sciendo
DOI: 10.2478 / rae – 2022 - 0002 Review of Artistic Education no. 23 2022 9 - 16

2. DISTANCE EDUCATION PROMPTED BY COVID-19 LOCKDOWNS: A CHALLENGE FOR TEACHING MUSICAL PERFORMING ARTS

Rossella Marisi[2]

Abstract: *In 2020 and 2021, Information and Communication Technology (ICT) played a crucial role during the lockdowns, giving people the chance to continue doing business, entertainment, and education. In the education sector, in response to the outbreak of COVID-19, many countries adopted ICT-enabled distance education, which shows both positive and problematic features. The most concerning aspects relate to the digital divide, the readers' ability to assess the trustworthiness of texts found on the Web, the educators' competence in using ICT by incorporating it in their pedagogical practice, and the applicability of distance education to the teaching of performing arts.*

Key words: *digital divide, distance education, Information and Communication Technology (ICT), performing arts, trustworthiness of texts*

1. Introduction

The outbreak of COVID-19 caused major changes in life as it was previously known: among them is the rapid and ubiquitous spread of distance education; the latter has both positive and problematic aspects, especially in the teaching of performing disciplines. In the present study, section 2 focuses on Information and Communication Technology (ICT) in the context of COVID-19, section 3 reflects on the digital divide, section 4 centers on what quality education implies, section 5 revolves around ICT-enabled distance education, and section 6 draws the conclusions of the paper.

2. ICT in the context of COVID-19

With the outbreak of COVID-19 caused by SARS-CoV-2, all the countries established measures in order to cope with the rapid spread of this disease, aiming at preventing and controlling the infection by limiting social contact. Measures included physical distancing, restricting travel and imports, and in many cases confining people to their homes (Block et al., 2020). Every aspect of life as it was previously known was completely altered: studies performed in many countries show that physical access to entertainment was reduced to 25%, to food outlets and pharmacies to 39%, and to workplaces to 55% (ECLAC, 2020). The workplace closures caused the loss of 305 million jobs all over the world, having the strongest impact on the 2 billion workers in the informal economy (Teltscher, 2020).

However, in a time of lockdowns, digital technologies provided *an important resource and played a crucial role in* keeping society functional, giving people the opportunity to reach both goals at the same time: to access services and to keep social distancing. In this way, many people kept contact with families and friends

[2] Lecturer PhD., Conservatorio "Lorenzo Perosi" from Campobasso, Italy, email: rossellamarisi@hotmail.it

dealing with isolation, continued work and education online, and accessed public services (McGregor and Shaheed, 2020). Indeed, since many years ICTs, which include devices such as computer and cell phones, and services such as video conferencing and distance education, modified the way of doing jobs, business, entertainment, socialization, and education. ICTs are now considered chief means to enhance production (Rogers, 2016), stimulate the socio-economic development of all countries (Hanafizadeh, Hanafizadeh and Bohlin, 2013), and raise the quality of people's life (Soomro et al., 2020).

However, it should be considered that various elements have an influence on the percentage of jobs that can be done remotely: among these elements there are labor market structures, production structures, and the quality of digital infrastructures (ECLAC, 2020). As a result, as found by some researchers focusing on the United States labor market, a proportion of 37% of jobs pertaining to the education, professional and scientific, finance and insurance sectors was apt to be performed entirely at home (Dingel and Neiman, 2020). Even more significant is the presence of e-commerce: in the European Union, the share of consumers who shopped online in 2018, that is well before the 2020 and 2021 lockdowns, ranged from 26% in Romania to 87% in the United Kingdom (European Ecommerce Report, 2019). An enhanced use of ICTs can therefore be considered to be a consequence of both, the socio-economic and scientific-technological development of many countries, and the recent social distancing measures taken to reduce the transmission of COVID-19. However, there are serious inequalities in accessing the Internet.

3. The digital divide

Although people rely on the Internet to access food, jobs, telemedicine and education, data collected by the International Telecommunication Union (the United Nations agency specialized in collecting and disseminating ICT statistics) show that, in 2019, 49 per cent of the world population was still not using the Internet (ITU, 2020). Research stressed that "in developing countries, 53 per cent of the population is offline, and in least developed countries almost 80 per cent of the population is not using the Internet" (Teltscher, 2020: 3). Even in the United States, which is considered a highly technological country (Kohlenberger, 2015), many residents are underconnected or all the more so lack access to the Internet (Early and Hernandez, 2021).

This is likely to have severe consequences. People can have the best chances to improve their social position and capital when having available adequate access to digital technologies; on the contrary, lacking this opportunity, already sidelined individuals or classes may be further relegated to the fringes (Rogers, 2016). The digital divide is the gap between those who enjoy adequate access to computers, other digital devices, and the Internet, and those who have no or poor access to ICTs (Soomro et al., 2020). Already in 2016 research qualified digital divide as a multifaceted issue (Chang, Wong and Park, 2016) which is crucial for social justice in today's world (Resta and Laferrière, 2015; Rogers, 2016).

Some scholars have highlighted that COVID-19 worsened the digital divide:

in the United States, Black and Hispanic/Latinx adults are twice as likely as White to be under such a severe financial pressure, to have their internet service canceled or cut (Vogels et al, 2020). Focusing on the question "what percentage of Americans has access to high-speed internet services?", research found that whereas the United States national percentage ranges from 75% to 82%, the percentage of American Indian and Indigenous people living on tribal lands or reservations is less than 50% (Wang, 2018). Also in many rural areas in the United States there is *very limited access to the Internet* or no Internet connectivity at all (Vogels, 2021). This originates minor opportunities in education, training and jobs for those living there, exposing these territories to mass emigration of skilled people (Hennessy, Läpple and Moran, 2016).

Moreover, although the lack of Internet services may be the main reason, there could be other explanations for a scarce use of the Internet: among them, there are the insufficient quality of the connection; the high cost of the data packages, on the one hand, and of computers and laptops, on the other; and the lack of specific education and skills. Regarding the insufficient quality of the connection, it should be considered that there is a number of potential users of the Internet who cannot use it in their homes, because of the slow speed of the connection (Poon, 2020) or its instability (Early and Hernandez, 2021). In effect, home Internet connections with lower bandwidth are often not able to cope with the demands of many technological devices working together (Beaunoyer, Dupéré and Guitton, 2020). It is very likely that congestion problems were even worsened by the spread of smart working and distance education (Armstrong, 2020).

As regards the high cost of data packages, on the one hand, and of computers and laptops, on the other, it should be considered that there are Wi-Fi enabled devices such as mobile phones to connect to the Internet when there is a local Wi-Fi network connection available. Indeed, in the United States about 46% of smartphone users report that they access the Internet on their phone (Vogels et al., 2020). However, although the use of smartphones to access the Internet is particularly common among lower income adults (Anderson, 2019), also these devices may be too expensive for people living in least developed countries (World Development Report, 2016). In order to solve these problems, research suggested, policymakers and telecommunication companies should work together to develop infrastructures and devices which can make the Internet more accessible (Partridge-Hickes, 2021).

Concerning the lack of specific education and skills, research highlighted that in developing and least developed countries there is a quite large number of less skilled and poorly educated people, who do not use the Internet, although having access to it (Teltscher, 2020). It is clear from the above that a non-negligible percentage of people not affected by the digital divide, who can therefore access the desired information on the Web, does not use the Internet, maybe being confused by the plethora of information and misinformation available online. These users may feel frustrated by the complexity of the process of locating trustworthy information on the Web, and in the end give up before their information need is met (Scaria et al., 2014). How can this percentage be reduced, and who can take

this task? For sure, a quality education can guide people to effectively read, understand, and evaluate the reliability of different sources.

4. What is quality education?

In 2015 the United Nations General Assembly (UNGA) developed 17 Sustainable Development Goals (SDGs) designed to promote the achievement of a better and more sustainable future for all (United Nations, 2015). Among the SDGs, goal 4 aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". In 2017 the UNGA adopted a resolution which identified specific targets for each goal (United Nations, 2017), and further refinements were made in March 2020. Among the indicators included in the 2020 version, we can find the following: "4.1.1 Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex; 4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill; 4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated; 4.6.1 Proportion of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex" (European Commission, 2021).¨

The emphasis put, respectively, on reading and literacy (indicators 4.1.1 and 4.6.1), and on ICT skills (indicator 4.4.1) let us reflect on what educators should do in order to acquire the skills needed to understand and apply computer programmes, software and other applications, and to guide their students to improve reading and ICT skills. In the last years research emphasized that reading, far from being not more than the ability to decode and interpret written texts, should be considered as a complex set of skills which individuals build on throughout their life (OECD, 2021a). In particular, "reading in a digital world requires continuously evaluating the quality and validity of different sources, navigating through ambiguity, distinguishing between facts and opinions and constructing knowledge" (OECD, 2021a: 139). Therefore, in 2018 the OECD's Programme for International Student Assessment (PISA) asked 15-year-old students if they were taught: "i) how to decide whether to trust information from the Internet, ii) how to compare different web pages and decide what information is more relevant for their schoolwork, iii) to understand the consequences of making information publicly available online, iv) how to detect whether the information is subjective or biased, and v) how to detect phishing or spam emails" (OECD, 2021b: 3). On average, 54% of OECD countries' students answered that they were taught how to discern between truthful and biased or untrue information (OECD, 2021b: 2).

Although these data seemingly show a quite positive situation, it should be noticed that they imply that, on average, 46% of 15-year-old students living in OECD countries did not learn to distinguish facts from opinions. This condition really needs to be changed, guiding students to use critical thinking. According to

Glaser, having a strong critical thinking means being able "(a) to recognize problems, (b) to find workable means for meeting those problems, (c) to gather and marshal pertinent information, (d) to recognize unstated assumptions and values, (e) to comprehend and use language with accuracy, clarity and discrimination, (f) to interpret data, (g) to appraise evidence and evaluate statements, (h) to recognize the existence of logical relationships between propositions, (i) to draw warranted conclusions and generalizations, (j) to put to test the generalizations and conclusions at which one arrives, (k) to reconstruct one's patterns of beliefs on the basis of wider experience; and (l) to render accurate judgments about specific things and qualities in everyday life" (Glaser, 1941: 6).

Therefore, when readers navigate the Internet, seeking information through search engines and websites, they must be able to read the found texts quickly in order to verify if they contain the information searched for, assess the texts' relevance and judge their accuracy and credibility. This means that students must be guided to question sources of information, asking, for instance, who wrote the text, to what end the author made some choices, and if the author is a credible source.

It can be inferred that teachers and faculty members can (and should) guide their students to search for reliable information on the Internet. However, during lockdowns, courses have been conducted mainly as distance education, which uses interactive ICTs as its basis for information and communication between learners and teachers. Besides many positive aspects, distance education has also some flaws and shortcomings, related, above all, to: 1) the educators' suboptimal competence in ICTs, and 2) the questionable efficacy of distance education in the teaching of certain disciplines.

5. ICT-enabled distance education

In order to deliver effective distance education, teachers and faculty members should master the technology of education, having knowledge in the areas of psychology and pedagogy to select strategies that fit their students' needs and learning profiles, and tailor their lessons taking into account the students' individual differences. Moreover, teachers and faculty members should master technology *in* education: indeed, the introduction of technology in lesson delivery modified the way teachers and faculty members design their courses. For instance, it is now quite common for educators to be able to prepare their lessons as PowerPoint presentations, containing graphs, diagrams, tables, photographs, video and audiotapes, to provide variety in the students' learning process. Yet in teaching performative disciplines, such as singing and playing musical instruments, PowerPoint presentations may be highly ineffective. Moreover, not every educator may be ready to use technology in his or her teaching: some educators express some doubts, highlighting that educational technology tends to consider students as passive receivers of knowledge, undermining the sense of shared purpose which increases the students' motivation.

ICT-enabled distance education is characterized by some elements, which should be carefully considered by teachers and faculty members, in order to make

the best use of them or vice-versa to take appropriate remedies: 1) the separation of educator and learner throughout the learning process, which can cause difficulties in the teaching of performing arts; 2) the absence of a real learning group, which can cause difficulties to learners in general, and in particular to those participating in chamber music and orchestral classes; 3) the use of technical media, replacing traditional face to face lessons, which can made it difficult to students to maintain their motivation; 4) the provision of two-way communication between educator and students. The latter can be performed by means of e-mails, or other tools which emerged as the most popular ones during the lockdowns, such as WhatsApp, Skype, Zoom, and Google Classroom.

From a general point of view, both distance teaching and in presence teaching require teachers and faculty members to perform similar tasks: 1) designing the course; 2) preparing educational materials; 3) imparting instruction; 4) giving guidance; and 5) evaluating the students' work. However, it is also true that, in order to carry out these tasks using ICTs, educators shall be digitally literate and trained to use the needed technologies. Research stressed that it is likely that younger teachers and faculty members are more willing to integrate *digital technologies* into teaching practice and more competent in their use (Soomro, Zai and Jafri, 2015). In effect, it is very probable that younger educators feel more confident in using technology in their lessons because they have a greater experience in using it also for general tasks (Soomro et al., 2020). It can be inferred that teachers and faculty members should receive a specific training not just aimed at increasing their general ability to use ICTs, but also designed to provide specific guidance on t*he use* of *ICTs* for constructing knowledge in different disciplines, fulfilling the level of students' satisfaction (Lorenzo, 2012).

6. Conclusive remarks

Summing up, the social distancing imposed by several states to hinder the spread of COVID-19 has led to a major use of ICT, even if some connectivity difficulties persist in many regions. In addition, a non-negligible percentage of users can accede to the Internet, but are not able to evaluate the texts' credibility. To address these issues, teachers and faculty members should guide their students to correctly assess if the texts found on the Web are reliable. Performing this task was quite difficult among 2020 and 2021, because the most part of school and university teaching was delivered as distance education. Moreover, not all of the teachers and faculty members are digitally competent, and some educators express doubts on the efficacy of distance education.

In order to overcome these problems, specific policies shall be implemented, aimed at: 1) increasing digital accessibility and affordability, and 2) building teachers' and faculty members' capacity to use technologies appropriately and to guide their students in the assessment of text reliability. In this way educators will take advantage of ICT resources, and be able to deliver interesting and motivating lessons, making distance education engaging and effective.

References

1. Anderson Monica, (2019), Mobile technology and home broadband 2019, Pew Research Center, https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/, accessed 15 October 2021
2. Armstrong Rebecca Lee, (2020), Your Guide to Internet Service During New Coronavirus (COVID-19) Outbreak, Highspeedinternet.com, https://www.highspeedinternet.com/resources/internet-guide-during-coronavirus-outbreak , accessed 15 October 2021
3. Beaunoyer Elisabeth, Sophie Dupéré and Matthieu J. Guitton, (2020), COVID-19 and Digital Inequalities: Reciprocal Impacts and Mitigation Strategies, in "Computers in Human Behavior", 111: 106424
4. Bloch Janel and Sandra E. Shapiro, (2014), Cultivating Critical-Thinking Dispositions Throughout the Business Curriculum, in "Business and Professional Communication Quarterly", 77(3), 249-265.
5. Block Per, Marion Hoffman, Isabel J. Raabe, Jennifer Beam Dowd, Charles Rahal, Ridhi Kashyap, and Melinda C. Mills, (2020), Social network-based distancing strategies to flatten the COVID-19 curve in a post-lockdown world, in "Nature Human Behaviour", 4, 588-596
6. Chang Younghoon, Wong Siew Fan and Park Myeong-Cheol, (2016), A three-tier ICT access model for intention to participate online a comparison of developed and developing countries, in "Information development", 32(3), 226-242
7. Dingel Jonathan I. and Brent Neiman, (2020), How many jobs can be done at home, in "Journal of Public Economics", 189(2), September 2020, 1-8
8. Early Jody and Alyssa Hernandez, (2021), Digital Disenfranchisement and COVID-19: Broadband Internet Access as a Social Determinant of Health, in "Health Promotion Practice", 22(5), September 2021, 605-610
9. Economic Commission for Latin America and the Caribbean (ECLAC) (2020), Universalizing Access to Digital Technologies to Address the Consequences of COVID-19, Special Report COVID-19 No. 7, https://www.cepal.org/en/publications/45939-universalizing-access-digital-technologies-address-consequences-covid-19 , accessed 15 October 2021
10. European Commission, (2021), KnowSDGs, https://knowsdgs.jrc.ec.europa.eu/sdg/4 , accessed 15 October 2021
11. European Ecommerce Report, (2019), https://www.ecommerce-europe.eu/wp-content/uploads/2019/07/European_Ecommerce_report_2019_freeFinal-version.pdf , accessed 15 October 2021
12. Glaser Edward M., (1941), An Experiment in the Development of Critical Thinking, Columbia University, New York
13. Hanafizadeh Mohammad Reza, Payam Hanafizadeh, and Erik Bohlin, (2013), Digital divide and e-readiness: trends and gaps, in "International Journal of E-Adoption (IJEA)", 5(3), 30-75
14. Hennessy Thia, Doris Läpple and Brian Moran, (2016), The Digital Divide in Farming: A Problem of Access or Engagement?, in "Applied Economic Perspectives and Policy", 38(3), 474-491

15. ITU, (2020), Measuring digital development: Facts and figures 2020, ITU, Geneva
16. Kohlenberger Judith, (2015), The New Formula For Cool: Science, Technology, and the Popular in the American Imagination, Bielefeld: transcript
17. Lorenzo George, (2012), A Research Review about Online Learning: Are Students Satisfied? Why so Some Succeed and Others Fail? What Contributes to Higher Retention Rates and Positive Learning Outcomes?, in "Journal of Online Learning Research and Practice", 1(1), Fall 2012, 45-54
18. McGregor Lorna and Dr. Ahmed Shaheed, (2020), The COVID-19 pandemic: Five urgent principles for leaving no one behind through technology, https://www.universal-rights.org/blog/the-covid-19-pandemic-five-urgent-principles-for-leaving-no-one-behind-through-technology/ , accessed 15 October 2021
19. OECD, (2021), 21st-Century Readers: Developing Literacy Skills in a Digital World, OECD Publishing, Paris (OECDa)
20. OECD, (2021), Are 15-year-olds prepared to deal with fake news and misinformation?, PISA in Focus, n. 113, OECD Publishing, Paris (OECDb)
21. Partridge-Hicks Sophie, (2021), 5 Ways We Can Boost Remote Learning Access During COVID-19 and Beyond, Global Citizen, https://www.globalcitizen.org/en/content/remote-learning-education-covid-19/ , accessed 15 October 2021
22. Poon Linda, (2020), There are far more Americans without broadband access than previously thought, Bloomberg City Lab, https://www.bloomberg.com/news/articles/2020-02-19/where-the-u-s-underestimates-the-digital-divide , accessed 15 October 2021
23. Resta Paul and Thérèse Laferrière, (2015), Digital equity and intercultural education, in "Education and Information Technologies", 20(4), 743-756
24. Rogers Sylvia E., (2016), Bridging the 21st century digital divide, in "TechTrends", 60(3), 197-199,
25. Scaria Aju Thalappillil, Rose Marie Philip, Robert West, and Jure Leskovec, (2014), The Last Click: Why Users Give up Information Network Navigation, in *"*Proceedings of the 7th ACM international conference on Web search and data mining", ACM, New York, 213—222
26. Soomro Kamal Ahmed, Sajid Yousuf Zai and Iftikhar Hussain Jafri, (2015), Competence and usage of web 2.0 technologies by higher education faculty, in "Educational Media International", 52(4), 284-295
27. Soomro Kamal Ahmed, Ugur Kale, Reagan Curtis, Mete Akcaoglu, Malayna Bernstein, (2020), Digital divide among higher education faculty, in "International Journal of Educational Technology in Higher Education", 17:21, 1-16
28. Teltscher Susan, (2020), Introduction, in International Communication Union, "Digital Skills Insights", ITU, Geneva, 1-10
29. United Nations, (2015), Resolution adopted by the General Assembly on 25 September 2015, Transforming our world: the 2030 Agenda for Sustainable Development (A/RES/70/1)
30. United Nations, (2017), Resolution adopted by the General Assembly on 6 July

2017, Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (A/RES/71/313
31. Vogels Emily A., (2021), Some digital divides persist between rural, urban and suburban America, Pew Research Center, https://www.pewresearch.org/fact-tank/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/ , accessed 15 October 2021
32. Vogels Emily, Andrew Perrin, Lee Raine and Monica Anderson, (2020), 53% of Americans say the Internet has been essential during the COVID-19 Outbreak, Pew Research Center, https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2020/04/PI_2020.04.30_COVID-internet_REPORT.pdf
33. Wang Hansi Lo (2018), Native Americans On Tribal Land Are 'The Least Connected' To High-Speed Internet, in "NPR", https://text.npr.org/673364305 , accessed 15 October 2021
34. World Development Report, (2016), Digital Dividends, International Bank for Reconstruction and Development / The World Bank, Washington