

Through the COVID-19 to Prospect Online School Learning

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Online learning has been a trend in education globally since the 1980s. There are several similar concepts such as E-learning, online education, distance education, and digital learning. They refer to an educational model incorporating information and communication technologies (ICTs) into the classroom and students' learning process. As higher education increasingly incorporates online learning, numerous studies have emerged on the online learning experiences of college students. There are several well-established types of online learning, such as the MOOC, and there are already examples of online learning replacing traditional classroom instruction in higher education and adult education. Many colleges are now providing online undergraduate and graduate degrees. Unlike the practice of online education in the higher education sector, online learning in the K-12 sector is more commonly used as a supplement to traditional school education. Online education courses and programs designed for high school students are mostly private, after-school, and voluntary. Also, most online courses for younger students require parental or adult teaching assistants to participate in supervision. Online learning during the COVID-19 pandemic had several characteristics. First, it was the first large-scale online learning of its kind to be conducted both nationally and globally; second, it was for regular school learning rather than remediation or additional learning after school; and third, it was required of all school teachers and students rather than optional. In this way, the large-scale school learning that was forced to move online during the pandemic gave people an unprecedented opportunity to explore how online learning was implemented.

Keywords: online learning ; educational equity ; education quality ; COVID-19 ; student

1. School Closure Policy in Education Emergency Contexts

1.1. Remote Learning Challenges for Students

With the closure of schools, all that is related to school education is performed through digital technology, and students have thus lost face-to-face interaction with their teachers and peers. Therefore, students have shown difficulties and stress with the sudden transition to remote learning ^[1]. The shift from traditional classroom learning to online learning could not happen immediately for both teachers and students. According to Crawford et al., students have been facing challenges such as social isolation, the inadequacy of learning facilities, changing modes of learning, deficiency of lecture recordings in educational institutes, and instability of internet connection in remote areas ^[2].

1.2. The Impact of the Decreased Physical Activities

Countries' "stay at home" orders, lockdown policies, or self-segregation modes have caused people, especially students, to have significantly decreased physical activities ^[3]. In fact, studies have clearly shown that when students are not at schools, such as during summer vacations and long weekends, they are less physically active and have longer sedentary time or screen time ^[4]. Research shows that decreased physical activity has an adverse impact on people's mental health and overall well-being ^[5].

1.3. Equity and Ethical Concerns

Online learning profoundly increases equity concerns ^[6]: not all students have the same access to online learning tools and software. Therefore, providing low-cost technical support and supplemental guidance are also critical for implementing remote and online learning. Moreover, lecture-based classes may be easier to transition from offline instruction to online courses. In contrast, arts and laboratory-based classes may take more time to shift, posing obvious challenges for students' overall learning experience. However, even with all of these obstacles, online learning is a necessity in the age of the pandemic ^[6].

In terms of academic honesty and ethics, students have more chances of taking advantage of digital technology to cheat or plagiarize in remote and online learning environments. There are many new ways to cheat in remote classroom assessments and exams: communicating with peers during testing, searching for answers when no one is monitoring, and copying papers online and claiming to be their own work ^[7].

The huge surge in chegg.com usage during the pandemic may illustrate how online courses may erode student academic integrity. Chegg is an American education technology company that provides students with online academic support services such as answering homework questions, renting books, and tutoring. By the third quarter of 2021, its subscriptions had grown 69% over the previous year to 3.7 million. Its share price has risen 345% since the country began locking down on 18 March 2021 ^[8]. "The growing number of requests indicates that students are using Chegg for assessment and exam help frequently and in a way that is not considered permissible by universities ^[9]". According to Forbes' interviews with 52 students from 19 universities including ivy league universities, who used Chegg to study, 91% of them acknowledged using the website to cheat ^[8].

In such cases, precautions could be applied as well. More testing options, such as randomized assessments or open-book exams using authorized resources, have been adopted to prevent students' communication during testing ^[10]. However, no assessment test solution for an online course is perfectly practical. For example, although open-book exams tend to assess thinking skills, it may lead students hunting for answers instead of spending time understanding what they have learned ^{[11][12][13]}. As a result, academic honesty and effective assessment pose additional challenges to the quality of online education.

2. Online Learning Quality

2.1. Pedagogical Choice for Remote Learning

As a result of the global pandemic, countries have been able to experiment with online education and explore new possibilities. Transition to online school learning requires pedagogical and instructional changes to improve students' learning experience in the future of online teaching ^[14]. Educators aim to carry out a coordinated online pedagogy to ensure students' education quality during the pandemic. For students under special conditions, collaborated global response with shared resources could be reached to target their learning quality ^[2].

Research shows that the pedagogical solution to online and remote learning is largely based on the available resources of education organizations. Areas with lower technology support often provide non-real-time teaching tools such as recorded sessions, PowerPoints, and Google Classroom, while areas with more developed economies are more likely to offer fulltime online learning platforms such as Zoom and Google meet ^[2].

The role of the teacher becomes more of a facilitator of learning rather than a direct administrator. This ends up shifting the traditional teacher-controlled classroom environment to a more self-motivated learning experience, which requires students to be more independent with their learning ^[14].

2.2. Student Participation and Engagement

Classroom participation and engagement are two important factors in determining the quality of education. Research results show that online learning may affect students negatively in academics when they do not have a sense of cognitive engagement and social connections ^[15]. However, that is not everything in determining the learning quality; aspects such as self-motivation in students could also be decisive. Research shows that students who are highly self-motivated or previously have experiences with online learning are at the highest chance of enjoying the benefits and opportunities in an online learning environment ^{[6][14]}.

In addition, students' learning performance may also improve as they develop an effective, continuous habit during online learning. By cultivating the learning habit, students may attain higher learning efficiency than the traditional face-to-face learning approach ^[16].

The pandemic has caused an environment that affects many factors related to mental health. Several factors, including social restrictions, lockdowns, closures of schools and businesses, loss of livelihood, decrease in economic activity, and shifting priorities of governments in their effort to control COVID-19 outbreaks can adversely affect the mental health of the population ^{[5][17]}. In addition, it is also suggested that the younger population was more affected than the older ones by the pandemic for anxiety disorder and depressive disorder ^[18].

3. Cultural Issues in the Online Classroom

An early study shows that in a cross-cultural context, students have significantly more positive perceptions and higher quality of learning when the classroom allows intercultural communication and peer engagement, in other words, a culturally inclusive environment ^[19]. However, due to the lack of face-to-face interaction, the approach to cultural inclusion is different in a virtual environment during the pandemic. On the one hand, besides being away from school, a significant number of international students returned to their hometowns with a completely different cultural background from their school education contexts. Statistics show that the total enrollment of international students in the US decreased by 16%, and the enrollment of new international students was down by 43% during the fall semester of 2020 ^[20]. On the other hand, recent research has shown that online learning during the pandemic widens the gaps between poor students and their better-off peers, with increased drop-off rates among disadvantaged students ^{[21][22]}.

The drastic global switch to online learning and teaching allowed people to take a closer peek at the feasibility of online education. Online learning will become constrained without consideration for students' many cultures and experiences, posing a risk to student learning and satisfaction ^[23]. Thus, cultural inclusiveness in online classrooms must also be taken into consideration.

4. Research Approach of K-12 Online Education

Research on K-12 online education mainly employs surveys to gauge the effectiveness of online education and its comparison to traditional classroom classes ^[24], while neglecting students agency in the education process. Although some studies have addressed the case of online education in high school, they have lacked the adolescents' opinions about online classes based on their own frame of understanding. The global pandemic has brought more attention to online education, with many newly published studies, data presentations of trends, and surveys on online education, but a lack of in-depth inquiry into students' feelings. Thus, the lack of research on students' perceptions has left a research gap in K-12 online education research.

The research on K-12 students' learning experiences and perceptions often involve a complex process, not to mention there are many uncontrollable factors in students' online learning compared to traditional learning in the classroom. On the other hand, the research of students' online educational experiences has to be analyzed from multiple perspectives and in various contexts. None of these issues can be found particularly well referenced in the existing literature.

A systemic and holistic view of online learning from high-school students needs to be explored through qualitative inquiries. Qualitative research often analyzes a relatively small number of individuals or scenarios to maintain the distinctiveness of each of these. Thus, it contributes to comprehending how events, actions, and meanings are influenced by their particular contexts. For example, a case study examines a contemporary event within its real-world environment, particularly when the boundaries between the object of research and setting are not obvious ^[25]. The deductive analysis of qualitative data allows researchers to discover the meanings and influences and how they impact a situation-specific phenomenon.

References

1. Patricia Aguilera-Hermida, A. College Students' Use and Acceptance of Emergency Online Learning Due to COVID-19. *Int. J. Educ. Res. Open* 2020, 1, 100011.
2. Crawford, J.; Butler-henderson, K.; Rudolph, J.; Malkawi, B.; Glowatz, M.; Magni, P.A.; Lam, S. COVID-19: 20 Countries' Higher Education Intra-Period Digital Pedagogy Responses. *J. Appl. Learn. Teach.* 2020, 3, 1–20.
3. Chu, Y.H.; Li, Y.C. The Impact of Online Learning on Physical and Mental Health in University Students during the COVID-19 Pandemic. *Int. J. Environ. Res. Public Health* 2022, 19, 2966.
4. Brazendale, K.; Beets, M.W.; Weaver, R.G.; Pate, R.R.; Turner-McGrievy, G.M.; Kaczynski, A.T.; Chandler, J.L.; Bohnert, A.; von Hippel, P.T. Understanding Differences between Summer vs. School Obesogenic Behaviors of Children: The Structured Days Hypothesis. *Int. J. Behav. Nutr. Phys. Act.* 2017, 14, 100.
5. Idris, F.; Zulkipli, I.N.; Abdul-Mumin, K.H.; Ahmad, S.R.; Mitha, S.; Rahman, H.A.; Rajabalaya, R.; David, S.R.; Naing, L. Academic Experiences, Physical and Mental Health Impact of COVID-19 Pandemic on Students and Lecturers in Health Care Education. *BMC Med. Educ.* 2021, 21, 542.
6. World Bank. Remote Learning and the COVID-19 Outbreak; World Bank: Washington, DC, USA, 2020; pp. 1–12.

7. Holden, O.L.; Norris, M.E.; Kuhlmeier, V.A. Academic Integrity in Online Assessment: A Research Review. *Front. Educ.* 2021, 6, 639814.
8. Adams, S. This \$12 Billion Company Is Getting Rich Off Students Cheating Their Way Through Covid. *Forbes* 2021, 26, 2021.
9. Lancaster, T.; Cotarlan, C. Contract Cheating by STEM Students through a File Sharing Website: A Covid-19 Pandemic Perspective. *Int. J. Educ. Integr.* 2021, 17, 3.
10. Olt, M. Ethics and Distance Education: Strategies for Minimizing Academic Dishonesty in Online Assessment. *Online J. Distance Learn. Adm.* 2002, 5, 1–7.
11. Parker, A.M.; Watson, E.; Dyck, N.; Carey, J.P. Traditional versus Open-Book Exams in Remote Course Delivery: A Narrative Review of the Literature. In *Proceedings of the 2021 Canadian Engineering Education Association Conference*, Charlottetown, PE, Canada, 21–23 June 2021; pp. 1–7.
12. Senkova, O.; Otani, H.; Skeel, R.L.; Babcock, R.L. Testing Effect: A Further Examination of Open-Book and Closed-Book Test Formats. *J. Eff. Teach. High. Educ.* 2017, 1, 20–36.
13. Gharib, A.; Phillips, W.; Mathew, N. Cheat Sheet or Open-Book? A Comparison of the Effects of Exam Types on Performance, Retention, and Anxiety. *J. Psychol. Res.* 2012, 2, 469–478.
14. Ali, W. Online and Remote Learning in Higher Education Institutes: A Necessity in Light of COVID-19 Pandemic. *High. Educ. Stud.* 2020, 10, 16.
15. Bower, M. Technology-Mediated Learning Theory. *Br. J. Educ. Technol.* 2019, 50, 1035–1048.
16. World Bank. Beirut Rapid Damage and Needs Assessment (RDNA)—August 2020. Available online: <https://www.worldbank.org/en/country/lebanon/publication/beirut-rapid-damage-and-needs-assessment-rdna-august-2020> (accessed on 30 March 2022).
17. Irawan, A.W.; Dwisona, D.; Lestari, M. Psychological Impacts of Students on Online Learning During the Pandemic COVID-19. *KONSELI J. Bimbing. Konseling* 2020, 7, 53–60.
18. Santomauro, D.F.; Mantilla Herrera, A.M.; Shadid, J.; Zheng, P.; Ashbaugh, C.; Pigott, D.M.; Abbafati, C.; Adolph, C.; Amlag, J.O.; Aravkin, A.Y.; et al. Global Prevalence and Burden of Depressive and Anxiety Disorders in 204 Countries and Territories in 2020 Due to the COVID-19 Pandemic. *Lancet* 2021, 398, 1700–1712.
19. Hannon, J.; D’Netto, B. Cultural Diversity Online: Student Engagement with Learning Technologies. *Int. J. Educ. Manag.* 2007, 21, 418–432.
20. Redden, E. Study Finds Nearly 200 Percent Jump in Questions Submitted to Chegg after Start of Pandemic. Available online: <https://www.insidehighered.com/news/2021/02/05/study-finds-nearly-200-percent-jump-questions-submitted-chegg-after-start-pandemic> (accessed on 27 March 2022).
21. Dorn, E.; Hancock, B.; Sarakatsannis, J.; Viruleg, E. COVID-19 and Students Learning in the United States: The Hurt Could Last a Lifetime. *Soc. Res. Child Dev.* 2020, 1, 1–2.
22. García, E.; Weiss, E. COVID-19 and Student Performance, Equity, and U.S. Education Policy; Economic Policy Institute: Washington, DC, USA, 2020; Available online: <https://www.epi.org/publication/the-consequences-of-the-covid-19-pandemic-for-education-performance-and-equity-in-the-united-states-what-can-we-learn-from-pre-pandemic-research-to-inform-relief-recovery-and-rebuilding/> (accessed on 27 March 2022).
23. Milheim, K.L. Cultural Inclusivity in Online Learning. In *Student-Teacher Interaction in Online Learning Environments*; IGI Global: Hershey, PA, USA, 2014; pp. 76–88. ISBN 9781466664623.
24. Barbour, M.K. The Landscape of K-12 Online Learning: Examining What Is Known. In *Handbook of Distance Education*; Routledge: London, UK, 2018; pp. 521–542.
25. Yin, R.K. *Case Study Research and Applications: Design and Methods*, 6th ed.; Sage Publication: Thousand Oaks, CA, USA, 2018.