

A SWOT-THEMATIC ANALYSIS OF BLENDED LEARNING PRACTICES AT INSTITUTE OF TEACHER EDUCATION MALAYSIA

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ABSTRACT

Blended learning is the recommended approach to conduct face-to-face (F2F) and non-face-to-face (NF2F) interaction for part-time holiday courses known as Program Diploma Perguruan Malaysia (PDPM) and Program Diploma Pasca-siswazah Pendidikan (PDPP) School Teachers at Teacher Education Institute in Malaysia. However, some problems and challenges have been identified for the implementation of Blended Learning in the context of Malaysia. A research to study blended learning practices to optimize lecturers' teaching was conducted. A SWOT-Thematic qualitative method was used to collect and analyze qualitative data. Data analysis showed that ICT Competency could be a strength as well as threat for lecturers. On the other hand, it was found that blended learning had actually brought more opportunities for learning when compared to threats that came with it. Some theoretical and practical implications were discussed based on the findings.

Keywords: Blended Learning; SWOT Analysis; Thematic Analysis

INTRODUCTION

Institute of Teacher Education Malaysia (IPGM) under the Ministry of Education (MOE) of Malaysia holds the responsibility of training primary and secondary school undergraduate pre-service teachers. This institute offers full-time undergraduate courses known as Program Persediaan Ijazah Sarjana Muda Perguruan (PPISMP) and Program Ijazah Sarjana Muda Perguruan (PISMP). Besides this, it also offers part-time holiday courses for untrained school teachers. Example of such courses are Program Diploma Perguruan Malaysia (PDPM) and Program Diploma Pasca-siswazah Pendidikan (PDPP). These untrained teachers teach in various primary and secondary schools throughout the state of Sarawak in Malaysia. Blended learning is the recommended approach to conduct face-to-face (F2F) and non-face-to-face (NF2F) interaction for PDPM and PDPP courses. Blended learning enables learning to take place beyond the limit of the classroom at anytime and anywhere [1]. Distance is no more an obstacle for education to take

place [2]. Webinar tool like Zoom Cloudmeeting and Skype Meeting enable synchronous communication to take place between lecturers and students through web conferencing. In addition to that, Learning Management System (LMS) is used to manage asynchronous interaction with students through online chat forum. Resources can be uploaded through the LMS for students to access remotely. Teaching and learning process is done through communication using these different digital platforms. Carvalho [3] defined optimal blended learning experiences as those including “synchronous physical and online formats, and self-paced, asynchronous formats”. The effective combination of these features will result in higher levels of sustained learning [4, 5]. Blended learning is expected by many experts to be standard practice in university classrooms of the future [6, 7].

Problem Statement

Despite the many benefits of blended learning, there still exists problems in implementing this approach during teaching and learning in the context of Malaysia. Research has shown that student teachers in Malaysia should be trained in the use of Blended Learning [8]. Furthermore, it was revealed that the Blended Learning adoption rate among Malaysian Academicians was low [9]. It was found that perceived usefulness of the system, learning goals, and educational technology preference were among the factors that caused the low adoption rate. Research also indicated that pedagogical attributes and affordances of new and emerging learning technologies, the most desirable aspects of face-to-face teaching and the ways in which these aspects can be appropriately integrated need to be studied to optimize successful blended learning among in-service teachers [10]. It was also found that e-Learning environment has not been optimized to make Blended Learning meaningful for the learners among Malaysian university lecturers [11]. Since blended learning is adopted for teaching the PDPP courses, it is the interest of this research to study the possible problems faced and thereafter propose the best blended learning practices to optimize lecturers’ teaching. Such research has not been carried in the context of lecturers teaching the PDPP courses in Malaysia.

Significance of Research

This research was important as it helped to identify problems and challenges faced by lecturers teaching PDPP online courses. As has been reported by Korr [10], pedagogical attributes and affordances of new and emerging learning technologies, the most desirable aspects of face-to-face teaching and the ways in which these aspects can be appropriately integrated need to be studied to optimize successful blended learning among in-service teachers. This research proposed the best practices relevant for the teaching of online PDPP courses after taking into consideration the problems and challenges had been identified. Thus, the outcome of this research can contribute towards the knowledge in the field of pedagogy for

online courses at the same time suggesting the type of supports that need to work hand in hand to make such practices successful.

Objectives

The research objectives were:

1. to identify problems and challenges faced by lecturers' when conducting blended learning for PDPP Online classes;
2. to propose best practices for teaching PDPP online classes using blended learning.

Literature Review

There is no agreed definition of **Blended Learning**. However, the definition of the following researchers was used in this research. Graham as cited in [12] defined blended learning system as a combination of face-to-face with computer mediated instruction. Picciano as cited in Kenney and Newcombe [12] described blended learning as a method of instruction that combines online with face-to-face learning activities that are integrated in a “planned, pedagogically valuable” way and where some of the face-to-face time is replaced by online activities. According to Allen, Seaman, and Garrett also as cited in Kenney and Newcombe [12], a blended course has anywhere between 30 to 79% of online content delivery with the remaining content delivered in a non-web based method such as face-to-face instruction. Oliver and Trigwell as cited in Akpan [13] summarize the concept of blended learning as follows:

- Combining or mixing web-based technology to accomplish an educational goal.
- Combining learning theories (e.g., constructivism, behaviourism, cognitivism, and connectivism) to produce an optimal learning outcome with or without instructional technology.
- Combining any form of instructional technology with face-to-face instruction-led training and
- Incorporating instructional technology with the design model of an instructional program of study.

For higher education, blended learning is the blend of face-to-face instruction with distributed learning facilities that highlight the use of internet-based instruction, which is characterized by a reduction in the number of face-to-face meetings and facilitates the use of e-learning instruments such as synchronous and asynchronous discussion forums or interactive Web pages in the delivery of instruction [14].

Blended learning enables student to learn outside the classroom and learning can be a continuous process with this approach. Many positive outcomes on blended learning have been reported. Among the outcomes were (a) overcome the limitation of conventional classroom [15, 16], (b) higher levels of learner satisfaction and

perceived learning [17], (c) provided flexibility to students and enhance feedback time [18, 19]. Despite of the positive outcomes of blended learning, there are also some shortcomings. Tasos [20] has identified time and complexity of designing and developing a blend as well as lack of internal expertise as the main challenges in challenges in implementing blended learning. Levin et al. [21] had identified technology, instructor and technical support as the challenges for blended learning. Blended learning has been restricted by a lack in competency to create a harmony between face-to-face and online learning [22, 23]. Internet connection problem was the main challenge to implement blended learning [24, 25]. Technological constraints including access, infrastructure, hardware and software issues are barriers for implementing blended learning [26]. Susan et al. [27] reported that it is important to understand current practice of blended learning so that changes can be made to that practice. At that time of research, they found only one article by Wakefield et al. [28] on academic practice in a blended environment. This study intends to add literature to this area by proposing best practices based on SWOT analysis of current practice for blended learning at a teacher education institute in Malaysia. The study was carried out in the context of PDPP course which started in January 2019.

SWOT framework was used to collect qualitative feedback from the lecturers regarding face-to-face (F2F) synchronous interaction for **blended learning**. Pelliccione and Broadley [29] define **SWOT Analysis** as follows:

- Strengths, S: the internal attributes and resources that support a successful outcome;
- Weaknesses, W: the internal attributes and resources that work against a successful outcome;
- Opportunities, O: the external factors the project can capitalize on or use to its advantage;
- Threats/Challenges, T: the external factors that could jeopardize the project.

There are some researches that have used SWOT analysis framework in the field of education. Stacey and Gerbic [30] studied peer review of teaching (PRT). Another research carried out by Merkulova and Nenasheva [31] used SWOT analysis to analyze and identify the major challenges posed by the introduction of a new subject into the university curriculum. Twigg [32] carried out a research to study the performance of pre-university education using SWOT analysis as a tool. SWOT data could offer insights that should be supported (i.e. potential), ‘opportunities’ that have to be sought (i.e. prospects), ‘weaknesses’ that must be overcome (i.e. barriers), and ‘threats’ that ought to be alleviated (i.e. hindrances) [33].

Thematic Analysis was also used as the method to analyze qualitative data obtained from **SWOT framework**. Thematic analysis is the process of identifying patterns. It is not tied to a particular epistemological or theoretical perspective. Thematic analysis can be carried out in many different ways [34, 35, 36]. This research follows the 6-step framework [37]. It offers a clear and usable framework

for doing thematic analysis. The six-phase framework for doing a thematic analysis [37] is as follow:

- Step 1: Become familiar with the data,
- Step 2: Generate initial codes,
- Step 3: Search for themes
- Step 4: Review themes,
- Step 5: Define themes,
- Step 6: Write-up.

Thematic analysis has been applied in the field of education as a qualitative approach to analyze data. A small number of participants were enough to carry out the research. Rouse [38] carried out a research to study Greek academic teachers' perceptions and experiences in the field of outdoor education.

PDPP is a part time pre-service teacher training course for interim teachers teaching in the primary/secondary schools in Sarawak. Their course structure is 40% F2F interaction and 60% conducted through online interaction. The 60% online interaction consists of 40% module (self-reading and asynchronous online interaction with lecturers through the Moodle or the open source Schoology platform) and 20% synchronous F2F with lecturers during the weekends following a given schedule. Lecturers are free to choose their preferred digital tool(s) to interact synchronously with their students. The course structure is shown in Table I.

TABLE I. PDPP COURSE STRUCTURE

F2F Interaction (40%)	Online Learning	
	F2F Synchronous Interaction (20%)	Non-F2F Asynchronous Interaction (40%)

METHODOLOGY

A qualitative survey on SWOT analysis was carried out using Google Form to collect data from a PDPP course which started in January 2019. The F2F synchronous interaction was carried out during the weekends. A total of 21 lecturers responded to the survey. Six lecturers teaching the (PDPP) were identified to take part in the structured interview to collect more comprehensive data to complement the data collected from the survey.

DATA ANALYSIS

Based on survey data collected from 21 lecturers who taught the PDPP course, 47% (10 lecturers) used a combination of three different digital tools (Zoom, Schoology and WhatsApp), 27% (5 lecturers) used a combination of two different digital tools (Schoology and WhatsApp) and 13% (3 lecturers) using either Zoom or Schoology only during the F2F synchronous interaction conducted over the

weekends. Table II shows the analysis on the different digital tools used during the F2F synchronous interaction.

TABLE II. DIGITAL TOOLS USED FOR F2F SYNCHRONOUS INTERACTION

Zoom, Schoology & WhatsApp	47%
Schoology & WhatsApp	27%
Zoom	13%
Schoology	13%

Thematic analysis was carried out to identify themes for lecturers' feedback for each strength, weakness, threat and opportunity quadrant of the SWOT framework as well as interview scripts. The following section described the SWOT-Thematic analysis of the data in detail.

SWOT data collected from the lecturers were analysed using 6-step framework [6]. The analysis identified themes at the semantic level. For internal factors, a similar THEME for Strengths (S) and the Weaknesses (W) had been identified i.e. ICT Competency. ICT Competency is a strength if lecturers can acquire the skills needed for blended learning but will be otherwise if they lack the skills. As for external factors, more THEMES had been identified for Opportunities (O) when compare to Threats (T). These findings showed that blended learning had actually brought more opportunities for learning when compared to threats that came with it. The THEMES that had been identified for each SWOT quadrant were summarized and shown in Table III.

TABLE III. SWOT-THEMATIC ANALYSIS SUMMARY

SWOT	THEME
Strengths (internal factors)	ICT Competency Attitude
Weaknesses (internal factors)	ICT Competency Flexibility Records and Monitoring
Opportunities (external factors)	Pedagogy Training
Threats (external factors)	Functionality of Digital Tool Technical

Strength (S) – Theme: ICT Competency

As reported by Lee et al [26], technology is one of the barriers for implementing blended learning. This study showed that ICT competency indeed helped in the implementation of blended learning. The analysis showed ICT competency was an internal strength among lecturers that helped them to conduct the F2F synchronous interaction without much difficulties. It was also shown that majority of the lecturers were able to use different digital tools during the F2F synchronous interaction whereby 47% used a combination of three different digital tools (Zoom, Schoology and WhatsApp) and 27% used two different digital tools (Schoology and WhatsApp). Schoology is an open source Online Learning Management System (LMS) that has been commonly used by lecturers in the campus. Thus, they are

familiar in using it for teaching and managing course including interacting with students through the system. WhatsApp is used to facilitate instant communication with students during the interaction. Zoom cloud meeting is a webinar platform that enables video conferencing between lecturers and students. This free platform is newly introduced to the lecturers for the purpose of F2F synchronous online interaction. Some feedback given by the lecturers for the Theme “ICT Competency” were listed as below:

“ability to use multiple platforms during blended learning”

“familiar with some OLL platform”

“widen knowledge and skills in using technology”

“improvement in knowledge and skills in using digital tools”

Strength (S) – Theme: Attitude

It has been mentioned that Zoom cloud meeting is a new webinar platform introduced to the lecturers. Many of them took the challenge in using the tool positively. They excitedly shared the use of the tools through the PDPP WhatsApp group for the lecturers. Their positive attitude towards the use of the tool helped them to overcome the difficulties they faced. The ability to see students F2F would surely help to shorten the virtual distance between lecturers and students during the lesson. Lecturers were also very active in interacting with their students. Some feedback given by the lecturers for the Theme “Attitude” were listed as below:

“enthusiastic to learn new digital platform for blended learning”

“more receptive, more open and to keep abreast of the latest technology in teaching and learning”

“active communication with individual student”

“more open to new tools, more willing to explore them”

Weakness (W) – Theme: ICT Competency

Even though ICT Competency is a strength for some lecturers, it also becomes a threat for some less competent lecturers. Their incompetency in acquiring new ICT skills has in one way or another hinder their ability to conduct the F2F session smoothly. This is similar to the finding of Lee et al. [26] who reported that technology is one of the barriers for implementing blended learning. Some feedback given by the lecturers for the Theme “ICT Competency” were listed as below:

“Lack of ICT knowledge”

“Doesn’t know how to use webinar, e.g. Zoom”

Opportunity (O) – Theme: Flexibility

Lecturers prefer to have the freedom to choose and use the digital tools that are convenient to use and familiar to them. The flexibility of using different digital

tools also helped them to conduct the F2F synchronous lesson more efficiently as one tool can compensate for the limitation of other tools. Since F2F synchronous lesson does not require students and lecturer to be present physically, this has enabled lessons to be conducted anywhere as long as there is an internet connected digital device. Flexibility of tools and mobility of the lesson are two features that seemed to be appreciated by the lecturers. Some feedback given by the lecturers for the Theme “Flexibility” were listed as below:

“freedom to choose platform that is convenient, user friendly and with bigger storage”

“flexible to combine different platforms that can compensate for the limitations faced by other platforms”

“mobility of the learning platform with the use of hand phone”

Opportunity (O) – Theme: Records and Monitoring

The digital tools used by the lecturers have many features that help them to record and monitor students during the F2F synchronous interaction. For example, attendance taking is an important proof of presence for the students. Thus, LMS like Schoology or Moodle is able to record and keep track of students’ presence in the system. Besides, Zoom webinar enables video conferencing to be recorded even though it has a duration limitation of 40 minutes for each session. All these are important records and proof for online F2F synchronous interaction. The different tools also enable lecturers to monitor students’ interaction as each response from the students will be indicated individually through the tools. Some feedback given by the lecturers for the Theme “Records and Monitoring” were listed as below:

“online forums are kept in system which can be reviewed again by lecturers/students”

“discussions in the WhatsApp group can be exported and sent to the email to be printed out or saved”

“able to detect the activeness of each student during online discussion”

Opportunity (O) – Theme: Pedagogy

Blended learning has enabled lecturers to apply new pedagogy. Lecturers usually shared informally among themselves on their best practices to conduct online courses. The different strategies and techniques used will be assimilated and customized where applicable to individual’s needs. Flipped classroom approach is suitable to be used with online courses. Some feedback given by the lecturers for the Theme “Pedagogy” were listed as below:

“opportunity to explore new approach to teach with blended learning”

“give pre-lecture task”

“cooperative learning through smaller WhatsApp group”

These findings contradict to [16] findings which reported that some institutions and regions are resistant to changes in pedagogy.

Opportunity (O) – Theme: Functionality of Digital Tool

The ease of use of digital tools was a feature that could facilitate blended learning. The tool should have the features that enable discussion, uploading/downloading files and instant response for questions or feedbacks posted online. Some feedback given by the lecturers for the Theme “Functionality of Digital Tool” were listed as below:

“Schoology – very good for discussions, students upload their PowerPoints, ask questions”

“Schoology – upload files for students, as a repository, well organized”

“WhatsApp – good for giving instructions, instant response to communication”

Opportunity (O) – Theme: Training

Since PDPP is a new course offered for pre-service interim teachers in school, it is important to brief the lecturers on the expectation of the course. Besides, the F2F synchronous session is something which has never been implemented before in the campus, thus it is very important to brief and demonstrate how it could be conducted. As mentioned earlier, a workshop has been conducted for this purpose. It seemed that such workshop has benefited the lecturers through the feedback given by the lecturers as below:

“Induction course for blended learning”

Threat (T) – Theme: Technical

Technical limitations from the digital tools used have become the main factor that impede the smooth implementation of blended learning. The main factor being having a stable and good internet connection. Similar problem has been reported by Kenney and Newcombe Leslie et al. [25]. Blended learning can only be carried out if there is internet connection. Good internet connection is needed especially if video conferencing is used. Thus, it is not surprising to see the use of Zoom facing problems like unclear voice heard during the webinar session. Furthermore, a free tool like Zoom limit each session to only 40 minutes after which the session need to restart. This will somehow interrupt the smooth running of the lesson. The use of social media tool like WhatsApp would make incoming messages flowing through the screen and it is not able to categorize messages based on respondent. This would make the messages looked chaotic and difficult for lecturers to reply. Some feedback given by the lecturers for the Theme “Technical” were listed as below:

“unstable platforms”

“problem with internet connectivity”
“too many incoming message threads making responses chaotic”
“limited recording time, unclear voice during webinar session”

RESEARCH IMPLICATIONS

The implications of this research can be seen in terms of theoretical implications and practical implications.

Theoretical Implications

The suitability of the study instrument of questionnaires through google forms and structured interviews is evident as the research data reported for this study is satisfactory. The Thematic SWOT Analysis used in this study offers a new theoretical basis for future blended learning studies. Through this analysis, the management, system developers and lecturers are provided with a list of themes or factors that can be taken into consideration when handling blended learning in the future.

Practical Implications

This study contributes to the best practices of blended learning in Sarawak which will benefit the stakeholders in other parts of Malaysia as well. The findings of the study can help the Institute of Teacher Education Malaysia (IPGM) in planning and designing blended learning courses for its campuses (IPGKs) throughout the country. It can also help IPGM in planning and developing the curriculum, improving infrastructure and developing online learning systems. When considering the practical implication from this research, it is important to keep in mind the limitations of the research design such as a possible bias to the sample, as respondents are those who are willing to be interviewed and have willingly responded to questionnaires sent out through google forms. Findings that have practical implications include the following:

The implementation of blended learning has brought more opportunities for learning as opposed to the threats. Therefore, it would be advantageous to extend the use of an online learning system to all full-time students as well. Lecturers and students should carry out teaching and learning activities using an online learning system as a medium to promote more active interactions among lecturers and students. The curriculum development teams of IPGM and IPGKs need to focus on attracting the learners to online learning through improving its course design so that it can blend online learning and face-to-face learning. Monitoring needs to be implemented by the administration so that the online learning system will be fully utilized by both the students and the lecturers.

ICT competency is both a strength and a threat. Lecturers need to be more open, to keep abreast of the latest technology in teaching and learning and be willing to adopt new digital platforms for blended learning. Continuous training is needed to widen their knowledge and skills in technology so that they can overcome the challenges and difficulties they face due to constraints in the information infrastructure and other problems. Through training, they familiarize themselves with digital tools and platform that enables them to blend the learning effectively. Administrators and lecturers at IPGKs should also help students develop positive attitudes towards technology in their teaching practices and train them to familiarize themselves with technology and online systems as students, so that they can apply technology in the classroom in the future. Constraints such as infrastructure problems, external problems and lack of computer courses are not a reason for them not to utilize technology in the classroom.

Blended learning has enabled lecturers to apply new pedagogies. Training programmes for lecturers should include teacher sharing sessions where lecturers can share their best practices in a formal setting. Workshops should include discussions on new pedagogies for deep learning in an online platform, maximizing online assessments, and enhancing engagement in an online platform. Continuous training programmes should include the development of skills in developing online course content, managing forum discussions, and introduction to new online tools and digital platforms. Such programmes are necessary in order to enhance and improve the skills and knowledge of the lecturers.

Flexibility and freedom to choose their own tools helps lecturers conduct their F2F synchronous lesson with more ease. This is because they are more familiar and comfortable with these tools. Furthermore, the use of multiple tools has also enabled the lecturers to conduct their lessons more efficiently. However, such free tools often has limitations that can impede the learning. IPGM can strengthen and enhance the implementation of blended learning at each IPGK by choosing open-source systems that are more user-friendly, and have quick and easy functions to support lecturer's choice of free tools that they are familiar with. By using an open-source online system, the administration does not have to spend time and resources to maintain an online system.

Technical limitations especially internet connectivity is the main factor impeding the smooth implementation of blended learning. The information infrastructure of the IPGKs needs to be upgraded. IPGKs also need to have a contingency scheme to cover failure of servers, telecommunication, software and viruses.

Based on the discussion, some of the best practices on blended learning from this research can be summarized as below:

- Blended learning pedagogy;
- Monitor the use of blended learning;
- A user friendly system that can support blended learning;
- A reliable and efficient network to support blended learning;

- Support from the management to implement blended learning;
- Continuous professional development in ICT competency relevant for blended learning.

CONCLUSIONS

This research has successfully identified some problems and challenges faced by lecturers conducting F2F online classes for blended learning at teacher education institute in Malaysia through the proposed SWOT Thematic Framework. This is one contribution from this research as the framework can be used to carry out more research regarding blended learning in the future. Despite that, it has identified that lecturers also benefit from blended learning. Following that, some best practices for blended learning have been proposed. It can be concluded the objectives of this research have been achieved.

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