Moldovan Vocational Education and Training: Student Reports for Online Learning Experiences during the COVID-19 pandemic

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Abstract

The COVID-19 pandemic has caused a global crisis. Many health, food, economic, transportation, and educational systems have been affected. From the most affluent to the least advantaged educational systems, K-16 and beyond are being challenged on how best to move from face-to-face to online teaching and learning. Moldova policymakers and educators are meeting to address existing educational policies needed to continue educating its student population. The purpose of this descriptive study was to assess Vocational Education and Training students' online learning experiences during the COVID-19 pandemic. Of the 303 returned surveys, most of the participants were female (60%), studying in the platform Google Classroom and reported feeling ill-prepared for the transition from face-to-face to online learning. It was concluded that students would benefit best from online resources and adequate teacher feedback for online homework. It is recommended that a collaborative approach is employed to address the needs of students, their teachers, and parents best to navigate the learning experiences during this time of uncertainty.

Keywords: COVID pandemic, online learning, Vocational Education and Training, students, Moldova

Introduction

The COVID-19 pandemic has caused a global crisis for many systems, with one of the most affected being educational systems. 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 at risk of never going back to class" (p. 1). The pandemic has severely impacted youth employment across the globe due to disruptions such as job layoffs, income losses, and increased barriers to job market entry. For those youth who are still pursuing education, the pandemic is likely to result in unprecedented new inequalities upon graduation (World Economic Forum, 2020).

Today, there are 1.2 billion young people aged 15 to 24 years, accounting for 16 percent of the global population (United Nations, 2020), the largest cohort ever to transition into adulthood. More than 85% live in developing countries. In many places, they represent 30% of the population – and the numbers keep increasing. Many developing countries have the potential to realize a demographic dividend if the right social and economic policies and investments are in place. Youth are considered as a priority in policy debates as a driver of development, as is the case in Moldova (National Bureau of Statistics of Moldova, year). Its youth aged 14-34 accounted for 27.7 % of the total population as of January 2019 (cite). This generation has great potential to positively contribute to the country's development and self-determination, which will not occur if necessary, learning skills are not provided or in place.

Since the Proclamation of Independence in 1991, Moldova has been in transition, which brings significant economic and social changes, and challenges for its youth's well-being. For instance, the low quality of education fails to provide youth with the necessary skills for successful integration in the labor market. Furthermore, employment vulnerability has increased in rural areas, resulting in an urban exodus to cities and abroad (OECD Development Centre, n.d.).

Literature Review:
Importance of Youth Development

The Moldovan government recognizes the importance of developing its youth population and regulating the profession of youth workers as reported in the 2020 National Strategy for Youth Sector Development (OECD Development Centre, n,d). The implementation of this strategy could benefit from the collaboration between many of its Ministries and local public authorities. With 16% of the population below age 15, and youth (aged 14-35) accounting for one-third of the population, Moldova is considered a youthful country (OECD Development Centre, n.d.).

Overall, education attainment is high. In 2014, 31.6% of youth ages 25-29 obtained a tertiary diploma (OECD Development Centre, n.d.). Moldovan youth enjoy high access to education, but education's quality

continues to face challenges (OECD Development Centre, n.d.). Preparing youth for careers is of the utmost importance. Vocational training is significant for increasing youths' employment outcomes and provides potential career advancement opportunities for individuals (Ramasamy & Pilz, 2020), which necessitates continuing education during the COVID-19 pandemic.

Educational Infrastructure

Moldova's education system has four stages: pre-primary, primary, secondary (lower and upper), and tertiary. Education is compulsory at the pre-primary, primary, and lower secondary (gymnasium) levels (grades 1-9). After compulsory education, students may take an entrance examination for entrance to the general upper secondary schools (vocational) or the lyceums (academic) (grades 10-12). Tertiary education is provided by private and public universities, academies and institutions, and students who have obtained their general upper secondary or lyceum certificate or diploma are eligible to apply (UNESCO, 2011).

The Moldovan VET educational system consists of 44 vocational schools located throughout the country, preparing students for 310 occupations, both agricultural and non-agricultural. In most schools, students study for two or three years, depending on which occupation is being studied. The age of students entering the schools ranges from 16-17-years. All schools are public; there are no private schools. The Moldovan VET system is governed by the Ministry of Education, Research, and Culture (Institute for European Policies and Reforms, 2020).

United Nations Development Programme reports

Before the pandemic COVID-19, Moldovan schools did not practice distance learning, which has resulted in a system lacking practices for how best to respond to a lockdown. As a result, the educational system has worked to provide adequate Internet connections.   These attempts address hidden challenges which, up to this point, had been overlooked as in one major challenge being low rates of internet literacy in the country, including teachers – do not have the technical skills required to figure out how to download, install and use tools needed for remote learning. (2020, p. 1).

The researchers of the present study are former secondary teachers and current postsecondary vocational teachers with a vested interest in addressing the needs (i.e., teaching strategies, online learning, pedagogies) for vocational students and students on a global level. Timely interventions directed at youth development are likely to yield a greater return for sustainable development than attempts to fix their problems later in life, such as the Anti-lockdown in this study during the pandemic COVID-19 in Moldova.

Challenges faced due to the pandemic COVID-19

Between March 2020 and April 2020, The Institute for European Policies and Reforms (IPRE), in partnership with Privesc.eu and with the support of the Hanns Seidel Foundation, held online videoconferences to discuss how best to address challenges teachers faced with online teaching and learning due to the COVID-19 pandemic in Moldova (Institute for European Policies and Reforms, 2020).

Additionally, policymakers also met to address the challenges currently faced by Vocational Technical and Education. It was shared that before the pandemic in 2019, a program aimed at empowering vocational education teachers with digital skills occurred, which ironically is now the "new norm" or reality. As a result, the program developed modules to train teachers to use various digital tools. The aim was to examine how teachers assimilate information and develop digital content to provide open educational resources. Another project led by the Chisinau City Hall resulted in "approximately 2,000 online lessons developed for teachers, students, and parents to learn how to access video lessons without having an Internet connection or very sophisticated equipment" (OECD, 2020, p.1).

In 2014, the Educational Code established legal frameworks for the relationship between the educational design, organization, operation, and development of Moldova educational systems (The Parliament of the Republic of Moldova, 2014). However, the Education Code provides no regulations on distance learning for general schools at all levels. Programs have been developed to ensure migration to distance learning, such as training teachers, who rapidly had to change their educational process and become prepared for distance [online] learning. Another need was for how best to connect students to the Internet while offering them the necessary (information technology) IT tools to be successful. For example, 20 million MDL (local Moldovan currency) have been identified from budgetary resources that will be redirected to purchase resources such as laptops for teachers and students, who have limited financial resources.

One meeting attendee offered, "Even though distance learning has a long history, it was never intended to be used for the schooling system. We have found ourselves in the situation when it must be used for everyone, starting with preschool, high school, and university institutions" (Institute for European Policies and Reforms, 2020, p.1). To continue the discussion on how best to approach online teaching, another attendee, self-identified as a current school teacher, shared, "I was one of the first to apply the online teaching process. It was a pretty painful process for me and the students, such as once we solved one problem, another [problem] came along" (p. 1). As a result of the many challenges and concerns shared during the conferences for moving to online learning during the COVID-19 pandemic, the researchers

decided to examine how youth were affected and to give them a "voice" on how best to succeed during the "new norm" for online learning. This population is one of the most affected and needs strategies and resources for adapting to a new learning environment. In this study, students enrolled in vocational and training schools were recruited and selected to participate.

Vocational Education and Training (VET) Schools offer youth a diversity of agricultural trade, and occupation options such as beekeepers, fruit and vegetable producers, and floriculturists, are all recognized as top occupations in Moldova and Romania. During the videoconference, another attendee offered, "In my opinion, the Moldovan education system was not prepared for such transformations to overcome this crisis. Until the pandemic, not enough digital skills for teachers and students were developed" (Institute for European Policies and Reform, 2020, p. 1).

In current educational systems, it is imperative to equip students with the necessary skills for the future. For this study, convenience sampling was used to select the two Moldovan VET Schools. Nisporeni High School and Bubuieci High School enroll students ages 16-18 years of age throughout Moldova. The schools are provided funding by the United States of America (U.S.A.) and the European Union (EU). Both funding sources support a modern didactical infrastructure for theoretical and practical classes (modern classrooms with a conferencing system, heated greenhouses, laboratories for berry production and beekeeping, woodworking, and apiary with vertical hives). To showcase the accomplishments achieved by VET students, teachers develop and maintain websites to post notices and use social media sites such as Facebook and Viber to share photos of students working in laboratories and on farms.

Overview of Participating Schools

Before the COVID-19 pandemic, all Moldovan schools delivered instruction face-to-face. The two participating VET schools participating in this study include The Nisporeni Vocational Education and Training School and The Bubuieci Vocational Education and Training School. The schools were selected for this study based on both being supported by the United States Agency for International Development / High-Value Agriculture Activity (USAID/HVAA), which seeks to cultivate a modern agriculture sector that increases rural prosperity by improving the economic well-being of all Moldovans and increase the quality of the workforce in high values agriculture. In collaboration with agribusinesses, farmers, water user associations, and others, the project helps maximize the profitability of each hectare by improving the quality and quantity of production, increasing sales through local and international markets, and fostering partnerships throughout the agriculture sector to achieve shared goals (USAID, 2020).

Both schools are preparing youth for the workforce by focusing on value chains (i.e., Berry production and Beekeeping), which are both major subjects of interest of the USAIDHVAA in Moldova. Nisporeni School is located 40 miles from Chisinau, the capital city, and has a student enrollment of 280 (150 females; 130 males). Students can select from six occupations related to the agriculture sector: pomiculture, viticulturist and winemaker, berry-producing, and processing.

More details about the school are located on its website: http://spnisporeni.educ.md/. The Bubuieci Vocational Education and Training School is located 10 miles from Chisinau, with a student enrollment of 267 (165 females; 102 males). Students can select from six occupations, including two related to the agriculture sector: florist and beekeeping. More details about the school are located on its website: https://spbubuieci.md/. Table 1 provides a demographic profile of the two VET Schools.

Table 1 - Demographic Profile of Selected VET Schools

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

Purpose of the Study and Objectives:

The purpose of this descriptive study was to assess Moldovan Vocational Education and Training (VET) students' online learning experiences during the COVID-19 pandemic. The objectives developed to guide this study include Objective One: "What is the demographic profile of Moldovan VET students?" Objective Two: "What do students report as challenges faced during online learning?" and Objective Three: "What resources do students self-report as needed during online learning? **Methods**:

The descriptive study was conducted March 2020-July 2020. An online questionnaire was developed with ten, closed-ended questions. The surveys were administered via Facebook accounts to 547 students enrolled in two Moldovan Vocational Education Training Schools. The schools were: Nisporeni; n=280; Bubuieci; n=267. There were 303 returned useable surveys (55% response rate). Students were ages 16-18 years old, enrolled in grades 1, 2, and 3, studying varying occupations such as culinary arts (chef) or

beekeeping. Data was analyzed using Microsoft Excel Google forms to report descriptive statistics (i.e., percentages, frequencies).

Results:

The majority of the participants were female (60%), studying in the platform Google Classroom and reporting enrollment in all occupations offered at each VET school. In Figure 1, student responses are displayed when asked what online learning platforms used in the VET school (based on Bubuieci VET School); most (34%) reported Viber, followed by Messenger (24%), with very few reporting email, phone calls and Messenger (24%) were used.

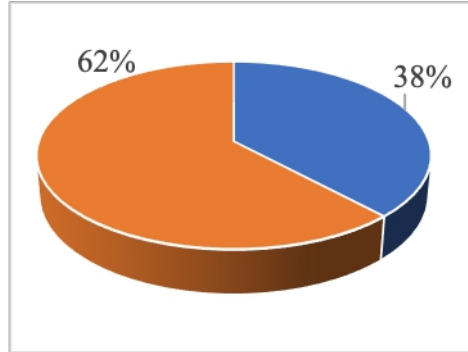**Figure 1** - Student use of online modes of communication

Figure 2 displays student responses regarding access to online resources, with a majority (61%) reporting access, while the remaining 39% reported no access to online resources.

Figure 2 - Student access to online resources

When asked about access to the computer and internet, most (62%) students reported access, while 38% reported no access to a computer or internet in an online setting (Figure 3).

Figure 3 - Student access to computer/internet

Overall, most students (78%) reported experiencing no difficulties when accessing learning platforms and chats in the online course, while few (18%) reported experiencing difficulty with one of the most mentioned difficulties – "teachers are using different learning platforms, even different courses can have a different platform for other courses at the VET school" (Figure 4).

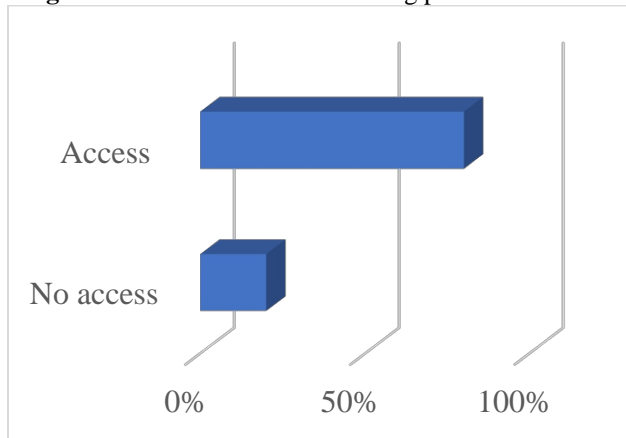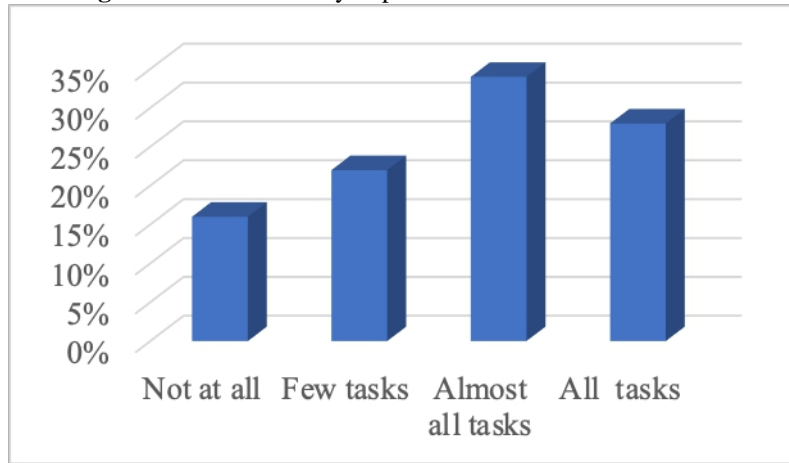**Figure 4 -** Student access to learning platforms and chats

Figure 5 shows that thirty-four percent of the students reported being able to complete most homework, followed by 28% reporting completing all homework in online courses. Sixteen percent reported completing no homework.

Figure 5 - Student ability to perform classroom tasks

When asked to report access to learning space, over half (53%) students reported having highly adequate space, followed by 33% reporting having adequate space and few (14 %) reporting somewhat to no learning space (Figure 6).

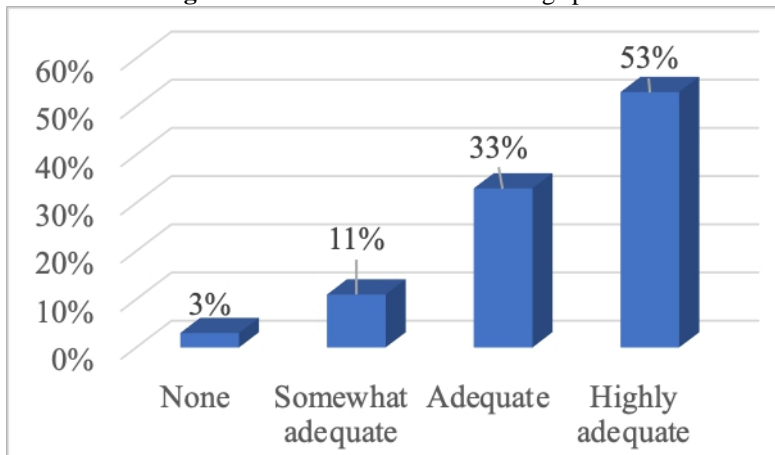**Figure 6 -** Student access to learning spaces

Figure 7 displays student responses regarding access to online learning processes:

Self-study resulted in a majority (54%) of the students reporting always using self-study habits during online learning, followed by 36% with very few (10%) reporting using none to very few self-study habits in online learning.

Taking notes for subjects announced by the teacher resulted in more than half (55%), fifty-five students. Fewer, 35% reported taking notes.

PowerPoint lecture development for online course assignments showed that 42% of students always develop PowerPoint lectures, followed by 30%

reporting often and then fewer (12%) developing PowerPoint lectures for online course assignments.

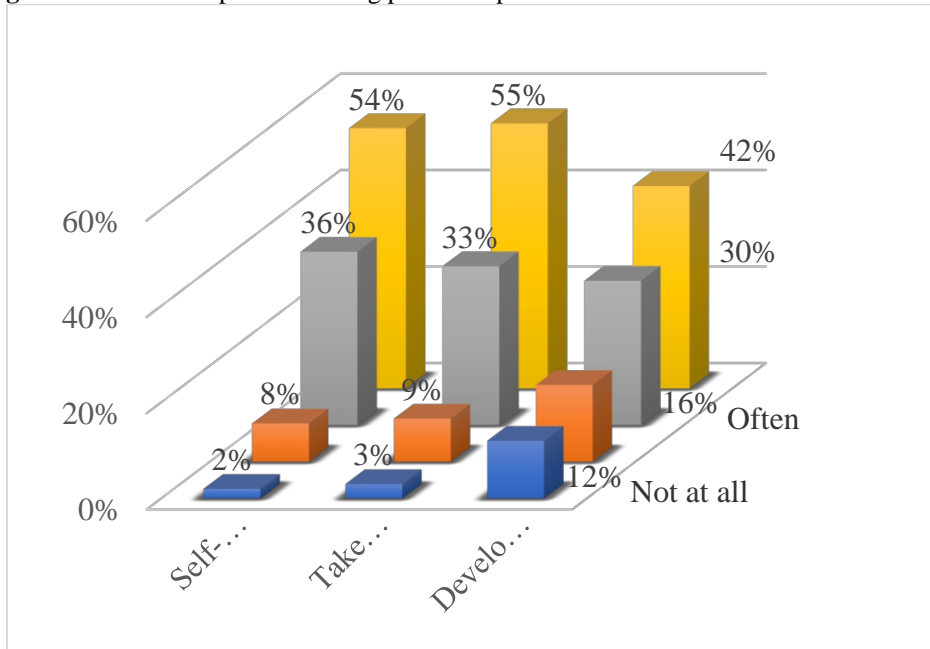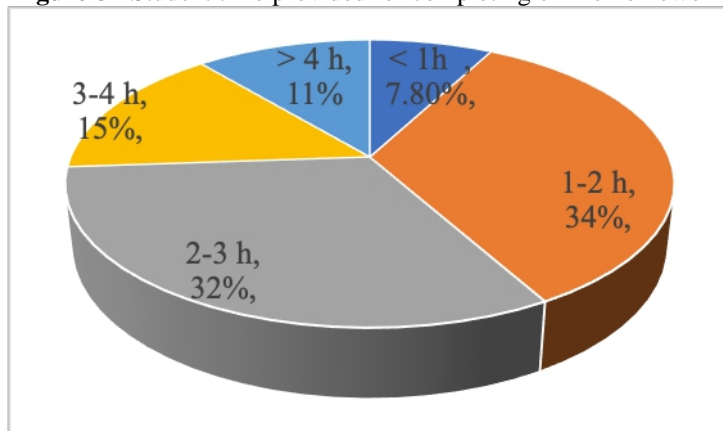**Figure 7 -** Students reported learning processes performed in the online course.

Figure 8 provides the students' responses when asked to report the amount of time teachers provided them for completing online homework; some (34%) reported 1-2 hours, closely (32%) followed by 2-3 hours. Then, fifteen percent reported 3-4 hours, with the fewest (7.8%) reporting less than one hour provided for completing online homework.

Figure 8 - Student time provided for completing online homework

In figure 9, students' responses are provided when asked to report the amount of support received from teachers for performing online assignments.

A majority (51%) always received support, with (32%) reporting receiving some support, with fewer (17%) reporting very few supports to no support for performing online assignments.

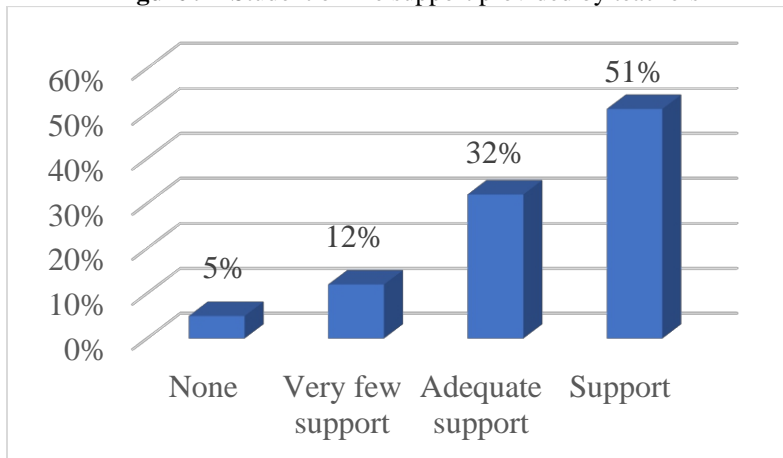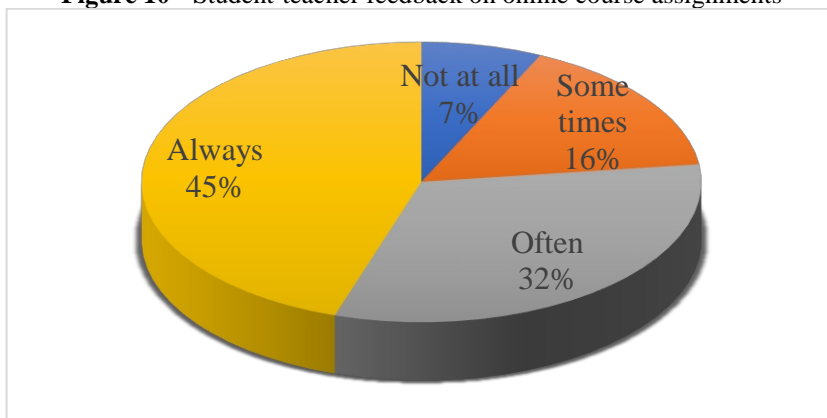**Figure 9 -** Student online support provided by teachers

Figure 10 provides student reports on how often they received teacher feedback for online course assignments. Many (45%) students reported always receiving teacher feedback for their online course assignments. Thirty-two percent reported often receiving teacher feedback, followed by 23% reporting sometimes not receiving teacher feedback on course assignments.

Figure 10 - Student-teacher feedback on online course assignments

Conclusion

The study revealed that students generally felt prepared for their rapid transition from face-to-face instruction to online learning during the COVID-19 pandemic. Most reported gaining access to online resources and receiving adequate feedback from their teachers, such as having various communication methods. While most reported experiencing few difficulties with accessing learning platforms, some reported– "teachers are using different learning

platforms, even different courses can have a different platform for other courses at the VET school.*"* This finding aligns with a finding reported by Abramson (2020) on the need for selecting the right technology. It was revealed, "Teachers will be successful in distance learning when selecting the right platforms and assessing individual student needs" (p.1).

Receiving adequate time to complete online homework was a significant challenge reported by participants. Some believed they would benefit from receiving more support from teachers to perform study habits, take notes, and develop PowerPoints for online assignments. Findings from this study are aligned with similar research studies; for instance, Alam (2020) conducted a study on challenges faced by Bangladeshi students who attended online classes. It was revealed that students established positive communication dialogue with teachers, which reduces anxieties during the corona crisis. Both students found students reporting using phones in the online course; a majority of students in this study reporting using Viber while Alam's students preferred using smartphones to access their online class. In a similar study, communication was identified as key, such as in this study, for connecting teachers and students during online teaching and learning. Social media and various group forums can be used to communicate with students. Communication allows teachers to reach out to students via texts, various messaging apps, video calls, to allow student success in learning (Dhawan, 2020).

Limitations of the Study:

There were limitations to the study, such as the findings cannot be further generalized due to participants being students of two Moldovan VET High Schools. Participants were selected using a sample of convenience. Data collection was delimited to one administration of an online survey. The quantitative results were based on self-reports and the reliance on students to report honest information.

Recommendations:

It is apparent that COVID-19 has created a "new normal." As required in face-to-face learning experiences, teachers face learning to apply the best teaching strategies to facilitate learning in the online environment. Students, parents, and teachers need resources, support, skills, and development to navigate experiences in this "novel" learning environment successfully. Change must occur. Dhawan offered, "Many academic institutions that were earlier reluctant to change their traditional pedagogical approach had no option but to shift entirely to online teaching–learning" (p.1).

The inclusion and well-being of youth are recognized as essential pillars of national development, as youth are viewed as Moldova's present and

future (OECD Development Centre, 2018). Based on this study's conclusions, it is recommended that teachers use the following strategies to motivate youth to continue learning during this time. Teachers should receive professional training on the use of learning platforms such as Moodle and Google. In support of this recommendation, Austria's Ministry of Education and the Finnish National Agency for Education promote the use of learning platforms like Moodle (The World Bank, 2020). The incorporation of video streaming (transmitting some real-time video) from the practical classes is another recommendation other countries follow (The World Bank, 2020). For example, teachers should deliver active learning lessons such as feeding, dividing combs, planting strawberry plants via the transmission of videos in real-time or recorded to be watched later (The World Bank, 2020). Products by Google can be beneficial under such conditions and include (a) Gmail, (b) Google Forms, (c) Calendars, (d) G-Drive, (e) Google Meet, (f) Google Jam board and Drawings, and (g) Google Classroom. These digital tools can successfully be used as an alternative for face-to-face classes (Basilaia, et al., 2020).

Once teachers are provided with the best teaching strategies, they will be best educated for:

1. Providing effective and efficient communications, i.e., clarity with instruction assignments and feedback;
2. Addressing the lack of reliable internet access from home versus the school environment;
3. Transforming student thinking for accepting the "new norm" with online learning;
4. Providing the best strategies for developing and delivering learning objectives and motivating student learning behaviors in online classes, such as being flexible with assignment due dates and posting instructions online; and
5. Creating social presence through online discussion boards encourages student-student interaction (gives a student a sense of connection/belonging with others) and collaborations through real time virtual sessions.

Research shows that when teachers exhibit empathy, it allows students to face challenges such as unavailable technology, lack of internet, receiving resources and support, receiving advice and mentoring during challenging assignments, receiving frequent communication:

- Limit the number of platforms while choosing to use the most popular, user-friendly, and known by most students and teachers
- Facilitate access to appropriate workspace in rural areas connected to the internet and equip students with desktops/laptops for those with limited resources; an example would be Novateca's libraries' network.

- Collaborate with international donors to supply the necessary devices (video cameras, drones, tablets) to be available for renting by the schools to provide to students
- Involve national Internet service providers to offer free or discounted Internet access in support of Social Responsibility Programs
  In summary, it is hoped this study's findings will provide Moldova with the knowledge needed to continue developing the national youth policy, which is very strong as young people are considered the most valuable human resource and great potential to move the country forward (Buruina, 2011). The findings in our study may be used by policymakers, school administrators, teachers, and parents to prepare its youth for the workforce to live a sustainable life.

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