via thematic analysis (Braun & Clarke, 2006) supported by NVivo. The procedure included:

1. initial coding of segments related to teaching quality, challenges, opportunities;
2. aggregation of codes into broader themes aligned with research questions (e.g., *Motivation and Learning Habits*, *Technological Barriers*, *Institutional Preparedness*);
3. comparison across student and professor groups to identify convergences/divergences;
4. interpretation in light of the literature to enhance analytic rigor.

Credibility and dependability were addressed through member checking (theme summaries shared with a subset of participants) and thick description of context (pandemic and blockades) to support transferability. All participants provided informed consent; anonymity and confidentiality were ensured.

Research Results

The analysis of the interviews revealed several key themes that reflect how students and professors experienced the shift to online teaching during the blockades.

Divergent Learning Strategies and Motivation

Students' responses showed wide variation in learning approaches during the lockdowns. While some students engaged in self-study and prepared for postponed assessments, others reported a lack of motivation due to the absence of clear deadlines and exam schedules. As one student noted:

"I can't force myself until I have a specific date, until I have some pressure..."

This indicates that external structures, such as deadlines and scheduled assessments, played a crucial role in sustaining students' engagement. Similar findings in the literature emphasize the importance of self-regulation and time management in online learning environments (Paudel, 2021).

Institutional Responses to the Blockades

Faculties responded differently to the crisis. For example, the Faculty of Philosophy in Novi Sad fully transitioned to online teaching, while other faculties implemented hybrid solutions. These institutional decisions shaped student experiences and reveal the uneven preparedness of higher education institutions to handle sudden disruptions. This variability highlights the lack of a unified national strategy for ensuring learning continuity.

Use of Digital Tools

Students and professors reported frequent use of a wide range of digital platforms. These tools served different functions, from learning management systems (Moodle, Google Classroom) to collaboration tools (Google Workspace, Microsoft 365) and evaluation platforms (Turnitin, GradeScope). However, while the variety of tools demonstrates flexibility, several students mentioned challenges in navigating multiple platforms simultaneously. This suggests that digital fragmentation may undermine teaching quality, as consistency in platform use is essential for reducing cognitive load.

Perceived Benefits and Challenges

Participants recognized some positive aspects of online learning, including flexibility, access to resources, and continuity of education during blockades. However, they also emphasized key challenges: limited interaction with professors, reduced opportunities for peer collaboration, and inequality in access to stable internet and devices. These findings align with previous research showing that online teaching can exacerbate existing inequalities among students (Jena, 2020).

Need for Flexible Models

Across interviews, both professors and students emphasized the need for flexible and hybrid teaching models to safeguard the continuity of higher education in crisis situations. This indicates that while online learning was largely perceived as a temporary solution, many stakeholders saw potential in maintaining some aspects (e.g., digital resources, recorded lectures) beyond the crisis period.

The analysis revealed both similarities and differences between students' and professors' reflections on teaching quality during crises, as we can see in Table 1. and Table 2.

Both groups highlighted the importance of online and hybrid teaching for ensuring educational continuity. Students and professors alike recognized the advantages of flexibility and digital access to resources, but also pointed out the limitations of reduced interaction and communication.

Students emphasized the impact of uncertainty on motivation and learning outcomes, while professors focused on increased workload and stress caused by the rapid transition to online platforms. While students struggled with deadlines and maintaining self-regulation, professors expressed concern about sustaining engagement and ensuring quality feedback.

Table 1. Students' Perspectives on Thematic Categories, Illustrative Quotes, and Interpretations

Theme	Illustrative Quote	Interpretation
Divergent Learning Strategies and Motivation	"I can't force myself until I have a specific date, until I have some pressure..." (Student)	Students' motivation strongly depends on external structures (deadlines, scheduled exams). Lack of clear assessment timelines reduces engagement and self-regulation.
Institutional Responses to the Blockades	"At the Faculty of Philosophy in Novi Sad, classes were transferred online during the blockade."	Faculties responded unevenly to the crisis. This highlights differences in institutional preparedness and the absence of a coordinated national strategy.
Use of Digital Tools	"We used Zoom for classes, Google Docs for group work, and Moodle for tests."	The multiplicity of platforms shows flexibility but also creates digital fragmentation, increasing cognitive load for students.
Perceived Benefits	"It was easier for me to attend lectures from home and re-watch recorded classes."	Online teaching provided flexibility and resource accessibility, supporting continuity of education despite blockades.
Challenges and Inequalities	"I couldn't follow all classes because of poor internet at home."	Online teaching amplified existing inequalities, particularly in technology access and stable connectivity.
Need for Flexible Models	"Hybrid teaching would be the best solution so we don't lose the year."	Both students and professors see hybrid models as sustainable, balancing flexibility with the need for live interaction and practical training.

Students often experienced inequalities in access to stable internet and digital devices, while professors reported difficulties in mastering new tools in a short timeframe. This asymmetry suggests that institutional support needs to address both student access and professor training.

Positive Outcomes: Despite challenges, both groups identified lasting benefits of digitalization. Students valued recorded lectures and flexible access to learning materials, while professors planned to continue using digital tools to enhance their teaching practices.

Table 2. Professors' Perspectives on teaching Quality during Crises

Theme	Illustrative Quote	Interpretation
Adaptation to Digital Tools	"We had to learn to use Moodle and Zoom in just a few days."	Professors experienced a steep learning curve, reflecting the need for professional development in digital pedagogy.
Increased Workload	"Preparation for online classes takes much longer than traditional lectures."	Online teaching significantly increased professors' workload, particularly in preparing digital materials and managing platforms.
Reduced Student Engagement	"It is harder to maintain interaction and see if students follow the lecture."	Professors struggled with reduced feedback and limited student participation in virtual settings.
Emotional Burden	"We felt pressure from both the institution and students during the blockades."	Professors experienced stress balancing institutional demands and student expectations.
Positive Outcomes	"Some tools actually improved my teaching and I will keep using them."	Despite challenges, professors identified lasting benefits, such as recorded lectures and digital resources.

Together, these findings suggest that students and professors experienced crises in complementary but different ways: students were primarily affected by motivation and access issues, while professors were challenged by workload and digital adaptation. Addressing both sets of challenges through comprehensive support systems can strengthen teaching quality and resilience in higher education.

Discussion

This study was guided by five research questions, and the discussion of results can be framed accordingly:

Q1: How do professors and students perceive the advantages and disadvantages of online and hybrid teaching?

Findings confirmed that both groups saw flexibility, continuity of education, and access to digital resources as advantages. However, students emphasized motivational problems and lack of interaction, while professors stressed workload and digital adaptation. This duality illustrates complementary but different perspectives on teaching quality.

Q2: What are the main technological, pedagogical, and emotional barriers to teaching quality during crises?

Results identified unstable internet, unequal access to devices, and fragmented digital platforms as key technological barriers. Pedagogically, reduced interaction and difficulties in assessing learning outcomes were central. Emotionally, students reported anxiety and lack of motivation, while professors described stress and pressure.

Q3: Which positive practices and innovations emerged that could persist beyond crises?

Both groups highlighted the value of recorded lectures, digital resources, and hybrid teaching models. Professors indicated plans to integrate some tools into regular practice, while students valued flexibility and reusability of materials.

Q4: How do socio-demographic characteristics shape perceptions of teaching quality?

Students from rural areas and lower socio-economic backgrounds experienced greater challenges with connectivity and access to devices. Year of study also influenced perspectives: senior students showed stronger self-regulation, while younger ones relied more on external structures such as deadlines.

Q5: What recommendations can strengthen resilience and teaching quality in higher education?

The findings suggest investments in digital infrastructure, professional development for professors, institutional strategies for hybrid learning, and targeted support for vulnerable student groups. These recommendations align with global calls for more resilient higher education systems in crisis contexts.

Conclusion

The findings of this study confirm several patterns reported in previous research, while also contributing new insights specific to the Serbian higher education context during crises.

First, both students and professors recognized the continuity and flexibility offered by online teaching. This aligns with international studies emphasizing the

benefits of digital platforms in maintaining the academic process during the COVID-19 pandemic (Haider & Al-Salman, 2020; Almazova et al., 2020). However, the Serbian case reveals additional challenges caused by political blockades, where hybrid teaching was introduced not only as a pedagogical innovation but as a political necessity to prevent the loss of the academic year. This highlights a contextual dimension rarely discussed in global literature.

Second, the results underline the importance of motivation and self-regulation among students. Consistent with Paudel (2021), many students struggled with decreased engagement due to the absence of deadlines and structure. Professors, on the other hand, reported difficulties in sustaining interaction and providing feedback, echoing concerns about reduced student engagement documented elsewhere (Jena, 2020). The comparison of perspectives suggests that online education challenges both sides of the learning process, requiring institutional mechanisms to support motivation, communication, and accountability.

Third, technological barriers emerged as a major source of inequality. Students from rural areas and lower socio-economic backgrounds faced difficulties with internet connectivity and device availability. While similar issues were reported internationally (Bralić & Katić, 2020; Dampson et al., 2020), this study provides evidence that such inequalities were further compounded by political instability and institutional inconsistency in Serbia. This points to the need for more targeted policies addressing digital equity.

Fourth, professors emphasized the increased workload and stress associated with digital adaptation. While other studies have also highlighted the steep learning curve in adopting new technologies (Maatuk et al., 2021), the Serbian case indicates that this burden was intensified by external pressures—such as protests, institutional blockades, and uncertainties about accreditation.

Finally, both groups identified lasting positive outcomes, such as recorded lectures, access to digital resources, and the potential of hybrid teaching. These findings suggest that the crisis accelerated the digital transformation of higher education and created opportunities for innovation. However, as noted in previous research (Sousa & Mangas, 2024), these opportunities will only be sustainable if universities invest in infrastructure, training, and long-term digital strategies.

In sum, the discussion demonstrates that while Serbian higher education faced challenges similar to those seen globally, its unique combination of pandemic and political blockades created a dual crisis with complex implications. The study contributes by showing how overlapping crises shape perceptions of teaching quality and by emphasizing the need for resilience strategies that combine pedagogical, technological, and institutional dimensions.

Highlights of this research are: The study explores teaching quality in Serbian higher education during two overlapping crises: the COVID-19 pandemic and the 2024–2025 student-led blockades of universities.

Qualitative case study based on 120 semi-structured interviews with professors and students across four universities.

Findings reveal key challenges: decreased student motivation, unequal digital access, increased workload for professors, and reduced interaction.

Both groups identified benefits such as flexibility, recorded lectures, and new digital skills, pointing to hybrid teaching as the most sustainable solution.

The study contributes to understanding crisis-driven transformations in higher education and provides practical recommendations for policymakers and universities in supporting resilience.

The study is limited by its sample size and focus on a single national context, which may affect generalizability. Future research should include comparative analyses across countries and apply mixed-method designs to deepen understanding of teaching quality in crisis settings.

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