



Effects and Challenges of Covid-19 Pandemic on Students Learning and Assessment Results: Case Study in a Malaysian Government School

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Abstract

The Covid-19 Pandemic has caught all educators and students of the Government Schools in Malaysia by surprise as they were forced to learn from home. The Malaysian Government has instructed all schools to be closed for face-to-face teaching and learning since March 2020. The learning then took place in students' homes, which were not equipped for such tasks, as the technology and pedagogy was not up to par. Distance learning platforms such as Google Classroom, WhatsApp and Telegram were utilised by teachers and schools to reach their students remotely to limit the disruption of education. Students use laptops, desktop computers and mobile phones when engaging with the online learning. Most of the students are from lower-income B40 families, and had little or no resources for learning except what was offered online to them. This study has investigated the effects of online learning during the COVID-19 Pandemic on the students' online learning during PdPR and their assessment results. Another aim of the study is to investigate the effects of socio-economic status (B40) of the students and their attendance during PdPR. Lastly, the challenges faced by the students were also determined. In order to do this research, primary data is collected from six classes in a Government High School in Selangor. Structured interviews are used as a data collection tool to determine the challenges faced by students during their PdPR sessions. The findings of the correlation analysis between student attendance and their assessment results shows a significant relationship ($r = 0.8321$ for History and $r = 0.9263$ for Malay Language). Furthermore, the results of the correlation analysis between student socio-economic status (B40) and their attendance also show a significant relationship ($r = -0.8231$). Through the findings of this paper, it can be concluded that the student's learning interest online promotes higher attendance, which in turn ensures higher assessment results. A secondary finding of students belonging to the B40 group determines their assessment results is found to be interesting.

Keywords: Open and Distance Learning, Technology, Online, Collaboration, Innovative Pedagogy



Introduction

Covid-19 pandemic, which began in the year 2019, has affected educational systems worldwide including Malaysia since March 2020. The government of Malaysia decided to close the educational institutions during the first Movement Control Order (MCO) for 110 days in 2020. During this time, the Education Ministry (MOE) implemented the *Pengajaran dan Pembelajaran di Rumah PdPR* (Home-based Learning) for all of its educational institutions including secondary schools. In 2021, the PdPR was again ordered for Form 1 to Form 5 students starting from 20 January 2021 till 26 March 2021.

Teachers are required to teach from home using the PdPR manual (MOE, 2021) as an alternative for new normal education. PdPR implementation must fulfil the basic principles that are needed to allow schools to arrange strategies for the optimisation of teaching and learning to occur at an optimal level. The main principles highlighted in the manual are:

1. No student will be left behind
2. Basic learning is fulfilled
3. Socioemotional well-being of students is paramount

The PdPR means that the teaching and learning is implemented from home or community centre or any other suitable location. This PdPR can be done online or offline, in a structured and planned manner. Teachers can use any of these means or a combination of means that are suitable:

- PdPR Online
The online learning is through Internet access and using of devices that allows the student to learn in real time. Teachers can use PdPR through learning platforms such as Digital Educational Learning Initiative Malaysia (DELIMa), Cikgootube, EduWebTV and other social media such as Telegram and WhatsApp. Teachers can also do live streaming using GoogleMeet or Microsoft Teams, or other means such as gamification, video, audio clips, e-books, and recordings or online assignments.
- PdPR Offline
The PdPR offline is applicable when students do not have online access, but they can use devices such as computers, laptops, tablets, or smart phones. The learning can be through textbooks and other learning materials, such as video, audio, slides, notes and downloaded exercises.
- PdPR Offsite
This learning approach happens at the community centres or other suitable premises, through self-learning or with PPD officers or academic support teams (AST).

Schools are required to come up with their own suitable timetables, taking into consideration the short breaks in between 30 minutes' sessions (Appendix 1). Schools are also given guidelines on how to record student attendance daily for their PdPR.

The Government School is situated in Sungai Buloh, Selangor, Malaysia, has a current student population of 1153 and 89 teachers, opened in 2011, and is a two-session school. The majority of students are Malay (71%), with Indian (15.8%) and Chinese (10%) students in Form 1 to Form 5. This secondary school offers the Malaysian Education Certificate (SPM) to 17-year-old students. 71.5% of the students are in the B40 category which indicates 40% below poverty in household income.



There are two subjects taught that are compulsory for the students to pass their SPM, namely History and Malay Language (Bahasa Melayu). In line with the instructions given by the Ministry of Education, the government school implemented the PdPR for its students as PdPR online and offline. Teachers brought the classroom into the student's homes, using three modes of instruction of the lessons: 1) via social media (WhatsApp and Telegram), 2) Google Classroom (DELIMa), and 3) printed modules.

The execution of the PdPR online has given a large impact to the students, teachers and parents alike from many aspects, such as their willingness to embrace online PdPR as well as the socio-economic factor. As most of the students belong to the B40 category, it was difficult for them to secure gadgets, purchase adequate Internet data and equipment necessary for the online learning. There is a need to investigate how far the online learning using PdPR has affected students' assessment results in these compulsory subjects, as well as how the socio-economic status affected their attendance. This study also investigated the challenges faced by the students to attend PdPR sessions.

Research Objectives

There are three main objectives of this research, which are:

- To investigate the relationship between student attendance during PdPR and History and Malay Language assessment results;
- To investigate the relationship between student social economic status and their PdPR attendance; and
- To determine the challenges faced by students during PdPR.

Literature Review

As of today, there is very little literature on the effects of COVID-19 towards student's assessment. There are many studies conducted on the online teaching and learning (Mesman & Abd Majid (2021), Mohd Yusof & Ahmad (2020), Mohd Salleh (2020)), however, there are no studies done on the impact of COVID-19 on the student's attendance which could influence their assessment results.

Abd. Rahman (2016) has found that the socio-economic factors of low-income group (B40) can only provide the basic needs for their children, such as shelter, food, and clothing, but lacks in terms of education. These families have no or lack of education and are busy earning a living, especially during the COVID-19 pandemic. These economic problems in the B40 group cannot provide tuition or purchase educational aids. Studies conducted by Arshat et al., (2018) has also indicated that B40 parents do not pay attention to their children's education. Another study conducted on B40 also mentions the effects of socio-economic factor on learning online (Jafar et al., 2020). This evidently leads towards these group of students missing out during the PdPR programmes conducted by the Ministry of Education for the home-based online learning as their parents are not able to spend money to purchase Internet data and gadgets.



According to literature (Tasir et al., 2006; Hoi et al., 2018), online teaching makes a connection between educators and students through electronic systems such as the Internet, satellite, TV, CD-ROM, radio and other such media. In the online learning system, there are three main elements, the material, the platform, and the media. Educators and students were in a sense lucky because the existing social media platform was familiar to them; so, using apps such as WhatsApp, Telegram, Facebook, Google Meet and Instagram can be adopted readily (Gardner, 2020). Nonetheless, there are also some students and teachers who were first-timers to this online learning system, and the challenges that they face makes a compelling research question that need to be answered, especially when the COVID-19 pandemic end is not yet in sight.

A study conducted on the major barriers of online learning states the major barriers as technology, individual, pedagogy, and enabling conditions (Ali et al., 2017). Another study conducted on university students also indicate ICT infrastructure, online skills, the security of the platform, support by the university, and motivation by teaching staff to students as major challenges (Munezero et al., 2016).

Therefore, the main question that remains to be answered is how students' socio-economic background (B40) can influence their attendance during PdPR sessions and ultimately affects their assessment results. Challenges faced by the students are also observed when it comes to online learning.

Research Method

In order to understand the students' demographic profile and educational achievement in their Form 5 classes, the researcher used ethnographic techniques which includes interviews and field observations. The first-hand data collected includes the student's gender, attendance during the PdPR sessions and the assessment results. The data is from Form 5 students for the duration of 20 January 2021 till 26 March 2021. A sample of students (7) were interviewed to get first-hand information on the challenges that they face during their PdPR sessions.

There are 88 male and 112 female participants in this study, refer to Table 1. These students are from six different classes which are 5 ST, 5 PA, 5 SK, 5 P, 5 SRT and 5 SV. The students are allocated these classes based on the subjects that they are taking. The students are from the surrounding neighbourhood especially from Kampung Melayu, Sungai Buloh. These students' socio-economic background is categorised as B40, where the income classification by household income is below RM 2500. Refer to Table 2 for the breakdown of socio-economic background of students by their respective classes. The PdPR programme states that student's attendance is not compulsory, they are assumed to have fully attended the sessions. The student's attendance was taken by their class teachers using Google form (refer to Table 3).

The History and Malay Language subjects are compulsory subjects taken at the Malaysian Education Certificate (SPM) level. These students sat for an internal assessment that mimics the actual SPM paper that they would need to sit for at the end of their study year. The assessment comprises of 3 parts each: objective questions, structured, and essay with a total of 100%. These tests are to assess their knowledge and proficiency in the subjects. This assessment was conducted face-to-face in March 2021 when the schools were re-opened briefly.

**Table 1***Student Gender for Each of the Classes*

Class Name	Male	Female	Total
5 ST	13	19	32
5 PA	9	23	32
5 SK	11	16	27
5 P	17	24	41
5 SRT	13	16	29
5 SV	25	14	39
Total	88	112	200

Source. Government School in Selangor**Table 2***Student Socio-economic Background (% of B40 and Below)*

Class Name	B40	Percentage (%)
5 ST	16/32	50.0
5 PA	19/32	59.4
5 SK	14/27	51.8
5 P	30/41	73.2
5 SRT	26/29	89.6
5 SV	38/39	97.4

Source. Government School in Selangor

As shown in Table 2, there are a total of 143 students out of 200 (71.5%) who are at the B40 category. This information is very important as it affects the students' PdPR learning experiences.

Table 3*Student Attendance During PdPR Sessions (%)*

Class Name	Attendance	Percentage (%)
5 ST	28/32	86.0
5 PA	21/32	63.2
5 SK	11/27	40.0
5 P	8/41	19.5
5 SRT	7/29	24.0
5 SV	3/39	8.0

Source. Government School in Selangor

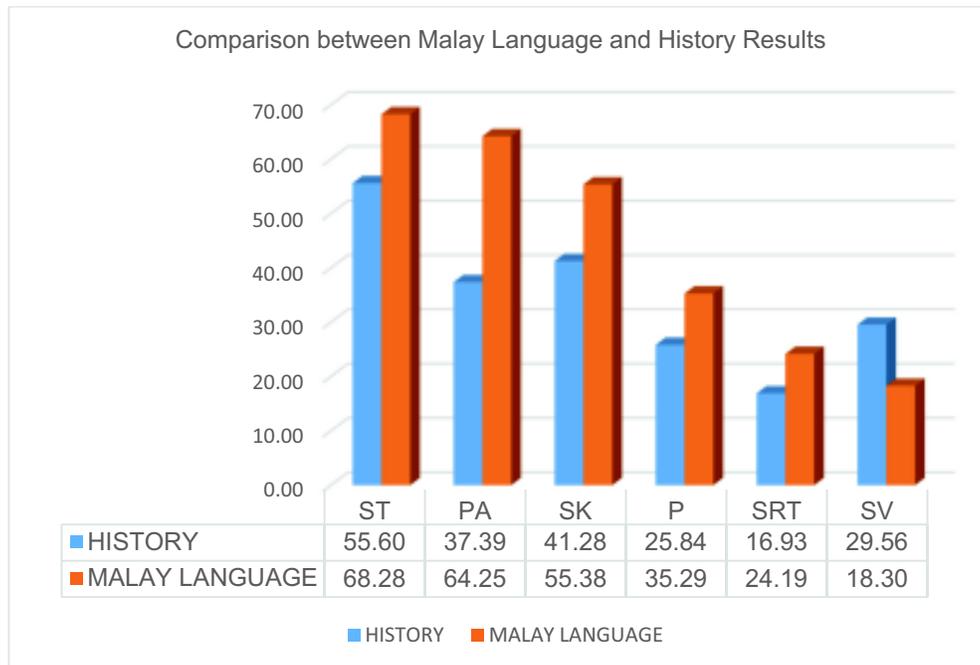
Table 3 shows the student's attendance taken by the individual class teachers during the PdPR sessions even though it was not compulsory for the students to attend the classes. The schools' attendance threshold is 91% pre-COVID-19 times. Table 3 clearly shows that the students in the 5 SV and 5 P classes have the lowest attendance rates. This data again shows that the student's interest in joining the PdPR sessions is one of the main criteria for their attendance.

Findings

This research paper has three main objectives in which the data collected and analysed shows clearly there is a correlation between student's attendance in PdPR sessions and their performance in the two subjects, as well as the students' attendance based on their socio-economic status (B40). Lastly, the challenges faced by the students in their online learning was discussed.

Diagram 1

Comparison between Malay Language and History Results



Findings on Assessment Results against Student Attendance

Based on Table 3: Student Attendance During PDPR Sessions and Diagram 1: Comparison between Malay Language and History Results, it can be concluded that the higher the attendance rate, the better the assessment results. The ST, PA and SK classes have an average attendance of above 40% with the highest being 86%, did much better compared to P, SRT and SV classes, which averaged below 24%. The highest History score was achieved by ST and SK with 55.6% and 41.28% respectively. The lowest History score was by SRT and SV at 16.93% and 29.56% respectively, which also had the attendance rate of 24.0% and 8.0%. A surprise finding of class SV which had a very low attendance of 8.0% (lower than SRT) but did better in History scores at 29.56%. This could be due to the school's principal taking this class.



The Malay Language, on the other hand shows a perfect correlation between the students' attendance and their assessment scores. The highest attendance rate, ST and PA at 86% and 63.2% and the lowest attendance rate, P, SRT, and SV is at 19.5%, 24.0 and 8.0% have a range of mean scores from 68.28% to 18.30%.

This shows that there is a significant correlation between students' attendance contribution to their knowledge and proficiency in these two subjects, as shown in Table 4.

Table 4

Pearson Correlation Relationship Analysis of the Attendance with History and Malay Language Assessment Results

Construct		Attendance	History	Malay Language
Attendance	Pearson Correlation	1		
History	Pearson Correlation	0.8321	1	
Malay Language	Pearson Correlation	0.9263	0.8373	1
	N	200	200	200

Source. Government School in Selangor

Findings on the Student Social Economic Status (B40) and Their Attendance

Students from the B40 group were having difficulties to attend the PdPR classes compared to their friends from higher socio-economic groups. The B40 students could not attend classes consistently as they were required to do housework, take care of siblings, share gadgets with family members (some students rely on the use of their parents' mobile phones), helping parents to earn extra income for the family, and many other contributing factors. This greatly impacted their ability to join the PdPR sessions. As 71.5% of the Form 5 students belongs to this group, it has a huge impact on the school's overall attendance.

The data shows that there is a significant correlation between students' socio-economic status (B40) and their interest in attending the online classes during PdPR sessions, as shown in Table 5.

Table 5

Pearson Correlation Relationship Analysis of the B40 Socio-economic Factor with Student Attendance

Construct		B40	Attendance
B40	Pearson Correlation	1	-0.8231
Attendance	Pearson Correlation	-0.8231	1
	N	200	200

Source. Government School in Selangor



Challenges Faced by Students During Their PdPR Attendance

As students embarking on their online learning journey, many face challenges that are unfamiliar to them. The challenges are unique and different for each of the students. Not only do these students endure a total of six hours or more a day online, they also have to do their homework and revision, which undoubtedly make them tired at the end of the day, and lose interest altogether in joining the PdPR sessions every day for five days a week.

The students were interviewed through phone and face-to-face in regard to the challenges that they had faced during their PdPR sessions. There are five main issues that the students have brought up. These are:

- **Internet access**
The Internet access is not stable, prone to breakdowns and difficult to access the correct links.
- **Attitudes**
The students have themselves mentioned that they were more eager to play online games, do online shopping and watch videos, TikTok, YouTube and Korean drama.
- **Disturbances from family members**
There are many students who experience family members asking them to do chores such as cooking, cleaning, washing, taking care of siblings, and even to work during the PdPR sessions. Other than that, there are also disturbances from siblings in terms of noise as well as competing for the sole gadget among siblings.
- **Difficulty in using the online system and gadgets**
The use of hand phones as the primary gadget comes with its own challenges, as it is not entirely suitable for long-term use because it is small and has effect on the student's eyes. The overheating and battery problems are also among the challenges faced by students. The students are not familiar with using DELiMa software especially the links for online classes as they are given many access links that are different for each subject which keep changing every day.
- **Schedules**
Students who join late will make the class schedule go over the time, and clashes with the next scheduled class. There is also downtime when there is no Internet access in school or at the teacher's home.

Conclusion

The main objectives of the research are met when the data obtained shows good correlation between the main variables of the study. The positive correlation between the student attendance and their assessment results shows that the more the students attend the PdPR sessions, the better their assessment results. On the other hand, the correlation between student socio-economic background (B40) and their attendance with a negative correlation coefficient simply shows that the larger number of B40 students in the PdPR session the less their attendance rate. This study is supported by getting students to provide the challenges that they have faced during the PdPR sessions, and it clearly indicates that students living in poverty are greatly challenged in the COVID-19 Pandemic for their online learning experiences. The findings of the correlation analysis between student attendance and their assessment results shows a significant relationship ($r = 0.8321$ for History and



$r = 0.9263$ for Malay Language). Furthermore, the results of the correlation analysis between student socio-economic status (B40) and their attendance also show a significant relationship ($r = -0.8231$). Through the findings of this paper, it can be concluded that the student's learning interest online promotes higher attendance which in turn ensures higher assessment results. A secondary finding of students belonging to the B40 group determines their assessment results is found to be interesting.

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Appendix 1: Timetable for a Form 5 Class

	7.30-8.00	8.00-8.30	8.30-9.00	9.00-9.30	9.30-10.00	10.00-10.30	10.30-11.00	11.00-11.30	11.30-12.00	12.00-12.30	12.30-1.00	1.00-1.30	1.30-2.00	2.00-2.30	2.30-3.0	3.00-3.30
ISNIN	PdP/PdP	BM (PdP)		PA/SK/PSV (PdP)	PA/SK/PSV (T)		R	KIM/ SRT/EKO (PdP)	KIM/ SRT/EKO (T)	SC/FIZ (PdP)		SC/ FIZ (T)		SEI (PdP)		
SELASA	PdP/PdP	MT/PER (PdP)		MT/ PER (T)	KIM/ SRT/EKO (PdP)		E	KIM/ SRT/EKO (T)	SEI (T)	PS/PM (PdP)		PS/PM(T)	BIO/TSW(PdP)		BIO/ TSW(T)	
RABU	PdP/PdP	PIPK (PdP)		BM (PdP)	BM (T)		H	PS/PM (PdP)	BM (PdP)	BM (T)		BM (PdP)	BM (T)			
KHAMIS	PdP/PdP	BM (PdP)		BM (T)	BIO/TSW (PdP)		A	BIO/TSW (T)	SC/FIZ (PdP)	SC/FIZ(T)		PA/SK/PSV (PdP)	PA/ SK/PSV (T)		PIPK (T)	
JUMAAT	PdP/PdP	BM (PdP)		BM (T)	BM (PdP)		T	MT/PER (PdP)	MT/PER(T)				B - TAMIL			

Source. Government School in Selangor

Note. Malay Language: BM, History: Sej (PdP – online sessions, T – Tutorial sessions).