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Minimizing Learning Loss Among Students During the Covid-19: The Case of Bahrain

Abdulghani Ali Al-Hattami
Yazan Mohammad Alghazo
Bahrain Teachers College || University of Bahrain || Bahrain

Abstract: The article addresses the issue of learning loss among students during the Covid-19 era of schooling, where most countries around the world opted for online schooling options but had no prior preparation for a large-scale switch towards an utterly online learning system. Background information about learning loss and several contributing factors to learning loss are discussed. Finally, the authors present the case of the Kingdom of Bahrain. They argue that it had been one of the successful models of adapting to meet student needs during the abrupt and sudden change to the learning environment and the switch to online learning. Further solutions to deal with the education loss are suggested at the end of the paper.

Keywords: Learning loss, online teaching, Covid-19, Bahrain.

تقليل الفاقد التعليمي لدى الطلاب خلال جائحة كورونا (Covid-19) - تجربة مملكة البحرين

عبد الغني علي الحطامي
يزن محمد الغزو
كلية البحرين للمعلمين || جامعة البحرين || البحرين

المستخلص: يتناول هذا البحث قضية الفاقد التعليمي لدى الطلاب خلال فترة كورونا (Covid-19)، حيث اتجهت معظم البلدان في جميع أنحاء العالم إلى خيارات التعليم عبر الإنترنت بالرغم من أنه لم يكن لديها استعداد مسبق للتحول على نطاق واسع نحو نظام التعليم عبر الإنترنت. يناقش البحث المعلومات الأساسية حول الفاقد التعليمي والعديد من العوامل المساهمة في فقدان التعليم. وفي الأخير، يعرض الباحثون تجربة مملكة البحرين كأحد النماذج الناجحة للتكيف وتلبية احتياجات الطلاب خلال التغيير المفاجئ في بيئة التعلم والتحول إلى التعلم عبر الإنترنت على مستوى العالم. ويقترح في نهاية البحث إيجاد حلول أخرى للتعامل مع فقدان التعليم.

الكلمات المفتاحية: الفاقد التعليمي، التدريس عبر الإنترنت، كوفيد-19، البحرين.

Introduction.

Learning loss refers to any general or specific loss of skills and knowledge or reversals in academic progress. There can be many reasons for gaps and discontinuities in students' education, resulting in a significant loss (Yoo & Kweon, 2019). Learning loss is likely to lead to significant delays in achieving the United Nations Sustainable Development Goal of ensuring universal primary and secondary education by 2030, not to mention the rising cost of trying to provide students with the help they need to make up for

what they missed. The full impact of this is likely to continue unprecedented global shift to distance learning for years to come. For students who lack tools and teachers who need to achieve academic success, the results can be devastating. Some may leave school early; others may lack the skills they need to advance to the next level of learning. Although formal educational attainment is only one element of many for success in life, it is closely linked to higher gains and better life outcomes (Chen et al., 2020). Therefore, it is essential to investigate learning loss and the reasons behind it to develop methods that help reduce learning gaps among students. In the last two years, there were significant changes in education systems around the world due to complete shutdowns of schools all over the world, and it was argued that this sudden change, combined with a lack of teacher and school preparation to handle online learning environments, led to significant learning loss among students.

In this article, we investigate learning loss, its reasons, and we present a successful case of reducing learning loss during the pandemic. The purpose of this article to inform the literature on a successful model of reducing learning loss due to the Pandemic and encourage further research on addressing specific learning loss cases and how that learning loss maybe reduced.

Literature Review.

Learning Loss:

Loss of knowledge, skills, and delay in progress, in general, is not only the candidate's problem, be it a student or any other kind of trainee or employee. However, it is also a loss of a broader spectrum. Kuhfeld (2019) stated that learning loss significantly affects the economy due to the delay in employment or lack of skillset. Students who are at the stage of learning different patterns and modes of communication may take different roles at workplaces and even at their homes. They learn how to complete new tasks, engage in new activities, and develop or sustain new activities. Some learn from the outdoor world on walks, and others learn in schools and colleges. These learning institutions have a lot to offer to the students; they learn how to deal with real life situations as well as develop skills that enable them to become successful individuals in the future (Turner, Hughes, & Presland, 2020). Their future is associated with the country's economy; they join different industries and serve there as important assets, which means they will directly contribute to the organizational productivity and ultimately to the economy.

Student engagement in school activities and learning experiences is important. The place where they learn and the medium of instruction matter. According to Zhao (2021), if they are engaged with the place, their learning is effective; any disturbance in the environment or not being able to go to school physically disturbs their learning. Learning is not only about the subject matter as it is becoming available readily electronically, but by going to schools and colleges; learners get to know a lot about people and

society and become able to deal with the outside world. However, if they are not able to go to school due to any obstacle, their learning gets interrupted; this is called learning loss. For instance, if a student is absent for a few days from school, he/she does not know what was delivered in the class during those days and would find it difficult to catch up to their peers. Blaskó, da Costa, and Schnepf (2021) added that students' interaction with the instructor is more active when they go to the institution rather than sitting at home and engaging in reading activities or online learning activities. Knowledge is shared in these institutions, which benefits all; students even learn from one another. All of these benefits are reduced when educational institutions are closed or students learn at home.

Learning Loss During Covid-19:

A majority of learners have recently become attached to technological instruments and prefer to turn away from the books that feed their minds (Elihami, 2021). It has adversely impacted the nourishment of their brains and deteriorated their memories. It could be viable to say that the human generation is seeking deprivation of both physical and mental aptitude concerning moving further to the technological era. The technological invention has endeavoured to facilitate human life, and for bringing ease to their regular operations and activities, though, of course, employment and misuse of the technology have made people confront adversarial realities.

Until 2019, the educationists and behavioral researchers were seeking a way out to prevent learners from the negative consequences of a digital revolution when the global pandemic outbreak has curbed the facilitation from every aspect. Initially, every single thing was headed to a halt, and global economies and institutions were paralyzed; this has made every individual experience mental trauma. Covid-19 has instigated global shutdowns that have further deteriorated the learning process of learners across the globe (Dooley et al., 2020). This was the time when every other person was indulged in either saving his/her life or of their loved ones, which has dramatically impacted the mental aptitude of every individual.

It has been determined from the various studies on socio-economic development that investing in proliferating the potential of individuals will bring harmony to the social communities in which they are residing (Sabates et al., 2021). This is why human individuals are recognized as the human capital of society. However, learning institutions are responsible for nourishing the potential of such individuals and grooming them into viable social beings by crafting their morality and ethics. Learners often tend to avoid schooling for several reasons, which might span from personal to social demographic traits. Though, the outcomes of such aspects could affect learners in the period of their adolescence and later on have adverse effects on their lives.

In the recent digital revolution, the boundaries have been eliminated, and learners have availed access to learn anywhere and anytime. During a pandemic, institutions and learners have availed the

benefits of technological employment for learning; though, technological approaches to learning have never become a perfect substitute for in-person learning that could only be attained physically to the classrooms (Azorín, 2020). Various skills of the learners and the teachers have observed a downfall during the Covid-19 era. Learners have become bound from social interaction and their networking skills were being curbed. The majority of learners have developed behavioral issues, frustration, and deterioration of their physical health during the Covid-19 era.

Factors Leading to Learning Loss:

It is imperative for schools to ensure sharing of the common goal in the battle that is fought against COVID-19. The cost and benefits of schools have been largely ineffective and challenging for stakeholders to understand. It is required to use natural experiments that occurred in national examinations in various countries of the world. According to student learning, it is required for them to indicate the best-case scenario for reducing the effect of the short lockdown effect in their school funding. As applied to some of the favourable conditions during the pandemic, it has been found that no progress has been seen in learning at home. However, learning loss can be pertained due to the fact that it disadvantages home learning. The suspension has required face-to-face instruction in school, which has led to enforced basic concern for improving students' learning behavior (Yoo & Kweon, 2019). The evaluation of data gathered during school closure on primary school performance that used an exceptional approach to risk-taking behavior. It has been estimated that equitable school funding has been estimated to be the world's highest rate of broadband access which is required for learning loss reduction. The closure of schools for more extended periods of time has imposed adverse effects on individual performance. There are students who belong to families with low socioeconomic status, which may have a negative impact on children's learning (Von Hippel, 2019).

It is required for them to reduce the effects of pandemics on children's nourishment. It is estimated that the cumulative impact of knowledge has been surrounded by the transitory influence of the testing day. The pandemic effects are forced through transforming societal approach that has been exacerbated through social and economic inequalities in the country for the widening effect on society. In order to reduce the effects of the pandemic, governments around the world have begun to suspend their face-to-face teaching which affected 95% of the student population. However, the United Nations Convention on the Rights of Children pertained to providing primary education mandates equal opportunity for gaining academic stability. It is required for students to perceive better learning behavior that is reduced the effect of illiteracy and bad force on academic skills in an individual. Unlike some of the societal sectors, schooling may not post data at a higher rate of frequency intervals for the benefitted approach (McEachin, & Atteberry, 2017). There are various schools and teachers who have been working hard to adopt an online-based solution for getting uniform instruction as a matter of accountability.

However, early data from an online learning platform suggest a significant drop in coursework completion. From their survey, McEachin and Atteberry (2017) have estimated that children spend considerably less time on studying lockdown because having no teacher and reading online made them devastated. The data showed that students who did not attend school face-to-face pertained to qualify for improving their learning loss behavior. In the spring of 2020, the pandemic caused severe effects that led to the disruption in everyday life routine. There are various measures that needed to be taken care of reducing the effect of the virus as schools have been closed. School intervention has been estimated to be the practical step taken for reducing the spread of the virus. There are various researchers who have raised concerns about the effect of a pandemic that is pertained on students' academic achievement and thus, affects their learning behaviours (Mishchuk et al., 2017). Homes where students have not been able to qualify for their studies, may have issues with their academic development. Closure of school has been devastating for the students to acquire better learning improvements. The reason for learning loss is schools closure along with online teaching, which most of the students do not find feasible for their academic careers. Now, after the reduction in the spread of the virus, most teachers and schools are working to recover themselves from lost learning behavior that imposed a negative impact on their strategic improvements. Learning loss has ultimately increased learning poverty among individuals that incurred adverse effects on their stability. Additionally, school closure has increased the educational inequality gap to the reduced pandemic crisis. The stimulation of learning loss can affect the economic condition of the country because when the people are not educated enough then they may lack basic skills that are required for academic skills development (Turner et.al, 2020). The pandemic has imposed adverse effects on learning loss behavior which caused big dropout in academic knowledge as shown in figure 1 (Dorn et.al, 2021).

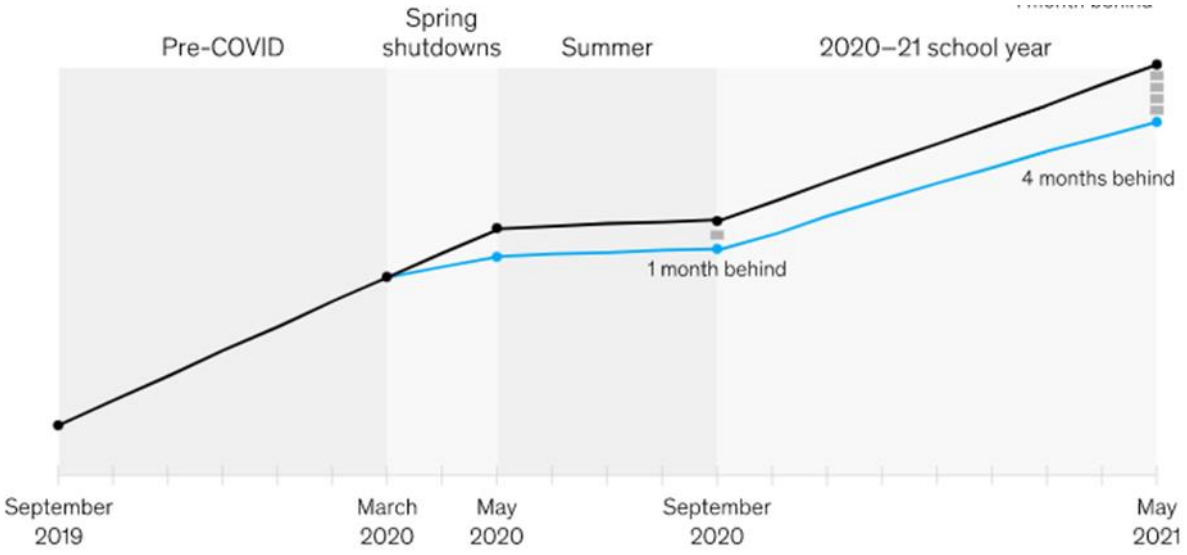

Figure (1) Increase in learning loss after the pandemic (*Source:* Dorn et.al, 2021)

It is depicted from the graph that it is required to have improvements in student's trajectories for fulfilling the extended gap of learning (Martin-Donas et al., 2018). Due to the pandemic, there was a subsequent gap among learning and the initial school shutdown that is still ruling in some parts of the world. The graph represented an unfinished learning pattern of students. The basic reason for students to be back from getting an education is because of financial issues parents are faced with due to economic destruction in the country. On average, students who took spring assessments in schools are half a year behind in acquiring math education as compared learning loss that occurs due to summer vacations. The losses are, thus, more significant because they piled up an opportunity and basic academic achievement of students' learning patterns (Santos et al., 2017). The general pattern of students' learning has caused devastating effects on credibility and access to increasing productivity to assimilate the academic gap among students.

Bahrain's Approach with Pandemic Crisis:

In response to Coronavirus spread, the world moved toward using digital technology to reduce the effects of the virus that led to business disruption in all sectors, including education (Liferay, 2021; Dumpit & Fernandez, 2017; Granić & Marangunić, 2019; Scherer et al., 2019). Since social distancing is one of the most important means adopted in confronting the virus, which led to the closure of educational facilities of all kinds, including schools, institutes and universities, and to find an available alternative that can be used to ensure the continuity of education, it was necessary to adopt distance education as a safe and available alternative. The level of digital readiness in educational facilities, and in schools in particular, plays a key role in ensuring that continuity (Hong & Kim, 2018; Topal, 2016).

The digital readiness of educational institutions is not limited to the availability of technology, but also the level of digital readiness of schools, the readiness of teachers to use digital technology in teaching, the readiness of schools and students to use digital technology, the digital readiness of students' homes, and students' attitudes towards learning on their own, and the level of family support for the education of their children (Horrigan, 2016).

His Majesty King Hamad's Project for Schools of the Future was initiated at the beginning of the year 2005 AD. The focus was on the necessity that the current educational tools be available to all within the framework of equal opportunities for the people of Bahrain, and the need for continuous work to keep pace with education changes and to adopt its scientific and technological developments, and from this point of view, this project came to achieve the transition from traditional education to education based on the use of information and communication technology. Dutta (2016) indicated that "The project has adopted new educational plan to make all the government schools adopt to e-learning at national level by 2008/2009. This project provides classrooms from Year 1 to Year 12 with new technology workstations like computers with webcams and headphones, smart boards and printers, and online learning

applications in smartphones." In her study, she concluded that the project helps improve the teaching-learning process, students' skills for career perspectives and their future life. She also indicated that students and teachers have preferred online materials more than paper because students nowadays like technology and enjoy their time when they use the online materials. The development of the educational system in the Kingdom of Bahrain is upgrading with its outputs within the framework of national efforts to promote diverse sources of knowledge, which allowed each student to learn according to his abilities. Through technology, the teacher can communicate with the students, follow up and improve them, and it allows the parents to communicate with the school in a positive way.

Consequently, the Ministry of Education is working to shift to the stage of digital empowerment, to enhance the objectives of His Majesty King Hamad's project for schools of the future, to ensure that students have access to e-learning at all times and places in implementation of the royal directives of His Majesty the King. Empowerment through a number of practical steps, including the provision of an electronic educational portal, the production of digital content for academic subjects and the development of sustainable human resources in the digital field, as the project contributes directly to the production of knowledge, which enhances active participation in the production of digital content, and knowledge-based economy, to complement the system of projects related to digital culture, such as UNESCO-King Hamad bin Isa Al Khalifa award for the use of information and communication technologies in the field of education, and the efforts of the Regional Center for Information and Communication Technologies that operates in the Kingdom under the umbrella of UNESCO (UNESCO, 2022).

There is no doubt that the stage of digital empowerment enhances the method of learning through digital devices. Taking into account individual differences and the learner's self-speed, by employing elements of sound, image and movement, raising the level of student achievement, saving costs in the long run, and making the educational process more attractive, thus improving discipline and school attendance, enhances the motivation towards learning, and supports this process for all categories of students, especially those who suffer from difficulties or stumbles.

The project made teachers in Bahrain open to upgrading and improving within the framework of their professional development activities and acquiring the skills of using digital technology. As a result, teachers can support learning through the use of different digital means. Teachers are encouraged to participate in networks that connect them to develop their professional practices and cooperate professionally through a variety of learning activities in their schools. The project ensures that schools have adequate resources for teachers to use in order to assist student learning.

School students, on the other hand, are confident in themselves and their ability to adapt and deal with difficult times enabled them to overcome academic difficulties. They aim to acquire the greatest amount of knowledge in school. While students stay at home, it is now critical to ensure universal access to the internet, as this can allow schools to use educational technology effectively and in age-appropriate

ways within their regular education. The goal is a smooth transition to distance learning to allow continued learning during any future interruptions in school operations.

What we are learning, then, from the emerging coronavirus crisis, as we have seen in previous epidemics, is that preparedness is crucial. Although there are different scenarios, many assume that the spread of the Coronavirus will occur in waves, which means that the response to it must be cyclical. Countries must prepare and have a response plan. This will facilitate the process of "adaptation" once the crisis occurs and reduce its adverse effects to a minimum. The plan could include developing protocols for in-school inspections, public hygiene campaigns, enforcing school closures, providing distance learning, using closed schools for emergency purposes.

As the emergency phase recedes, communities can move into a "recovery" mode, where governments implement policies and measures to make up for lost education (Mason, 2016). Approaches may include adjustments to the school year's schedule, giving priority to students in classes preparing for crucial exams, and continuing distance learning in parallel with schools. Countries that have shown greater resilience in recurring crises have been able to benefit from past lessons and respond quickly to new crises, such as the current one (Winthrop, 2020). The country was able to use the current momentum to re-prepare, invest in, and strengthen the systems in the future.

It is essential to work together based on the experience gained from previous outbreaks (i.e., SARS, Ebola) to support governments in understanding the options available. In this area, the World Bank works with countries around the world in each of the three phases; Preparedness, adaptation and recovery. Education officials and policymakers can use this crisis as an opportunity to create new learning models that can reach everyone, prepare for emergencies, and make the education system more resilient.

Solutions for Learning Loss:

During the era of a global pandemic, various issues have been arising that result in learning loss for children. To address these issues, various solutions have been suggested that could be used to address learning loss. The first solution is to develop different learning standards having sufficient prerequisites that could be used for future learning. It has been suggested that the learning organizations should develop the prerequisites by which they can make the student complete the previous course that was not done during the era of a global pandemic. This approach will positively improve learning experiences as students will be able to complete their previous courses first, and after that, they will be enrolled in the new courses. This approach can be used by the learning organizations by which they can complete their courses to address the learning loss (Efriana, 2021).

On the other hand, different interventions should be introduced so that learning loss could be handled in the desired manner. It has been evaluated that the changes in the teaching schedule will be significant by which the teachers with extra help can provide sufficient measures to the students to fill the

gaps that were induced during the era of the global pandemic. However, these interventions could be devised based on student-specific learning needs or course-based needs. This solution will provide pivotal means by which the learning organizations can fulfill the gap and required results could be obtained. This solution is not only beneficial for the students, but it will also provide sufficient means to the teachers by which they can prioritize the weak areas according to the student needs and sufficient outcomes could be observed and the learning gaps will be fulfilled in the desired manner. Moreover, the teachers should engage the student with the use of different learning projects. It has been evaluated that these projects will provide significant measures to enhance their learning and students can work on different projects by which they can enhance their skills and the learning gaps can be fulfilled in the desired manner. The implications of different projects will not only overcome their learning gaps during a global pandemic but will also increase their team working and research skills as they need to perform self-learning to complete the projects and the teachers can easily evaluate their skills by which the learning gaps can be fulfilled (Baloran, 2020). Personalizing the learning experience is another approach that could be used to fulfil the learning gaps. It has been evaluated that the teachers should tailor their curriculum to easily fulfill the student needs and small groups of students can be developed accordingly by which teachers can easily allocate their time and critical measures could be observed to address the issues associated with learning gaps. The implication of personalized learning will also be significant for the teachers because they can easily determine the students' needs and different groups will be developed based on their relative needs. This approach will be easy for the teachers, as well as they do not have to focus on individual students and sufficient results could be observed in the desired manner (Engzell et al., 2021).

Conclusion.

The Corona pandemic that plagued the world in the last two years has resulted in students losing some knowledge and skills due to school closures; there has therefore been a huge loss of learning over the course of these closure periods. Learning has been transformed from face to face to online using technological tools. This paper highlighted the issue of learning loss among students during the Covid-19 era of schooling and the factors contributed to learning loss. The Bahraini wise preparation through King Hamad's Project for Schools of the Future which started in 2005 by providing schools with all education technological tools that helped in keeping pace with education changes during the pandemic. This is one of the successful models of adaption to meet student needs during the abrupt and sudden change to the learning environment and the switch to online learning globally. The project made students and teachers in Bahrain open to upgrading and improving within the framework of their professional qualification activities and acquiring the skills of using digital technology. The paper has also presented further solutions for dealing with learning loss.

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