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Challenges of Online Teaching during the pandemic COVID-19: Reports from Moldovan Vocational Education and Training Teachers

Abstract

Teachers worldwide are experiencing challenges with transitioning from face-to-face to online teaching during the pandemic COVID-19. Policymakers, school administrators, students, parents, and teachers have all been impacted. Moldovan educational policies and infrastructures are being re-visited to identify the best strategies for supporting its teachers during this time. The purpose of this case study was to assess Moldovan Vocational Education and Training (VET) teachers' challenges faced teaching online. Data were analyzed by researchers reviewing interview notes to ascertain the main points gathered from teachers occurred during the focus group interview. The focus group with mostly female teachers revealed their desire to gain online teaching training and frustration over a lack of stable Internet connection during lessons. It was concluded that teachers' needs should be shared with policymakers and school administrators to ensure technology training and reliable technology devices for at home use be provided while schools are closed. Based on conclusions, the following recommendations would be to assess student's needs to ensure their needs are aligned with teachers' needs so the best teaching and learning can occur.

Keywords: Pandemic COVID-19, Moldova, online teaching, training, vocational education teachers

Introduction

Twenty-first-century teachers need skills to develop lessons for traditional classroom instruction while also applying them to digital teaching environments (The Resilient Educator, 2020). While it can be challenging to support the quality of traditional, face-to-face teaching, it may be even more challenging to support quality in online teaching (Horvitz & Beach, 2011). While a considerable amount of research has investigated student engagement in online courses (Angelino, Williams, & Natvig, 2007; Oliver, 1999), the question of teacher engagement in online environments has not received significant attention. The recent COVID-19 pandemic has exposed tremendous lapses in Internet infrastructure, a digital divide, and challenges related to decisions to quickly move education to an online environment without providing educators the necessary training to teach online. It is important to understand teachers as they are the group of people charged with teaching, training, encouraging, and inspiring pupils to learn (Okeke-James, Igbokwe, Anyanwu & Obineme, 2020). This is especially the case for teachers worldwide who are being impacted by the pandemic COVID-19 (Ozur, 2020) on secondary and postsecondary levels. This is the case for teachers in various fields of study and academic disciplines (Flaherty, 2020), ranging from science, technology, English, business, history, and vocational education. This study's focus is on Vocational Education and Training (VET), which is an educational system that prepares individuals for work (Ganefri & Hyadat, 2014).

Vocational Education is a practice-oriented approach to education, emphasizing what to do in the workplace due to either learning to meet the career requirements or improving student performance on the skill level to be possessed (Mustapa, Ibrahim, & Yusoff, 2014). Technical and Vocational Education should be considered a medium that can be combined with elements of e-learning in educational technology (Mustapa, et al. 2014). During vocational education and training, teachers are encouraged to demonstrate competencies for digital tools (Cedefop, 2020). VET Teachers are essential for preparing their students for the workplace. Policymakers and school administrators must be aware of teachers' needs for teaching and learning online, especially during this time of COVID-19. For instance, teachers often ask, "How can I effectively teach online?" The need to support teachers with being effective is crucial, as Save the Children (2020) warned, "The Covid-19 pandemic has caused an "unprecedented education emergency" with up to 9.7 million children affected by school closures" (p. 1). Alarmingly, the new norm for online teaching and learning will be here for a while, as supported by Li and Lalani (2020), who said, "The changes Coronavirus has caused might be here to stay" (p.1).

Problem Statement

In April 2020, The Institute for European Policies and Reforms (IPRE), Privesc.eu, and the Hanns Seidel Foundation held videoconferences to decide how best to transition educational programs from traditional face-to-face to online teaching due to the pandemic COVID-19 (Institute for European Policies and Reforms, 2020). More discussions were held to differentiate between online delivery tools and distance learning since they are slightly different teaching and learning processes. Additionally, the main problem was challenges faced by Vocational Education and Training Teachers. For instance, in 2019, before the pandemic, a Moldovan program was established to empower vocational education teachers with digital teaching skills. Teachers received modules for how to use digital tools. The goal was also to learn how teachers assimilated to using new informational technology and understanding digital content. Additionally, The Chisinau City Hall offered an estimated 2,000 online lessons for teachers, students, and parents to educate them on how to access video lessons without an Internet connection (OECD, n.d.). Regardless of these support efforts, teachers still reported being ill-prepared to teach online.

The Moldovan Ministry of Education, Culture, and Research of Moldova (2020) reported:

We know that in the first week of the pandemic, more than 18,000 children did not participate in the educational process, and 3000 teachers did not have a device on which to work. In this respect, 20 million lei were identified to purchase laptops for disadvantaged teachers and students. We do not know how long this pandemic will last and how it will evolve, which is why we all understand that the health of children and teachers is now a priority. (p. 1)

Vocational Education and Training High Schools and Teachers

The partnership between the researchers and the Vocational Education and Training Schools was established based on support by The United States Agency for International Development for High-Value Agriculture Activity (USAID/HVAA). The Vocational Education and Training Schools are also significant for this study due to teachers' varied backgrounds and the specific occupations they deliver. The goal of USAID/HVAA is to cultivate a modern agriculture sector in Moldova. It also seeks to increase rural prosperity by improving Moldova's economic well-being by increasing the workforce's quality in high-value agriculture (USAID, 2020). The VET Teachers are invaluable as they prepare students for the Republic of Moldova workforce and beyond.

The Nisporeni School is located 40 miles from Chisinau, the capital city, with a student enrollment of 280 (150 females; 130 males). Students can

select from six occupations related to the agriculture sector, such as pomiculture, viticulturist and winemaking, and berry-producing and processing.

The Bubuieci School is located 10 miles from Chisinau, with a student enrollment of 267 (165 females; 102 males). Students can select from six occupations ranging from floristry to beekeeping. Table 1 provides the VET Schools' demographic profile, and Table 2 provides the demographic profile of the VET Teachers. Study participants included eight teachers (5 females; 3 males) at The Nisporeni School and ten teachers (8 females; 2 males) at The Bubuieci School.

Purpose of the Study and Objectives

The purpose of this exploratory case study was to assess challenges Moldovan Vocational Education and Training (VET) teachers faced for teaching online during the pandemic COVID-19. The following objectives were developed to guide the study. Objective 1: “What is the demographic profile of Moldovan VET Schools and Teachers” and Objective 2: “What do participants require for teaching online?”

Methodology

A two-hour focus group was held on July 31, 2020, via Zoom.com. Merriam and Tisdell (2016) support using a basic qualitative approach when the study's purpose involves gaining a better understanding of individuals' interpretation and the meaning of their experiences. Purposive sampling was used to select teachers of the two Moldovan VET Schools. Researchers can select participants and research sites associated with the phenomenon and research problem being studied (Creswell, 2007). Invitations to participate in the study were sent to all teachers at the two VET Schools. As a result, eighteen teachers accepted the invite and were then provided informed consent forms and the interview questions.

Data Collection

A focus group was conducted because it offered “a way to collect qualitative data, which involved engaging a small number of people in an informal group discussion, ‘focused’ around a particular topic (Wilkinson, 2004). Focus groups allow for less threatening settings, where participants discuss opinions and thoughts (Krueger & Casey, 2000). They usually last between 1-2 hours (Morgan, 1997; Vaughn, Schumm, & Sinagub, 1996) and consist of between 6 and 12 participants (Baumgartner, Strong, & Hensley, 2002; Bernard, 1995; Johnson & Christensen, 2004; Krueger, 1988, 1994, 2000; Langford, Schoenfeld, & Izzo, 2002; Morgan, 1997; Onwuegbuzie, Jiao, & Bostick, 2004).

The following open-ended questions were asked during the focus group:

- What existing infrastructures for conducting online learning are currently in place?
- What access to technology devices and Internet connection is available?
- Is there a need for you to know how to use online teaching platforms?
- What other challenges have you experienced during the transition from face-to-face to teaching online during the COVID-19 pandemic?

Data Analysis

Despite the abundance of research studies related to the benefit of conducting focus groups, there are limited research studies on how to analyze data in the social sciences (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). However, there are several data analysis techniques best suited for studies such as the current study. The researchers followed data analysis strategies recommended by Creswell (2013), which supports researchers reviewing interview notes and reading transcriptions multiple times to ascertain the main points gathered during the focus group interview.

Conversation analysis also allows participants to interact during conversational interactions (Myers, 1998). Then, summative content analysis was employed (Hsieh & Shannon, 2005; Neuendorf, 2017), supporting researchers interacting with the transcribed interviews through notetaking and identifying key concepts. To describe the insights (i.e., perspectives, beliefs, and practices) of teachers, the researchers also used Saldana's (2013) inductive, emergent coding framework for qualitative data reduction in analyzing the collected information.

Table 1: Demographic Profile of the VET Schools (N=2)

Item		F			
		Nisporeni		Bubuieci	
Gender	F	150		165	
	M	130		102	
Total		280		267	
		F	M	F	M
Grade levels	I	55	42	80	54
	II	75	80	85	48
	III	20	8	---	---
Total		150	130	165	102

Note: Grade I=10th; Grade II=11th; Grade III=12th; M=Male; F=Female

Table 2: Demographic Profile of the VET Teachers (N=18)

Participant	Gender	School	Grade Level	Years of teaching experience	Age range
Participant 1	Female	B	II	2-5	29 years or younger
Participant 2	Female	N	I	6-10	30-39
Participant 3	Female	B	II	16-20	40-49
Participant 4	Male	N	II	11-15	30-39
Participant 5	Male	B	I	21 or more	40-49
Participant 6	Male	N	III	11-15	30-39
Participant 7	Female	N	II	2-5	29 or younger
Participant 8	Female	B	II	6-10	29 or younger
Participant 9	Female	N	I	16-20	40-49
Participant 10	Female	B	II	21 or more	50-59
Participant 11	Female	N	II	11-15	30-39
Participant 12	Female	B	I	11-15	30-39
Participant 13	Female	N	II	21 or more	50-59
Participant 14	Male	B	I	16-20	40-49
Participant 15	Male	N	III	21 or more	50-59
Participant 16	Male	B	I	16-20	40-49
Participant 17	Male	B	II	6-10	29 or younger
Participant 18	Male	B	I	2-5	29 or younger

Note. Bubuieci VET School=B; Nisporeni VET School=N

To strengthen the trustworthiness, credibility, and accuracy of data, the researchers reviewed the information multiple times, ensured themes were supported during the interview, and involved other researchers in checks to make sure quoted material accurately represents teacher responses and reflects interviewee intentions.

Important insights are discussed below.

Results

Objective One: “What is the demographic profile of Moldovan VET Schools and Teachers?”

The results showed that most teachers were female, teaching Grade II, reported teaching 11-15 years, and 30-39 years of age. Ten teachers worked at The Bubuieci School, and eight worked at the Nisporeni School. Further demographic profile results included:

For Gender. Female teachers expressed more that they prefer to use school computers because other family members use home devices.

When School types were analyzed, Nisporeni VET Teachers reported experiencing problems gaining a connection to the Internet and other platforms to teach practical skills.

Grade level was significant at Grade II level, with teachers experiencing challenges with offering distance education courses versus their peers. They reported self-directed learning was most preferred rather than by attending specialized webinars.

Years of teaching experience found that Teachers with more years of teaching experience reported not being prepared for online delivery and possessed few skills with online teaching platforms than their peers with fewer teaching experience years.

Related to Age, teachers of ages 29 and younger reported being able to address the challenge of using personal devices (i.e., cellphones) more often than their peers. They reported fewer challenges with accessing Internet connection. Some of their students reported not having access to their online classes due to not having technology devices. Next, we found that Teachers between 30-39 years of age and females reported that even with having computers at home, they could not use them due to family members (i.e., children, spouses) vying for time to complete schoolwork or conduct work remotely. They also reported more so than their peers using school devices, when available, or their cellphones. Teachers between the ages of 50-59 reported a lack of skills for the use of online teaching platforms and video communications. They also expressed a desire to receive training to enhance their skills for online teaching platforms.

Objective Two: “What do participants require for teaching online?”

<i>What existing infrastructures for conducting online learning are currently in place?</i>	
Participant 1	My school has computers, but not cameras to conduct video sessions.
Participant 2	Our existing computers do not have software for distance learning.
Participant 3	Since schools have been closed at the beginning of the pandemic period, it was not allowed to enter the school even by teachers, and many of them did not have computers home.
Participant 4	It is still impossible to offer practical classes since schools do not have appropriate equipment for this purpose.
Participant 5	Not all courses were digitized at the beginning of the pandemic period, and it was not possible to access them online.
Participant 6	Teachers used mainly free learning platforms that have limited options (features).
Participant 7	Despite excellent didactical infrastructure, students could not benefit from it because of limited infrastructure for distance learning.
Participant 8	I am using my cellphone since not having access to school but does not have all the features to have a qualitative connection, and a camera is not ok.
Participant 9	Have one laptop in the house, and my two kids use it for distance learning with their school.

Participant 10	I do not have enough skills to use online platforms for teaching, and I am using emails to send training materials.
Participant 11	It was a period when we did not have access to school. It was closed.
Participant 12	We have practical classes (viticulture), and I do not have a clue on how to proceed.
Participant 13	I am using a class computer, but it is not equipped with a camera and speakers.
Participant 14	I did not digitize all the training material since I mostly used the books and notes for teaching.
Participant 15	I only learned how to use Viber from my cellphone and have difficulties using other devices.
Participant 16	I know there are schools that are having special classrooms, specially equipped for video conferencing. We do not have such.
Participant 17	I have access to the school computer now, but at the beginning of the pandemic period, I was using my notebook.
Participant 18	I am in the process of putting my course notes in digital format.

<i>What access to technology devices and Internet connection is available?</i>	
Participant 1	Many teachers (est. 10%) did not have computers at home to be online, and 10% had no appropriate cellphones. When access to the schools has been allowed, computers have been accessible for teachers that want to use it.
Participant 2	My Internet connection from home increased [fee] during the period, so I am avoiding using the Internet for distance learning.
Participant 3	During the pandemic period, the schools did use the internet package but paid to the Internet provider, and those have been flexible (like transferring some of the internet payment to teachers).
Participant 4	My computer was not technically adapted to connect to the Internet.
Participant 5	No access due to one desktop in the house and family members have to use it.
Participant 6	I was using my home computer to connect to the Internet, but my internet package was raised up. Lately, I switched to another internet connection plan.
Participant 7	I am using my self-phone that is modern and not having any connection problems. I can teach even from the park or school where Wi-Fi connection is.
Participant 8	From my class, two pupils could not get online since they do not have appropriate devices. I am just calling them and mentoring what material to read from the books.
Participant 9	I was using a school computer all this time. Sometimes I

	experienced bad internet connection, as the service provider explained, because of overloading the network.
Participant 10	I do not have a computer at home; this is the way I was using the school computer.
Participant 11	I do not have a computer at home. Periodically I am using a school computer.
Participant 12	I would need a video system to teach practical classes online or to videotape them and send them later to my students.
Participant 13	In my class, I have two students that participate very weak in the training because they did not have devices.
Participant 14	I did not use computers to teach online.
Participant 15	I used my cellphone to be in touch with my class. Sometimes it did not work ok.
Participant 16	I have access to the devices to teach theoretical classes, but not practical. Additionally, my home internet connection bill increased.
Participant 17	I did not experience any problem with access to the devices when I needed them.
Participant 18	My home internet connection is ok. I plan to use a home computer for teaching in case the pandemic period will continue.

<i>Is there a need for you to know how to use online teaching platforms?</i>	
Participant 1	Almost all teachers had no experience using distance learning platforms because, especially in the VET system, they are not needed. Almost full curricula are about practical hours.
Participant 2	Courses at a time when the pandemic period have been in electronic format and finished them to the date.
Participant 3	I learned how to use Google classroom by attending a webinar for free; besides money, other courses have been accessible.
Participant 4	Schools are using different platforms; the numbers should be limited to several of them.
Participant 5	I have attended some online courses delivered by Platforme Educationale Online NGO (Ministry of Education).
Participant 6	I learned to use the online platform, i.e., Zoom, by myself, and students helped me.
Participant 7	I did not attend any of the special training in using online platforms. I learned from the Internet.
Participant 8	Some of the platforms like Google class I learned by attending online courses. Some of them I just did myself.
Participant 9	I know the basics, but I would need more training to use more interactive teaching. I know there are such platforms.
Participant 10	I need training in using online platforms.
Participant 11	I learned some basics and at the moment is ok to hold online my classes.
Participant 12	I learned myself and considered having a sufficient level of training. Sometimes I am teaching my colleagues – teachers.

Participant 13	I would need some training in using video conferencing equipment.
Participant 14	I would need training in using the computer because I do not have enough skills.
Participant 15	I like to participate in some of the training in using platforms.
Participant 16	I would prefer to make a choice and to stick to some of the platforms and study them very well. At the moment, we have many of them and know superficial.
Participant 17	The platforms are easy to use. I do not need formal training on using them.
Participant 18	I can study how to use the platforms. I would need some specialized training on interaction with students, engaging them in learning – some methodology moments.

<i>What other challenges have you experienced during the transition from face-to-face to teaching online during the COVID-19 pandemic?</i>	
Participant #1- #18	All reported a lack of access to distance learning platforms as a major challenge.

Emergent Themes

Emergent themes occurred due to examining participants' unique and specific personal experiences and perspectives and completing open coding. Transcripts were re-read and compared to the participants' responses. The researchers identified key concepts, words or phrases, and perceptions that occurred. And then, the researchers studied the categories to determine emergent themes, including 1) Lack of technology; 2) Internet Connectivity issues, and 3) Training Needs.

Theme One. Lack of Technology

Teachers shared a major challenge for teaching online due to a lack of technology. *One participant shared, My school has computers, but not cameras to conduct video sessions. Another reported, Not all the courses were digitized at the beginning of the pandemic period, and it was not possible to access them online“. One participant also reported it: Our existing computers do not have software for distance learning. In my class, I have two students that participate very weak in the training because they did not have devices.*

Theme Two. Internet Connectivity

Internet connectivity was another major challenge reported by teachers which one participant said: *I have access to the devices to teach theoretical classes, but it is not practical. Additionally, my home internet connection bill has increased.*

Another participant reported, I used my cellphone to be in touch with my class. Sometimes it did not work ok. Another Participant shared, I was using a school computer all this time [pandemic]. Sometimes I experienced bad internet connection, as the service provider explained, because of overloading the network.

Theme Three. Training Needs

Participants expressed a desire to improve their online teaching by participating during professional training which resulted as the third and last emergent theme.

One Participant reported, *there is a lack of access to distance learning platforms”*.

Another participant offered; *I can study how to use the platforms. I would need some specialized training on interactions with students by engaging them in learning – some methodology moments. This participant said, “I need training in using online platforms.”*

In summary, the emergent themes revealed a majority of the teachers continue to face challenges even though Moldovan policymakers and school administrators have invested funding and training to counteract the pandemic COVID-19’s impact on teaching environments.

Conclusion

It is concluded that participants faced many challenges during the transition from face-to-face to online teaching, with the main one being a lack of technology. Other challenges reported by the teachers were lack of Internet access and more training needs. This study is essential as it reveals what resources and support are needed by Vocational Education and Training teachers to be successful. It is vital to understand better the teacher’s experience of teaching. It was also revealed that school administrators should ensure digital equity occurs to support teachers' needs for technology devices since online resources for digital platforms and training on improving online teaching practices.

In summary, this study concluded that most teachers, regardless of demographic background, shared similar needs for online teaching, i.e., resources and support for being prepared to teach their students. It is safe to say that until a return to the normal classroom/laboratory environment occurs, remote teaching and learning must take place with the efforts of teachers and students.

Limitations of the Study

There were limitations to the study, such as the findings cannot be further generalized due to participants being teachers of two Moldova VET high schools. Data collection was delimited to one administration of focus group session. The session only captured a snapshot of their thoughts of online learning and delivery. Another limitation of the study was reliance on self-reporting by teachers.

Recommendations for further study

Recommendations are made based on the study's conclusions and on Moldovan policymakers and school administrators' reported lack of access to technology or good internet connectivity as obstacles to continued learning (United Nations Moldova, 2020).

The researchers hoped that teachers' expressed needs will encourage more investment for support, resources, and professional training. Moreover, there is a need to allow for a quicker and more efficient transition from face-to-face to online teaching. More transition support is needed since teachers expressed more online teaching platforms, with Moodle's current use. Moodle is an open-source platform known for its simplicity and being user-friendliness (Cimermanova, 2013). It is also recommended that Canvas be introduced as an option since it is free and allows demonstrations during online instruction. Video cameras allow for shooting videos with the use of mobile devices such as smartphones. The use of discussion board forums can encourage student-to-student and student-to-teacher interactions. Similar researchers have reported discussion forums are beneficial for promoting learning communities and student learning (Bober & Paz Dennen, 2001; Bodzin & Park, 2002; Browne, 2003; Rich & Hibbert, 2004; Rogers, 2000). If policymakers and school administrators provide teachers with technology, online teaching platforms, and professional training, their students' learning needs will be met.

“Almost 50% of students in Vocational Education and Training (VET) system report limited constructive feedback from their teachers. Of them, 16% report limited feedback, and the other 7% reported feedback that demotivates students and increases the level of uncertainty and frustration. (National Pupils Council, 2020).

The overall recommendation for further study is to continue examining how best to assess the needs of VET Teachers and their students' needs to ensure there is an alignment, so the best teaching and learning can occur.

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