

Pedagogical Models: Teachers' Alternative Scenarios to Enhance Students' Academic Achievement during the Covid-19 Pandemic

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Abstract: An attempt to contain the spread of the Covid-19 Pandemic by closing educational institutions impacted over sixty percent of the world's student population. School closure induces learning disruption, generates inequities, and greatly influences underprivileged children. The efforts to mitigate the impacts of school closure and to facilitate the continuity of education have become extremely challenging tasks for teachers. Educators are strongly advised to make a rapid transition to remote learning at short notice. They are expected to provide students with meaningful learning experiences, create feasible academic scenarios that fit their respective teaching and learning contexts as well as enhance students' achievement. However, without proper training and full support from the government, teachers may find shifting the direction of their teaching from the traditional classroom to virtual learning burdensome. Teachers should be provided with adequate skills and knowledge to perform remote learning successfully in order to maintain students' high levels of academic performance. This paper intends to explore pedagogical models served as alternative scenarios that teachers can devise to boost students' academic achievement during the pandemic.

Keywords: *school closure, rapid transition, remote learning, pedagogical models*

Abstrak: Usaha untuk memutuskan rantai penyebaran Covid-19 dengan menutup institusi pendidikan mempengaruhi lebih dari enam puluh persen populasi siswa di dunia. Penutupan sekolah menyebabkan terjadinya gangguan belajar, ketidakmerataan, dan sangat mempengaruhi anak-anak yang tidak berkemampuan. Usaha untuk mengurangi pengaruh dari penutupan sekolah dan upaya untuk memfasilitasi keberlangsungan pendidikan menjadi tugas yang sangat menantang bagi para guru. Pendidik di perintahkan untuk mengajar secara online tanpa persiapan. Mereka diharapkan bisa menyediakan siswa pengalaman pembelajaran yang bermakna, menciptakan perencanaan pengajaran sesuai dengan karakter sekolah dan siswa masing-masing, untuk meningkatkan prestasi akademik siswa. Akan tetapi, tanpa pelatihan yang memadai dan bantuan dari pemerintah, para pendidik akan mengalami kesulitan untuk beralih ke pembelajaran jarak jauh. Para pendidik harus diberikan keahlian dan pengetahuan yang cukup untuk bisa mensukseskan program belajar jarak jauh. Tulisan ini akan membahas model pembelajaran yang bisa menjadi rencana alternatif yang bisa digunakan guru untuk meningkatkan prestasi akademik siswa selama masa pandemic Covid-19.

Kata-kata kunci: *penutupan sekolah, transisi cepat, pembelajaran jarak jauh, model pembelajaran*

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An attempt to contain the spread of the Covid-19 Pandemic by closing educational institutions impacted over sixty percent of the world's student population (UNESCO, 2020). Government initiatives to maintain student learning during school closure by replacing face-to-face classroom with technology-enabled forms of remote learning have been seen as a counterproductive measure. The latest research on virtual learning documented that digital and technological resources can be either aid or a barrier to learning for several reasons. First of all, not all children have equal access to the same technological tools. Then, children and parents do not have similar knowledge and skill levels in the use of technology, and teachers are not supported by reliable educational resources and adequate expertise (Arvisais et al., 2020). For these reasons, school closure possibly induces learning disruption, generates inequities, and greatly influences underprivileged children (Armitage & Nellums, 2020).

In Indonesia, according to a recent survey conducted with parents and students, the biggest obstacles that students faced while learning remotely from home were lack of internet access, the unavailability of gadgets, and less parental support toward their children (Sikirit, 2020). Therefore, the efforts to mitigate the impacts of school closure and to facilitate the continuity of education have become extremely challenging tasks for teachers. Educators are strongly advised to make a rapid transition to remote learning at short notice. Despite all the setbacks, they are expected to provide students with meaningful learning experiences, create feasible academic scenarios that fit their respective teaching and learning contexts as well as enhance students' achievement. However, without proper training and full support from the government, teachers may find shifting the direction of their teaching from the traditional classroom to virtual learning burdensome. Under these circumstances, teachers should be provided with adequate skills and knowledge to perform remote learning successfully in order to maintain students' high levels of academic achievement.

This paper intends to explore alternative scenarios that teachers can devise to boost student performance during the pandemic. The discussion begins with the need for teachers to possess digital pedagogical knowledge. After that, it describes the types of virtual learning models. Finally, the elucidation of the most

appropriate models to be implemented in teacher classroom practice is presented.

Digital Pedagogy

"Effective teaching requires effective technology use" (Ertmer & Ottenbreit-Leftwich, 2010, p. 256). Since the use of technology is imperative for successful learning performance outcomes, the greatest challenge for teachers in conducting virtual learning is their ability to effectively integrate technology into their teaching practice (Sailin & Mahmor, 2018). Teachers are required to have skills regarding information and communication technology (ICT) and the pedagogical knowledge of how to make the best use of technology which is called digital pedagogy.

Digital pedagogy is defined as the way teachers teach, and the way students want to learn, being facilitated by technology. Teachers should not regard the technology as the master but rather the tool that may support and optimize their teaching and learning process. Teachers with digital pedagogical knowledge may create meaningful learning experiences that are enriched, assorted, and flexible for their students (Dangwal & Srivastava, 2016).

What is more, digital pedagogy may assist teachers to define the aims of education in the 21st century by adapting students to the dynamic changing reality in which they live and at the same time creating a flexible learning structure that is appropriate for learners (Wadmany & Kliachko, 2014). In other words, educators may teach remotely successfully if they possess sufficient digital pedagogical knowledge and content knowledge. (Sailin & Mahmor, 2018). They would encourage students to engage in current issues and dilemmas in a learning environment in which technology is integrated.

Types of Virtual Learning Models

Besides digital pedagogical knowledge, teachers may also need to familiarize themselves with types of instructional models appropriate for remote learning. The three types of virtual learning models include blended learning, hybrid learning, and flipped learning. These three types of the digital model of learning are discussed in the following section of the paper.

Blended Learning

Blended learning (BL) is a combination

of traditional classrooms with computer-mediated instruction (Bonk & Graham, 2006). BL involves face-to-face class sessions that are accompanied by online materials. A fundamental component of BL is that online materials are not intended to replace face-to-face class time, but, are meant to supplement and build upon the content discussed in the classroom. The bigger portion of the BL instructional model is spent in a traditional face-to-face classroom than in an online course with approximately seventy-five to twenty-five percent in comparison.

BL is a student-centered instructional learning model that accounts for student characteristics, contexts, and learning outcomes. This learning model can provide more access and flexibility for learners, increase the level of active learning, and bring about better student experiences and performance. Also, the use of BL can improve teachers' teaching practice and class management skills (University of Western Sydney, 2013) because teachers are used to managing both face-to-face traditional classroom and online technology-enabled instruction.

Hybrid Learning

Hybrid learning (HL) also combines face-to-face classroom and online teaching as one meaningful learning opportunity. HL online components are intended to substitute a portion of face-to-face class time. In the HL classroom, half of the class sessions are in a traditional classroom, while the other half teachers have students working online (Siegelman, 2020).

HL offers unified learning experiences from both face-to-face and online classrooms. Since both learning models offer unique advantages that can be difficult to imitate, combining the two experiences into a single experience can create more powerful learning opportunities. Recent studies confirmed that hybrid learning leads to lower rates of attrition and more efficient use of school resources. It is not surprising that hybrid learning is regularly mentioned as the most effective format of remote learning. (College of DuPage, 2020).

Flipped Learning

Flipped learning (FL) is another form of blended learning. FL approach inverts the traditional classroom model by introducing course concepts before class. This learning model allows educators to use class time to

guide each student through active, practical, innovative applications of the course concepts (The academy of active learning arts and sciences, 2018). The course concepts which are exposed to students outside of class are usually in the form of online presentation. Teachers are required to provide students with readings, podcasts, or videos. The class time when students attend face-to-face classroom settings is used to provide students with the opportunities to apply the material in the form of problem-solving and discussion activities by expanding upon the knowledge students have learned through various activities that require student active participation.

FL classroom is an effective approach to remote learning due to several reasons (Arnold-Garza as cited in the Library of the University of Toronto, 2020). First, teachers can use their time efficiently. For instance, the content which is supposed to be lectured can be provided to students in the form of short videos. This indicates that passive learning takes place outside of the classroom. During class time, teachers can be free to be creative to foster students' meaningful engagement. Second, students are given opportunities for active learning. Since the passive learning portion is taken out of the classroom, the face-to-face classroom focuses more on active learning.

Next, teachers increase opportunities for one-on-one interactions. Teachers can utilize class time for extended classroom discussions so that students more engaged with concepts, learning materials, and peers in the classroom. After that, teachers can expect student accountability for learning. Students are expected to come to class prepared. This may motivate students to increase the responsibility and accountability of their learning. Finally, teachers can address students' multiple learning styles. FL classroom accommodates diversity in student learning and allows for additional time for materials review. Also, students are encouraged to reflect on materials, collaborate to solve problems, demonstrate and argue their own solutions.

Models to be Implemented in Teacher Classroom Practice

The choice of the instructional model to be implemented in teacher classroom practice greatly depends on several contextual aspects. Study on the factors influencing the selection of teaching methods (Adhikari, 2017) documented that classroom reality

such as class size and student's interests, the availability of technology resources, and teacher's beliefs and experiences were the major factors affecting teacher's decision on the instructional model. Another study (Mumtaz, 2000) revealed the role of pedagogy, support from school and colleagues, and commitment to professional learning predicting teachers' decisions to use ICT in the classrooms. Given the paramount role of contextual factors toward teachers' choices in conducting teaching practice, educators need to prepare well before they decide to perform certain learning models.

Before choosing a model whether it is blended, hybrid, or flipped learning, teachers should consider how to make the best use of their face-to-face class time. Virtual learning should allow students to have individual space in which a student can learn independently and group space where students can work collaboratively with other students. To decide when is the best time to give students individual and group space, teachers can use Bloom's Taxonomy (Anderson et al, 2001) as their guide. Bloom's educational objectives are visualized below.

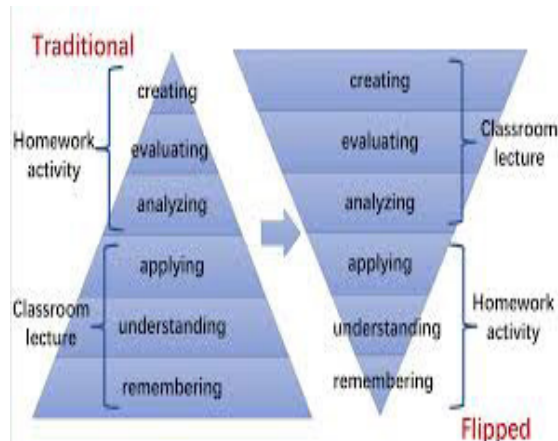


Figure 1. Bloom's Taxonomy of Educational Objectives
 Source: (Wong, 2018)

Based on Bloom's taxonomy educational objectives, the typical traditional classroom is generally used by teachers to provide learning opportunities for remembering, understanding, and applying. The other three educational objectives in which students are expected to possess analyzing, evaluating, and creating skills are given as homework activities. In contrast, virtual learning models apply the inverted pyramid of Bloom's taxonomy. The opportunities for students to remember, understand, and apply the content knowledge are provided outside

the classroom as homework activities. Group space where students can experience collaborative learning activities during the face-to-face classroom or virtual meeting is used to increase students' skills in analyzing, evaluating, and creating.

To sum up, teachers need to be assisted with appropriate knowledge and skills to be able to perform better during the implementation of learning from home policy. By understanding various alternative learning scenarios, teachers can choose the most appropriate virtual learning models that can fit into their individual teaching contexts. Educators also need to possess adequate digital pedagogical knowledge so that they know the best way to integrate technology to help students to learn better during school closure. Effective use of technology may produce effective teaching to boost students' academic achievement.

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