

Blended Learning for Generation Alpha during the COVID-19 Pandemic

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Abstract

The COVID-19 pandemic accelerated the integration of online learning in the secondary education context in an unprecedented manner. Teachers who were accustomed to conducting lessons fully in the classroom had to search for various technology-based alternatives to replace the conventional form of teaching and learning. The purpose of this study was to explore the blending of online and physical learning, also known as “blended learning”, across government secondary schools throughout the COVID-19 pandemic. This is a qualitative study that involved 58 secondary school teachers from 3 districts in Sabah, Malaysia. Focus group interviews were employed to gather data about the use of blended learning among teachers in the districts of Tawau, Kota Kinabalu and Keningau. The data were analysed using thematic analysis. The findings showed that the participants used a variety of online learning applications to deliver content, to provide social and emotional support to the learners and learners’ parents, and to evaluate learner performance. The findings also revealed that in some cases, the teachers had to create physical learning materials for the students. This study revealed the various ways teachers blended online and face-to-face approaches to cater to their learners. The outcomes are valuable for pre-service and in-service teachers who are keen to employ blended learning in the 21st century classroom.

Keywords: Blended Learning, Online Learning, Home-Based Teaching and Learning

Introduction

The COVID-19 pandemic led to major changes in the education landscape since educational institutions were instructed to close for a period of time in order to stop the virus from spreading. As a result, the conventional method of teaching and learning in classrooms could not be fully implemented. Consequently, the Ministry of Education (2020) issued guidelines for teachers to implement home-based teaching and learning throughout the closure of educational institutions. In an effort to ensure that learning persisted for students, educators had to search for alternative technology-based methods to replace physical lessons. The

impact was especially profound in schools as teachers and students were accustomed to conducting lessons in the classroom.

The Ministry of Education (2013) has advocated for the use of technology in teaching and learning. Nevertheless, the concept of online learning is still relatively new in the Malaysian education context, particularly in terms of teacher preparation. The allocation of appropriate resources to support public sector teachers' use of online learning is important (Saadati et al., 2021). Previously, it was revealed that teachers struggled with the use of Frog Virtual Learning Environment despite the fact that it was a nation-wide initiative (Lick et al., 2017). When the COVID-19 pandemic swept over the world, teachers and students alike were unprepared and untrained for the use of online learning applications in an extensive manner.

The students who attended secondary school during the COVID-19 pandemic consisted of generation alpha which refers to people who are born from the year 2010 onwards. Since generation alpha encompasses people who grow up immersed in the digital world, they may possess distinctive personality types and learning styles. As such, teachers have to align their use of technology in teaching and learning to the needs of generation alpha. This is in accordance with the blended learning model proposed by Picciano (2009) whereby instructors can employ blended-learning instructions to cater to learner differences.

Objective

The COVID-19 pandemic revolutionised teaching and learning in secondary education context as the need to adhere to social distancing caused many teachers to replace and blend physical lessons with online applications. Teachers have had to employ various innovative approaches to cater to the learning styles of generation alpha. The purpose of this study was to explore the use of blended learning across government secondary schools in Sabah during the COVID-19 pandemic.

Literature Review

Blended learning is defined as the substitution of a part of physical time by online task (Laster et al., 2005). The term can also refer to the pedagogical-driven and structured incorporation of face-to-face and online class activities in academic programmes and courses (Picciano, 2009). The use of online applications for educational purposes has proven effective such as the use of Google Classroom at university (Fauzan & Fatkhul, 2019).

The use of blended learning is appropriate in the secondary education context in Malaysia as not all teachers and students were able to implement fully online lessons during the COVID-19 pandemic. A study in Chile revealed that contextual factors such as insufficient resources and uncertain conditions can affect a teacher's cognitive and affective domains (Saadati et al., 2021). It is assumed that similar contextual obstacles were present across Malaysian education institutions during the COVID-19 pandemic, among the expected but crucial issues include Internet connectivity in rural areas and a lack of equipment at home.

Blending with Purpose: The Multimodal Model

The blending with purpose multimodal conceptual model was constructed for the purpose of developing blended-learning courses and programmes (Picciano, 2009). Picciano's (2009) blended-learning model proposed that instructors can design various pedagogical aims and

tasks to suit a wide range of learners. The model acknowledges learner differences in terms of generations, types of personality, and styles of learning; therefore, it advocates for educators to incorporate various physical and online approaches to cater to these learner differences.

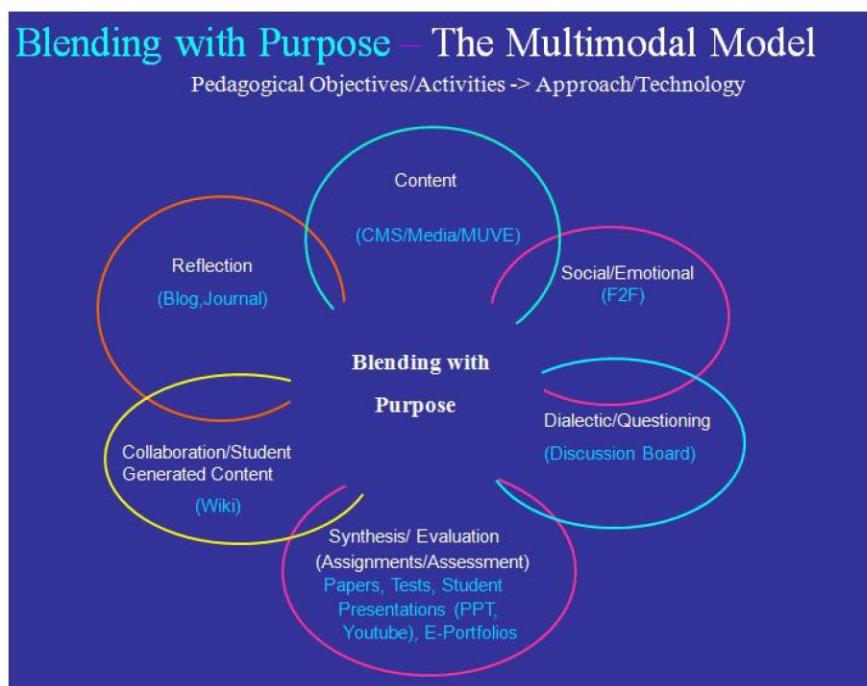


Figure 1: Blending with Purpose: The Multimodal Model

Source: Picciano, 2009

Figure 1 shows six basic pedagogical aims and the methods to achieve these aims. According to Picciano (2009), teachers should plan the learning objectives to be aligned with technologies and methods that are effective for learners. The six pedagogical aims and the recommended approaches are as follows:

1. **Content** : Use of Blackboard or Moodle as content delivery platform; Content management software that delivers various media such as audio, video and documents; Multi-user virtual environments and gaming as part of instructional content.
2. **Social and emotional** : Communication about complex topics or provision of advice regarding work opportunities; Social and emotional support can be provided online or preferably face-to-face.
3. **Dialectic and questioning** : Instructors stimulate discussion by asking questions that encourage learners to think critically about a subject such as the use of electronic discussion boards whereby students can present their views and respond to others' opinions.
4. **Synthesis and evaluation** : Test, examination, student presentations, e-Portfolio and other online tools that enable the assessment of learning.
5. **Collaboration and student-generated content** : Wikis allow students to collaborate on writing assignments and team projects. With wikis, students can create content that can be share with other groups and remain visible even after the course ends.

6. Reflection : Students reflect on their learning through pedagogical tasks and share reflections with their instructors and peers. Blogging and online journaling are tools that learners can use to reflect on learning.

Method

This is a qualitative study that employed focus group interviews as the main data collection method. Focus groups are typically used to elicit opinions from individuals and to gather shared understanding from a few people (Creswell, 2012). Data collection took place in three districts in Sabah where the participants worked at, namely Tawau, Kota Kinabalu, and Keningau. Figure 2 shows the locations where the sampling took place. During focus group interviews, the researchers started by asking general questions about the participants' background before moving on to specific questions intended to elicit information regarding their use of blended learning. The focus group interviews were audio recorded and the researchers took brief notes as the interview progressed. The recordings were later transcribed and analysed using thematic analysis.

Thematic analysis as prescribed by Braun and Clarke (2012) began with the initial stage of familiarising with the data by reading the transcripts thoroughly. Following this, the codes were generated by identifying key words that referred to the use of blended learning in the transcripts. The codes were then matched with the themes of this study which are based on Picciano's (2009) six pedagogical aims outlined in *Blending with Purpose: The Multimodal Model*. Following this, the themes were reviewed, and the name of the themes and sub-themes were decided.



Figure 2: Sampling Location

Participants

A total of 43 government secondary school teachers were involved in this study. The teachers were experts in different subjects as shown in Table 1. An official letter was distributed to the Policy Planning and Research Division, the Malaysian Ministry of Education, and the Sabah State Education to seek consent since the study involved in-service teachers. After receiving consent from the aforementioned departments, the District Education Office in Tawau, Kota Kinabalu, and Keningau then proposed a list of secondary schools to participate in the study. Following this, official invitation letters were sent to the proposed schools and the teachers participated voluntarily in this study.

Table 1

Participant Profile

Type of Demography	Tawau	Kota Kinabalu	Keningau
Gender			
Male	1	4	7
Female	13	11	7
Teaching experience			
< 5 Years	4	4	4
6-20 Years	8	9	7
>20 Years	2	1	3
Subject			
Science	3	2	2
Mathematics	1	-	2
Islamic Education	1	3	-
English	3	3	-
Malay	-	3	4
Physical Education	2	1	2
Geography	2	2	-
Design and Technology	3	-	-
History	1	-	1
Visual Arts Education	1	1	-
Computer Basics	-	1	2
Moral Education	-	1	1
Music	-	1	1
Arab	-	1	1

Findings

Figure 3 shows the findings of the study as organised based on the themes and the sub-themes. The findings of this study revealed that COVID-19 pandemic, the teacher respondents from three government schools in Tawau, Kota Kinabalu and Keningau in the state of Sabah used blended learning for the following pedagogical objectives: (i) Content (ii) Social and emotional (iii) Synthesis and evaluation. Content delivery of blended learning included the use of videos, games, and other learning materials and activities. Social and emotional support were provided through messaging and video conferencing applications. For the purpose of synthesis and evaluation, the participants conducted assessments and assignments as part of blended learning. The following findings are supported by the

interview excerpts. The participants are labelled based on the district they taught at, with A indicating Tawau, B indicating Kota Kinabalu and C indicating Keningau.

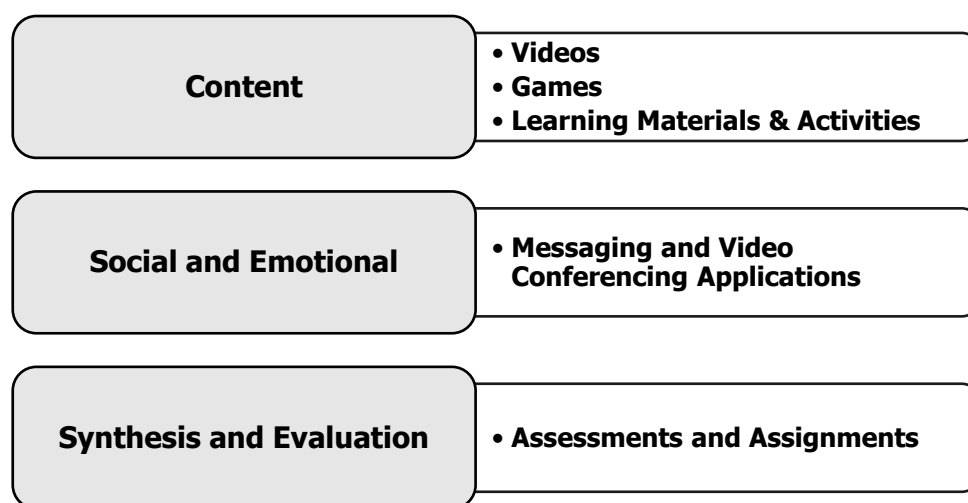


Figure 3: Teachers' Use of Blended Learning

Content

Videos

The teachers favoured the used of videos for educational purposes and they mentioned that videos were a great source of entertainment for the students.

For Physical Education and Health class, one of the common methods is to use videos for lesson. The video contains educational information. Sometimes, we use videos that other teachers created and share them with students. There is a similarity with Powtoon. – C2

Students are entertained when watching educational YouTube videos. – B8

Lessons can be achieved because YouTube has a variety of interesting videos. - B13

The subject that I teach is Geography and I teach the weak class. The students are weak at reading so how to show them the real things such as the topic of volcano eruption, I show the students YouTube videos and activities. Using video is another option apart from teaching students using the textbook. – A18

I open YouTube, copy the link and post it in Telegram. I check if the video is suitable based on the subject that I teach since some delivery is effective and sometimes it isn't. - A21

The material chosen in YouTube must be interesting and easy for students to understand which keeps students entertained. - A25

Games

The teachers also brought up the use of games as form of activity that they used to engage students during teaching and learning.

Students like teaching and learning that include games. – B10

The use of games in learning attracts students' attention when teaching and learning is online. – B11

Learning Materials & Activities

In some cases, the use of physical as well as online learning materials were employed. The use of physical materials was possibly due to certain constraints and limitations on the part of the learners. A teacher commented on having to prepare content physically to pass to the students. One of the participants mentioned having to pass modules to the students. On the other hand, a teacher talked about using Canva to create teaching aids.

Teachers prepare lessons, exercises, and materials at the security lodge before sending them to students' houses. – C7

Most of the time, teachers must create modules and distribute them to students. – C9

Canva is used to create interesting teaching aids. - A26

Social and Emotional

Messaging and Video Conferencing Applications

The participants used various messaging and video conferencing applications to communicate with their students and the students' parents. The applications mentioned by the participants included WhatsApp, Telegram and Google Meet.

Teachers use Whatsapp, Telegram, message box, and telephone to personally contact students and parents. – C6

As a Design and Technology teacher, there is use of technology in every topic. I communicate using Telegram and there is also coding in the textbook. It is not limited to just one application in e-Learning as this subject has a wide scope. – A17

Students can connect via Google Meet. – C8

Synthesis and Evaluation

Assessments and Assignments

The participants used a variety of online applications to test their students' knowledge. These applications were either interesting to the students or useful to the teachers. Some of the applications that were mentioned by the participants were Quizizz, Kahoot, Quiz Wizard, Google Form, ZipGrade, and PowerPoint.

I used Quizizz. I set questions at the end of a chapter to test my students' knowledge. The advantage is that students can all complete the quiz live at the same time. But sometimes I also set the quiz for a longer period such as a few days so that my students have more time to complete it. This is because some students might not have strong Internet connectivity especially during the pandemic. Quizizz is good because we can also reuse the quizzes that other teachers created. – C1

Usually I use Quizizz for assessment. Many students can take part in the quiz at the same time and this creates a healthy competition. Students who make mistakes can also revise together. – C3

I used online quiz at the end of the lesson. The quiz can be answered as many times as the students want. I take a picture of the scores, calculate the final scores and reward the students who did well. – C4

I used Quizizz to create quiz and give students the link to answer the quiz. The students can compete with each other. – A19

I teach Design and Technology subject and there is a lot of Project-Based Learning that includes documentation, sketch, module and completed product. When it comes to online learning, I usually set a quiz at the end of the topic. Usually, I use Kahoot so that the students can see their marks and errors. They can also see their peers' scores so they compete with each other and I give a reward. – A23

To make lessons more interesting, when using online method I use Kahoot. When it is face to face I use crossword and puzzle. – A14

I used Quiz Wizard which is similar to Kahoot and Quizizz. But it's more game-based. If you answer correctly then you move forward, and all questions must be answered in order to complete. This activity can be done live or given as homework. The results will show which student made a lot of answers and who gave the most correct answers. So it is more enjoyable and less stressful for the students. – C5

I teach Mathematics so if I just explain in front of the class without the students doing any tasks, it is difficult for the students to understand. Previously, I printed worksheet for the students to use in class. With technology, I can use Google Form to create questions and the students can answer. Marks can be awarded and the Google Form can be answered repeatedly. – A16

When we use Google Form for example we set 40 multiple choice questions, Google Form can grade the answers automatically and we can get the results immediately. This helped to reduce the teacher's workload. – A20

When using Google Form to create questions I do not need to use papers so this is an economical way and it is also easy to store. It is easy to access with no need of paper. – A24

I always use ZipGrade for assessment as it is very helpful and saves a lot of time, especially when it comes to grading objective questions. What is more interesting about ZipGrade is that it includes item analysis so we can see which questions that the students are weak at answering and what we can improve. - A15

For my subject which is Geography we always conduct presentations. Students use PowerPoint to create presentations and they present their work based on that. – A22

Discussion

The findings of this study revealed the use of blended learning among secondary school teachers in Sabah during the COVID-19 pandemic. The teachers used a variety of online learning applications for the purposes of delivering content, providing social and emotional support to learners and learners' parents, and evaluating learner performance. While the transition was understandably challenging in the beginning since teachers and students were not trained to use the online applications, the findings revealed that the teachers aligned the learning goals of their subjects to the online applications that they used. This is in line with the blended learning model proposed by Picciano (2009) in which he also encouraged instructors to employ various blended learning methods to cater to various learners.

In terms of content delivery, the findings showed that the teachers' alternatives to physical classroom materials during the COVID-19 pandemic included videos and games. The teachers perceived learners to be engaged with learning especially when videos and games were used in the process. A similar positive response among the learners response was reported in another study that used Google Classroom as a form of online learning (Fauzan & Fatkhul 2019).

The teachers also used messaging and video conferencing applications to maintain communication with the students and the students' parents when physical lessons could not be conducted during the COVID-19 pandemic. These attempts to provide social and emotional support to the learners and the learners' parents were integrated into the online learning process as a substitute for face-to-face interaction. Rapanta et al (2020) referred to this as social presence which means the social communication channels that teachers must create to enhance instructor-student interaction.

The use of various forms of online assessments to evaluate student performance as part of home-based teaching and learning was also evident in this study. To compensate for the worksheets, tests, and examinations that are typically implemented in the classroom, the teachers used applications that enabled them to evaluate their students' performance without having to meet face-to-face. In some instances that involved the use of Kahoot and Quiz Wizard, the quizzes were perceived as a fun type of evaluation for the learners. In another study that investigated online learning during the COVID-19 pandemic, the learners showed preference for recorded lessons and quiz to enhance learning (Muthuprasad et al., 2021).

Generation alpha consists of people who are born in the digital era, this makes them distinctive from those born in previous generations. It is presumed that generation alpha is

conversant with the use of technology since they are digital natives. As such, the use of blended learning throughout the implementation of home-based teaching and learning might have been more well-managed by these learners. The utilization of online learning platforms aligns with their inherent digital fluency, making it easier for them to adapt to and engage with blended learning environments.

Recommendations

The incorporation of technology in learning should be done in a pedagogically driven manner. According to Rapanta et al (2019, p. 939), “if teachers invest time in designing learning activities that address learners’ cognitive and social needs, better learning outcomes are possible”. Through blended learning that is designed to meet individual needs, students can learn to access a wide range of educational resources, engage in interactive activities, collaborate with peers, and receive guidance from teachers remotely. This approach to learning has gained popularity and will continue to play a significant role in all educational institutions due to its flexibility, convenience, and the ability to personalize education to cater to individual needs.

Educators’ reluctance and inability to cope with technological advancements in education will lead to a widening gap between instructor and learner. By leveraging the strengths of various online applications, educators can create engaging and personalized learning experiences for generation alpha, fostering their digital literacy, collaborative skills, and self-motivation. As technology continues to evolve, it is crucial for educators to blend physical and online learning harness its benefits in shaping the future education of the youngest members of our society.

The role that parents play in students’ home-based lessons should be highlighted. To ensure that communication about learning is constant and productive, the interaction should include the instructors, learners, and the parents. This is to boost the social and emotional support that students may lack as a result of insufficient face-to-face time especially when online learning time outweighs physical lessons such as during the COVID-19 pandemic. The involvement of parents can serve to make learning more meaningful for young learners who are struggling to adapt to new methods of learning that they were previously unfamiliar with.

Conclusion

This study revealed teachers’ use of blended learning as part of home-based teaching and learning during the COVID-19 pandemic. Past studies may not have shed light on secondary school teachers’ blended learning in Sabah particularly in the districts of Tawau, Kota Kinabalu and Keningau. The findings are insightful for educators who wish to use online learning to substitute or enrich classroom learning. Educators who are inexperienced or less informed about blended learning but have the desire to venture into it may benefit from the insights of the teachers in this study. Online learning experience serves to increase teacher and learner readiness for the postdigital era (Rapanta et al., 2021).

In this study, it was found that a variety of online learning applications were explored by the teachers for the purposes of delivering content, providing social and emotional support, and evaluating learner performance. This led to an enhanced home-based teaching and learning experience, particularly when face-to-face lessons were limited during the COVID-19 pandemic. This study has implications for educators to align the use of blended learning with

pedagogical objectives and learner needs. The blending of online and face-to-face approaches offers a myriad of opportunities to accommodate different learning styles and preferences, empowering generation alpha students to thrive in their educational journey. This is perhaps more pertinent now than ever since school students consist of generation alpha who are born into a digital world. Hence, equipping the students with an immersive blended learning environment can only prove to be advantageous for their future. To make blended learning a reality even after the COVID-19 pandemic, it is important to consider the different needs of generation alpha, such as the desire for interactive learning tools and the use of technology to create a more engaging learning environment. Additionally, it is important to consider the different learning styles of students when integrating online learning in instruction, activities, and assessment. This study proved that the unprecedented and widespread use of blended learning during the COVID-19 pandemic has sparked advantageous educational practices that should be continued.

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