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NEW TECHNOLOGIES AND THE GROWTH OF INFORMATION: ALTERNATIVE PATHS TO EDUCATION IN DEVELOPING COUNTRIES

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Abstract:
During the COVID-19 outbreak, when all human activities have moved from physical to virtual society, Western Balkan countries (WB6) had seen tremendous success with online learning platforms. The way forward was to promote remote learning and the use of online learning platforms, to continue supporting students to gain access to the necessary equipment for remote learning, and to provide teachers with digital learning opportunities on how to teach online, to share their resources and to give and receive feedback.
The objective of this paper is to analyze alternative paths to education through the prism of online learning readiness. Student attributes required to engage in distance learning (e.g. knowledge of technology in use, time management, organization, selfmotivation, online technology interactions, etc.) vary greatly from student to student, so that large institutions are implementing efforts to address varying levels of readiness and preparedness that may influence student success. As central and local governments in developing countries continue to work on the implementation of educational policies and programs for the integration of information and communication technologies (ICT) in education, the need to assess and evaluate the extent to which such technologies are effective is increasing.

Keywords: online education, education, educational technology, universities, online learning readiness.

JEL classification: I21; I28; O32

INTRODUCTION

E-learning has become one of the main factors for revolution, during the first decade of the 21st century, in the process of learning. That is because the process of e-learning can offer an approach for flexible and effective learning. Information and Communication Technology (ICT) is a potent force in driving economic, social, political and educational reforms (Lustigova and Lustig, 2008). Developing countries, cannot afford to stay passive to ICT if they are to compete and strive in the global economy. The

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health of the economy of any country, poor or rich, developed or developing, depends substantially on the level and quality of the education it provides to its workforce. Education reform is occurring throughout the world and one of the tenets of the reform is the introduction and integration of ICT in the education system. The successful integration of any technology, like ICT, into the classroom warrants careful planning and depends largely on how well policy makers understand and appreciate the dynamics of such integration. This paper analyzes alternative paths to education through the prism of online learning readiness. As distance education and online learning continue to grow in precedence and popularity in institutions of higher education (IHE), researchers continue to study how to ensure online learning is effective. Although many studies continue to focus on mode comparison of online and traditional courses, attention should be refocused on predecessor variables, such as student characteristics, that can be influenced through intervention to increase online learning success.

One important area of analysis is students' readiness to be successful in an online learning nvironment, which is often mentioned as online learning readiness. Online learning provides students with flexibility in where and when they learn.

Students are afforded more control in when and how they complete course learning activities, which benefits students who are unable to attend traditional programs because of external influences.

However, the online medium and this elasticity requires different attributes of students such as knowledge of technology use, time management and organization, and interaction using online technologies.

1. HOW EDUCATION SYSTEMS IN THE WESTERN BALKANS RESPOND TO COVID-19?

The impact of the pandemic stems mainly from school closures and the transition towards distance learning. School closures affect over 91 percent of students in the world and as a result 1.6 billion students do not go to school.The current closure of schools will result in learning losses for all students, although disproportionately hit students in a worse position who are more likely to give up or take it leave school early. These negative impacts will have both short-term and long-term implications. Economic growth may slow, human capital growth is likely to reduce or stop and most importantly, the existing gaps in learning equality will widen. The Western Balkan countries have combined preventive measures to limit spread of the virus with mitigation measures to ensure continuity of education. All countries in the region, they quickly started closing schools and adopting other preventive measures measures since the first cases of COVID-19 were confirmed (March 9-13, 2020). All Higher education institutions in the Western Balkans are closed and thus directly affected 2.7 million students from lower levels of education. To ensure continuity of learning while schools are closed, countries have introduced various ways of teaching and learning distance learning in emergencies. Distance learning measures cover a whole range of teaching mechanisms: TV or radio shows, resources placed on special websites, online classes

and mobile student contacts phones. Most often, countries chose a combination of methods. In the region, to reach most students, the authorities relied heavily on television broadcasts of recorded lectures. However, in order to be able to offer more TV lectures, the number of subjects and teaching time. On special platforms and teachers' websites they were provided with resources to adapt to distance learning. Some countries do equipping the online learning system has accelerated these efforts to better respond to current circumstances. Countries have taken steps to mitigate non-compliance and losses in learning for the most vulnerable students (The Goverment of the Republic of Serbia, 2019), and consider proposals for changing the school calendar, adjusting the days off and providing information equipment for students. Despite the quick actions through the whole region, the closure of schools and less effective forms of learning at a distance will inevitably lead to learning losses and will increase inequality. The transition to online learning in large scale is very difficult because very complex even in the best of circumstances (World Bank, 2020). In pandemic, the transition to learning at a distance in emergency conditions was sudden. Readiness of countries to provide quality education for all using the modalities of distance learning and online learning is central to assess how the Covid-19 response will affect the accumulation of human medium-term capital.

Students in the Western Balkans have less access to a high-speed internet connection than their peers in the EU, and regional data show a clear challenge to equality. On average, in the Western Balkans, about 60 percent of households have sufficient high-speed internet, which satisfies the requirements for online learning defined as 10 Mbps or higher (National Electronic Communications, 2020). However, it should be noted that 10 Mbps is lower than the standards acceptable in US (25 Mbps) and EU (30 Mbps). Using these higher conditions, most households in the region are not equipped with high speed internet. Even at 10 Mbps, there are big differences within the region; only 35 percent of households in Bosnia and Herzegovina have that much internet speed, compared to 48 percent in North Macedonia and 64 % in Serbia. There are also a large number of students in the Western Balkans, about 22 %, who say they have a small, or no internet access at home, compared to just 11 % in the EU.

2. ONLINE LEARNING READINESS IN WESTERN BALKANS COUNTRIES

Largely, instructional and institutional practices are implemented at IHEs to promote student success in online courses and programs. Students who enroll in online courses have varying levels of readiness and preparedness (e.g., online work skills proficiency, selfdirectedness) that likely influence their success (grade, course completion).

Motivated by the prospect of greater economic, social, educational and technological gains, both developing and developed countries, are bringing about education reform, with a clear focus on ICT integration in education. Countries have been investing considerably in terms of money, expertise, resources and research to integrate technology in education as smoothly as possible so that the classroom environment is made more conducive for enhanced teaching and learning. Nations have recognised not only the positive effects of technology in education, but also the pivotal

roles that it plays in securing jobs in the competitive job market of the 21st century. Few statistics are available from developing countries. Much research in the area of technology integration in education has been conducted in technologically advanced countries, but little in the so-called developing or third world countries.

Maintaining effective learning through distance and online means, especially in the months as long as the pandemic lasts, it will also depend on whether households have information resources available for educational purposes. On average, one in ten households in the Western Balkans with students does not own a computer; in Albania it is almost a third more, 28 percent. Possession of information resources is very different from their use for education. Although on average 86 percent of students say they have access to a computer they could use for school work, the percentage is likely to be lower in conditions of limited mobility (ETF, 2017).

There is competition in using those resources (for example, working from home, education of siblings). It is more significant that the socio-economic gap in access to ICT can be large. Apart from the limited connectivity, the availability and quality of digital contents are also at stake for coutry readiness. Although there is no country data, there are clear indications that teachers in the Western Balkans do not have long been willing to support distance learning and online learning. All Western Balkans countries recognize the importance of digital skills even though they have taken different approaches towards building these skills in teachers. Serbia, for example, has a specific curriculum digital skills program for teachers and checks their ability to use digital technologies for student assessment (European Commision, 2019). In Montenegro and North Macedonia, digital skills for teachers are part of the general criteria for competencies of teachers, while this is not the case in Albania and Bosnia and Herzegovina. Even in the EU, where digital connectivity is more common in schools than in the Western Balkans, only 20-25 percent of students are taught by teachers they are confident in work with technology.

The Network Readiness Index (NRI) (Portulans Institute, 2020) is one of the leading global indices on the application and impact of information and communication technology (ICT) in economies around the world. In its latest version of 2020 the NRI Report maps the network-based readiness landscape of 134 economies based on their performances in four different pillars: Technology, People, Governance, and Impact. Acording to Portulans Institute, the rank of North Macedonia in Network Readiness Index is 67th out of the 134 economies included in the NRI 2020. Its main strength relates to Governance. The greatest scope for improvement, meanwhile, concerns Impact (Figure 1).

To study the readiness and preparedness of students, instrumentation was developed from a review of previous instruments with the goal of developing a reliable, valid, and comprehensive instrument. Three areas were derived from the research based on the nature of online learning: (1) online, requiring technology access, skills, and efficacy; (2) flexible, requiring the students be able to self-manage their learning through discipline and control; and, (3) mediated, requiring students to be able tointeract and communicate online with others. Within these three general areas of online learning, six (6) measures were developed, including online work skills, social technology

familiarity, online learning efficacy, self-directedness, organization skills, and socialization.

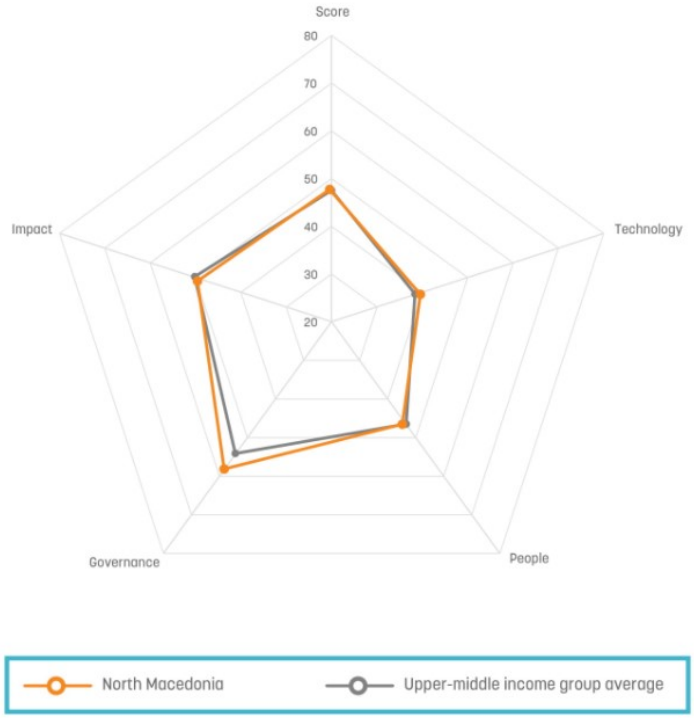

Figure 1. Performance of North Macedonia against its income group and region, overall and by pillar

The correlation analysis of the Network Readiness Index (NRI) and the Online Learning Readiness of WB6 countries shows that countries that have adopted ICT to a larger extent, better perform in Online Learning Readiness.

CONCLUSION

Which student characteristics of online learning readiness predict student outcomes in an online course? Online students' learning, satisfaction, and academic performance are positively associated with their online learning readiness (online work skills, social tech skills, online learning efficacy, self-directedness, organization, and socialization) (Joosten & Cusatis, 2020).

E-learning is a good opportunity for Universities to up-skill their employees and students to meet the demands of lifelong learning but the implementation of it needs to be well prepared and managed because it takes often high investment costs. That is why it is important for an academic to know if it is e-ready. The paper shows that e-readiness is a helpful measure for organisations to determine their state-of-readiness to employ the benefits of technology enhanced learning for their employees.

Interventions should be identified to increase student preparedness and readiness in these areas to increase student success in online courses. Also, organizational skills and self-directedness should be further investigated.

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