International Journal of Social Science and Education Research Studies

ISSN(print): 2770-2782, ISSN(online): 2770-2790 Volume 03 Issue 06 June 2023 DOI: https://doi.org/10.55677/ijssers/V03I6Y2023-01, Impact Factor: 5.574 Page No: 963-969



Pedagogical Practices among Teachers in a Private School: A Survey

Syed Ismail Syed Mustapa¹, Ahmad Subki Miskon²

¹Research and Innovation Planning Center, Malaysia Teacher Education Institute, Cyberjaya, Malaysia ²Department of Planning, Research and Innovation, Special Education Campus, Malaysia Teacher Education Institute, Kuala Lumpur, Malaysia

ABSTRACT

Published Online: June 02, 2023

pedagogy,

Private schools have the autonomy to provide the best education to students. This study was conducted to review pedagogical practices among teachers in a private school in the Shah Alam District. The focus of the study was on nine (9) aspects of pedagogical practices, namely critical thinking skills, collaborative skills, communication skills, creativity & innovation skills, teacher pedagogical practices, learning environment, peer learning, digital utilization, and emotional management. The study sample consisted of 32 teachers working in the respective school. A combined approach was used, employing a questionnaire as the main data collection instrument, while quantitative data was obtained through interviews. The study findings showed that overall, the level of PAK21 practice skills among teachers in private schools was moderately high (mean 3.47; sd=.47). The study also revealed three (3) aspects of pedagogical skills that need improvement among teachers: applying the use of digital technology when interacting with students (mean=2.91; sd=.78); managing the teaching process through virtual environments and digital tools (mean=3.13; sd=.66); and creating collaborative products using contributions from each student (mean=3.16; sd=.45). The researcher suggests that school administrators regularly organize in-service training, particularly related to teaching and facilitation. Workshops based on committees and areas of need should be implemented to enhance teachers' **Keywords:** competency in teaching and facilitation, and mentors should be appointed to provide guidance to new Teaching and learning teachers who require support. Teachers are also encouraged to adopt lifelong learning processes to skills, explore various teaching methods suitable for PAK21. private schools.

1. INTRODUCTION

Private schools are institutions that offer educational services to the public without government funding or assistance. The educational services provided by private educational institutions cover all levels, from pre-school to primary, secondary, and post-secondary. Private schools are typically governed by a private body and financed partially or entirely by student fees. The school administrators have the authority to determine school fees and admission requirements. It has been found that the tuition fees in religious private schools are still reasonable and not excessively high, unlike conventional private schools (Berita Harian, 2015).

Corresponding Author: Ahmad Subki Miskon

*Cite this Article: Syed Ismail Syed Mustapa, Ahmad Subki Miskon (2023). Pedagogical Practices among Teachers in a Private School: A Survey. International Journal of Social Science and Education Research Studies, 3(6), 963-969

Private schools have the autonomy to provide the best education to students. Private schools also have more freedom to make decisions regarding staff, finances, pedagogy, curriculum, and internal policies. Additionally, the school administration has the power to determine whether students meet the admission requirements or not. Schools also have the right to establish criteria for hiring teachers. In this case, teachers in private schools may not have the same qualifications as teachers in government schools. However, every teacher in a private school must possess teaching and facilitation skills similar to those of teachers in government schools.

Educators as a whole are aware that teaching and learning proficiency (PdP) is a dynamic and crucial process that enables students to master the topics they learn in school (Mashira et al., 2019). Therefore, the implementation of pedagogical practices by teachers, including those in private schools, must be carried out using various methods to engage

students' interest and maintain their focus on the teacher's instruction. In this context, the 21st-century learning practices (PAK21) must be implemented effectively by applying various strategies, techniques, approaches, and utilizing up-to-date resources to ensure cohesive and comprehensive teaching by the teachers.

PAK21 is among the challenges that need to be addressed in the agenda to produce first-class students based on the guidelines outlined in the Education Development Master Plan (PIPP) 2006-2010, which has also been incorporated into the concept of the Education Development Plan (PPPM) 2013-2025 (Raja Abdullah & Daud Ismail, 2018). As a continuation of the PPPM, the implementation of the 21stcentury learning system (PAK21) was carried out comprehensively in Malaysia in 2015. Prior to the full implementation of PAK21, a pilot phase was conducted in 2014 in selected schools (Nurzarina Amran & Roslinda Rosli, 2016).

Aligned with the recommended teacher competencies, this study aims to examine pedagogical practices among teachers in a private school in the Shah Alam District. The study focuses on nine (9) aspects, namely critical thinking skills, collaborative skills, communication skills, creativity and innovation skills, teachers' pedagogical practices, learning environment, peer learning, digital utilization, and emotional management. This study is important to enable teachers to make improvements in their pedagogical practices.

II. PROBLEM STATEMENT

Recently, more and more parents are choosing to send their children to private schools instead of public or national schools. This raises the question of what advantages private schools have over national schools. Has the confidence in the education system in this country been undermined? The choice of private schools is particularly popular among the Chinese community. In fact, some parents feel that their children's future will be bleak if they are not selected for these primary or secondary schools, which have a different curriculum than Chinese National Type Schools (Berita Harian, 2015).

Studies have shown that the use of instructional aids among teachers in schools has a positive impact on students' academic excellence and the teaching methods themselves (Mohd Faeez, 2016). However, there are still some educators who do not use instructional aids in their teaching. There are also teachers who still employ traditional teaching methods characterized by teacher-centered approaches such as lectures, memorization, question and answer sessions, and discussions (Kamarul Azmi Jasmi et al., 2011).

Previous studies have shown that subject teachers still use less engaging teaching and facilitation methods. This leads to student disengagement and various other related problems. The diversity of these problems arises because teachers do not employ methods and activities that are suitable for student learning, ultimately resulting in students not understanding the purpose of their learning. The predominant teaching method in the classroom only focuses on the teacher as a content deliverer, rather than a guide or facilitator (Nurul Izzati Azizi, 2011).

Furthermore, teachers are found to often dominate the teaching and learning process compared to students. Teachers also do not involve students in their teaching and learning process (Hussin, 2014). Studies on the importance of Islamic Education as a medium in developing individuals who are balanced in terms of skills, knowledge, and moral values find that one-sided teaching by teachers leads to boredom during the teaching and learning sessions. The same studies also highlight the need to enhance the readiness and pedagogical practices of Islamic Education teachers in terms of Higher Order Thinking Skills (KBAT) (Mohd Zailani, 2017; Maimun, 2017).

Teachers' knowledge of the need to implement PAK21 is crucial as they are the individuals responsible for implementing the country's educational policies. However, it has been found that teachers' knowledge of PAK21 is lacking, especially in terms of its content. The study found that only a small number of teachers are familiar with the terms related to PAK21 (Nurzarina & Roslinda, 2016). Various challenges have also been identified in the framework for implementing PAK21, including challenges related to teacher readiness, student readiness, infrastructure facilities, instructional aids, additional reference materials, technology use, and internet access (Husni, Abd Razif, Khairatul Akmar, Hasanah Ihsan, Ku Fatahiyah, Wan Sakiah Wan Ngah, et al., 2018).

Furthermore, the study also found that there are primary school teachers who are still unsure whether they know or understand PAK21. The same study also found that some teachers are still unable to master modern technology and face challenges in implementing PAK21 (Mashira Yahaya et al., 2020). Another study found that the practice of teaching and learning based on critical thinking skills still needs improvement (Badrul Hisham & Mohd Nasruddin, 2016).

III. LITERATURE REVIEW

The Malaysian Education Development Plan (PPPM 2013-2025) outlines six student aspirations that need to be achieved. These achievements are measured based on the success of the learning process in the classroom (Ainun et al., 2017). Therefore, every teacher needs to be more creative and innovative in mastering the 21st-century teaching and learning curriculum (PAK 21), in addition to being competitive in their teaching (Hashim, 2019). Mastery of curriculum aspects includes the ability to plan teaching and

learning activities and use instructional materials (Ishak, Ghani & Siraj, 2017).

Studies on the quality of teaching and learning involve three important dimensions: teacher competency, teaching aids, and curriculum structure. The dimension of teacher competency emphasizes the educator's knowledge, skills, and personality. The dimension of teaching aids focuses on the instructional materials used by educators to provide enjoyable, entertaining, and engaging learning experiences. The dimension of curriculum structure involves the requirements of the study program and the ability to provide study exposure to students (Mazni, Roslee & Muhammad Suhaimi, 2019).

Furthermore, studies have shown a significant and strong relationship between pedagogical competence and academic performance. Therefore, teachers are advised to enhance their level of pedagogical competence to function more efficiently in imparting knowledge and skills to students (Losius Goliong, Mohd Khairuddin Abdullah & Rosy Talin, 2018).

Studies on five aspects, including PAK21 concepts, basic standards in PAK21, student skills, elements in daily lesson plans, and examples of activity-based learning, are at a high level. The same study also found that the implementation of PAK21 requires students to master creative and critical thinking skills, improve communication skills, encourage collaborative skills, and practice moral values and ethics throughout their learning journey (Muhammad Izzat, 2021).

Furthermore, research has shown that the influence of PAK21 has a positive impact on the attitude, motivation, and achievement of students when learning Bahasa Melayu. The implication of the study is that 21st-century learning has a positive effect on students' attitude and motivation, thereby improving their performance in learning Bahasa Melayu (Ainun Rahmah Iberahim, Zamri Mahamod & Wan Muna Ruzanna Wan Mohamad, 2017).

Student achievement is always the measure of the success of the learning process experienced by students in the classroom. This is because student-centered learning (PdPc) significantly helps students improve their interest and motivation to engage in lifelong learning. To achieve the nation's educational aspirations, the success of teachers is one of the key transformations. According to Zamri (2012), the form of student-centered learning in the 21st century still revolves around the teacher, but the teacher plays an important role in actively involving students in learning activities at school. Student-centered learning through 21stcentury skills greatly assists teachers and students in achieving the nation's educational aspirations.

IV. RESEARCH OBJECTIVES

This study aims to examine pedagogical practices among teachers in a private school in the Shah Alam District. The focus of the study is on nine (9) aspects, namely critical thinking skills, collaborative skills, communication skills, creativity and innovation skills, teachers' pedagogical practices, learning environment, learning peers, digital utilization, and emotional management.

A. Research Objectives

The specific objectives are to:

- i) Review the level of pedagogical practices among teachers in the private school.
- ii) Identify the pedagogical aspects that need improvement among teachers in the private school.

B. Research Questions

- i) What is the level of pedagogical practices among teachers in the private school?
- ii) What are the pedagogical aspects that need improvement among teachers in the private school?

V. METHODOLOGY

This study utilizes a quantitative approach with data collection through a survey research method. A set of research instruments was distributed to the teachers involved in this study. The instruments cover nine (9) aspects as follows:

Section A: Teacher Background Section B: Critical Thinking Skills Section C: Collaborative Skills Section D: Communication Skills Section E: Creativity & Innovation Skills Section F: Teachers' Pedagogical Practices Section G: Learning Environment Section H: Learning Peers Section I: Digital Utilization Section J: Emotional Management

Each item is answered based on a Likert Scale with options ranging from 1. Strongly Disagree; 2. Disagree; 3. Slightly Disagree; 4. Agree; and 5. Strongly Agree.

Before conducting the study, the developed instruments were tested for validity and reliability of each item. For validity purposes, the researcher conducted content validity by referring the instruments to three experts, including a Head of Department and a Senior Lecturer from an IPG (Teacher Training Institute), as well as a senior subject teacher from a secondary school. Feedback and suggestions from these three experts were considered in refining the language usage, clarity of meaning, and content of each item.

The validated instruments were further tested for reliability by administering them to 15 other teachers who were not involved in the study. After testing, the researcher found that the instrument's reliability was 0.973, involving 48 items. Thus, the developed items can be used for research purposes and effectively measure each construct in this study.

IV. RESEARCH FINDING

The data obtained were analyzed using the Statistical Package for the Social Science (SPSS) Version 22.0. The researcher conducted a minimum score assessment based on the assessment by Nunnally, J.C & Bernstein (1994) to interpret the levels of PAK21 practice skills in this study as follows:

 Table 1. Minimum score determination table

Minimum	Score Interpretation
1.00 - 2.00	Low level
2.01 - 3.00	Moderately low level
3.01 - 4.00	Moderately high level
4.01 - 5.00	High leve

Source : Nunnally, J.C & Bernstein (1994)

Through the distributed instrument, a total of 32 teachers responded to the instrument. The sample distribution is shown in Table 2.

Table 2. Research Sample

No	Education	n	%	Experience	Gender
1	Sijil Pelajaran Malaysia (SPM)	3	9.4	Less then a year: 10 (31.3%)	
2	Sijil Tinggi Persekolahan (STPM)	1	3.1	1 to 3 years: 12 (37.5%)	Male= 5 (15.6%)
3	Diploma in Education	4	12.5	4 to 6 years: 7(21.9%)	Female=
4	Bachelor's Degree	23	71.9	More than 6	27 (84.4%)
5	Master's Degree	1	3.1	yeras: 3(9.4%)	
Tota	Total		100		

Based on Table 2, a total of 32 teachers responded to the distributed instrument out of 48 teachers in the school. According to Krejcie and Morgan (1970), a minimum of 30% sample is required. Therefore, the sample size of 32 is adequate for obtaining quantitative data.

Among the respondents, 5 (15.6%) were male, while 27 (84.4%) were female. Further data analysis shows that 23 (71.9%) have a Bachelor's degree, 4 (12.5%) have a diploma,

3 (9.4%) have Sijil Pelajaran Malaysia (SPM), and the remaining respondents have a Master's degree and Sijil Tinggi Persekolahan (STPM) with one respondent each. In terms of teaching experience, the majority have served between 1 to 3 years, which accounts for 12 individuals (37.5%). There are 10 individuals (31.3%) with less than a year of experience, 7 individuals (21.9%) with 4 to 6 years of experience, and only 3 individuals (9.4%) with more than 6 years of experience.

To answer the first research question regarding the level of pedagogical practice among teachers in private schools, the research findings are summarized in Table 3.

No.	Pedagogical Practice	min	sp	Level	
1	Critical Thinking	3.44	0.55		
2	Skills Collaborative	3.71	0.42		
3	Skills Communication	3.49	0.59		
4	Skills Creativity & Innovation	3.40	0.65		
5	Skills Teacher Pedagogical Practice	3.49	0.60	Moderate ly high level	
6	Learning Environment	3.39	0.56		
7	Peer Learning	3.73	0.49		
8	Digital Utilization	3.09	0.73		
9	Emotional Management	3.53	0.59		
Total		3.47	0.47		

 Table 3. Level of pedagogical practice among teachers in

 private schools

Based on Table 3, overall the level of pedagogical practice skills among private school teachers is at a high moderate level (min 3.47; sp=.47). Among the nine teaching practices studied, the highest level of pedagogical practice among teachers is collaborative learning (min= 3.73; sp=.49). On the other hand, the lowest practice is digital utilization (min= 3.09; sp=.73).

To answer the second research question regarding the aspects of pedagogical practice that need to be improved among teachers, an item analysis has been conducted, and the items with the lowest minimum scores are presented in Table 4.

 Table 4. Aspects of pedagogical practice that need to be improved

No	Pedagogical Practice	min	sp
1	Critical Thinking Skills Item 5: Constructing convincing arguments through the exploration of	3.22	0.79

	various sources (e.g., library		
	references, internet).		
2	Collaborative SkillsItem 3: Creatingcollaborativeproductsbyincorporatingcontributions from each student.	3.16	0.45
3	Communication Skills Item 1: Framing data for use in written work outcomes (e.g., creating charts, tables, or graphs).	3.38	0.87
4	Creativity & Innovation Skills Item 4: Generating solutions to non-routine problems.	3.28	0.58
5	Teacher Pedagogical Practices Item 4: Integrating various new media and digital tools in the teaching and classroom assessment processes.	3.19	0.69
6	Learning Environment Item 6: Managing the teaching process through virtual environments and digital technology tools.	3.13	0.66
7	Learning PartnershipsItem 5: Involving variousstakeholders (e.g., parents andcommunity) in setting clear learninggoals and expectations.	3.34	0.70
8	Digital Utilization Item 4: Applying the use of digital technology when interacting with students.	2.91	0.78
9	Emotional Management Item 2: Recognizing the difference between feelings and emotions.	3.41	0.47

According to Table 4, an analysis of the items has been conducted, and the items with the lowest minimum values indicate the aspects of pedagogical practice that need improvement among teachers. These aspects are:

- i. Applying the use of digital technology when interacting with students (min=2.91; sp=0.78).
- Managing the teaching process through virtual environments and digital technology tools (min=3.13; sp=0.66).
- iii. Collaboratively creating products using contributions from each student (min=3.16; sp=0.45).

Findings from the interviews are as follows:

- G1: These kids nowadays are far advanced in using digital technology... we can't keep up with them.
- G2: Our students are living in the digital age. Everything is at their fingertips... we are the ones who learn more from them.
- G3: Maybe we need to follow their pace. We need to use a lot of the latest equipment. Gadgets and such... it's their

generation already... I need to think about what is suitable for them.

G4: In terms of technology, I think the kids nowadays are much better. So, I believe teachers should be exposed to various technological conveniences that can be applied in teaching. Our experiences might not be suitable anymore for these current students. It would be even better if the school can provide the latest equipment.

VI. DISCUCCION AND RECOMMENDATIONS

Based on the overall findings of the study, it can be concluded that the level of PAK21 practice skills among private school teachers is moderately high. This finding is consistent with previous research that found the predominant teaching method in classrooms focuses on the teacher as a content deliverer rather than a guide or facilitator (Nurul Izzati Azizi, 2011). Therefore, it is recommended for teachers to further enhance their pedagogical competencies so that they can function more efficiently in imparting knowledge and skills to students (Losius Goliong, Mohd Khairuddin Abdullah & Rosy Talin, 2018).

This study found that teachers need to apply the use of digital technology in their teaching. The direct utilization of various digital technology-based instructional materials will stimulate students' interest in participating in classroom learning sessions. This finding is also consistent with previous research showing that the use of teaching aids among teachers in schools has a positive effect on students' academic excellence and the teaching methods themselves (Mohd Faeez, 2016). Therefore, it is recommended for every teacher to enhance their competence in using digital technology for effective classroom instruction.

Furthermore, teachers are also advised to adopt lifelong learning processes to acquire knowledge related to teaching and facilitation, and to make efforts to transform the learning culture among students. School administrators, on the other hand, are recommended to organize regular in-service training, particularly focusing on current pedagogical practices. Additionally, workshops tailored to committees and subject areas should be conducted to enhance teachers' competencies in various aspects. School administrators are also advised to appoint mentors for new teachers who require guidance.

REFERENCES

- Abdul Ghoni Ahmad. (2018). Pendidikan kita bertaraf dunia. Majalah Pendidikan. Feb 2018: Jilid 120
- Ainun Rahmah Iberahim, Zamri Mahamod & Wan Muna Ruzanna Wan Mohamad. (2017). Pembelajaran abad ke-21 dan pengaruhnya terhadap sikap, motivasi dan pencapaian bahasa melayu

pelajar sekolah menengah. Jurnal Pendidikan Bahasa Melayu. Vol. 7, Bil. 2: 77-88

- Ainun Rahmah Iberahim, Zamri Mahamod, Wan Muna Ruzanna Wan Mohamad. (2017). Pembelajaran abad ke-21 dan pengaruhnya terhadap sikap, motivasi dan pencapaian Bahasa Melayu pelajar sekolah menengah. Jurnal Pendidikan Bahasa Melayu. Vol 7, Bil.2: 77-88
- 4. Azman Ab Rahman, Syed Salim Syed Shamsudin, Nurul Nadia Nozlan, Muhammad Faiz Abd. Shakor & Afaf Sukari. (2021). Pandemik COVID-19: Cabaran pengajaran dan pembelajaran (PDP) Pendidikan Islam dalam pendidikan khas bagi pelajar orang kurang upaya (OKU) masalah pembelajaran di Malaysia. Journal of Quran Sunnah Education and Special Needs 5: 127-138
- Badrul Hisham Alang Osman & Mohd Nasruddin Basar. (2016). Amalan pengajaran dan pembelajaran abad ke- 21 dalam kalangan pensyarah Institut Pendidikan Guru Kampus Ipoh. Jurnal Penyelidikan Dedikasi.

http://www.ipgmipoh.edu.my/journal/

- 6. Benade, L. (2015). Teacher's critical reflective practice in the context of 21st century learning. *Open Review of Educational Research*. Vol 2(1). 42-54.
- Berita Harian Online; Mana lebih baik, sekolah swasta atau sekolah kebangsaan? November 23, 2015
- Husni Abdullah, Abd Razif Zaini, Khairatul Akmar Ab Latif, Hasanah Ihsan, Ku Fatahiyah Ku Azizan, & Wan Sakiah Wan Ngah. (2018). Pendidikan abad ke-21 dalam pengajaran bahasa arab di sekolah menengah di Malaysia: Amalan dan cabaran. <u>http://rmc.kuis.edu.my</u>
- 9. Kamarul Azmi Jasmi, Mohd Faeez Ilias, Ab. Halim Tamuri & Mohd Izham Mohd Hamzah. (2011). Amalan penggunaan bahan bantu mengajar dalam kalangan guru cemerlang Pendidikan Islam Sekolah Menengah di Malaysia. JIAE: Journal of Islamic and Arabic Education, 3 (1); 59-74
- Kementerian Pendidikan Malaysia. (2016). SKPMg2: Pengenalan Standard Kualiti Pendidikan Malaysia Gelombang 2 (SKPMg2)
- Khuzaimah Zaaim, Mohamed Yusoff Mohd Nor & Shahlan Surat. (2019). Tahap kompetensi Guru (PdPc) SKPMg2 dan tahap kemenjadian murid. *International Journal of Education, Psychology and Counseling*. Vol. 4 Issues, 51-62
- Losius Goliong, Mohd Khairuddin Abdullah & Rosy Talin. (2018). Kompetensi pegadogi guru dan prestasi akademik di sekolah-sekolah berprestasi rendah. *Jurnal Kurikulum*, Bahagian Pembangunan Kurikulum, Kementerian Pendidikan Malaysia. Jilid 3; 80-91

- M. Nur Mustafa. (2013). Professional competency differences among high school teachers in Indonesia. *International Educational Studies*, *Canadian Center of Science and Education*, Vol. 6, No. 9: 83-92
- 14. Maimun Aqsha Lubis, Wan Nurul Syuhada' Wan Hassan, Mohd Isa Hamzah. (2017). Tahap pengetahuan dan kesediaan guru-guru pendidikan islam sekolah menengah di Selangor terhadap penggunaan multimedia dalam pengajaran pendidikan islam. ASEAN Comparative Education Research Journal on Islam and Civilization (ACER-J). Vol 1. 1-13
- Mashira Yahaya, Rusyati Hanafiah, Nor Sazila Zakaria, Rohana Osman, Khairul Anuar Bahrin. (2020). Amalan pembelajaran abad ke-21 (PAK21) dalam pengajaran dan pemudahcaraan (PdPc) guruguru sekolah rendah. Jurnal IPDA. Volume. 26;13-24
- 16. Mazni Muhammad, Roslee Talip & Muhammad Suhaimi Taat. (2019). Pengaruh kualiti pengajaran dan pembelajaran terhadap kepuasan belajar pelajar kolej-kolej swasta di Sabah. Jurnal Ilmi. Jilid 9; 102-119
- 17. Mohd Faeez Ilias, Kalthom Husain, Mohd Amin Mohd Noh, Zetty Nurzuliana Rashed, Murihah Abdullah. (2016). Sumber bahan bantu mengajar dalam kalangan guru pendidikan islam sekolah bestar. *e-Academia Journal UiTMT*. Volume 5.
- Mohd Syaubari Othman & Ahmad Yunus Kassim. (2018). Hubungan pelaksanaan komposisi pembelajaran yang mengintegrasikan kemahiran berfikir aras tinggi (KBAT) dengan pencapaian pelajar di dalam mata pelajaran pendidikan islam. Vol 5 (1): 63-80.
- Mohd Zailani Ismail & Mohamad Khairi Othman. (2017). Amalan pedagogi abad ke-21 dalam kalangan guru pelatih Program Ijazah Sarjana Muda Perguruan (PISMP) Pendidikan Islam di Institut Pendiidkan Guru Malaysia. Jurnal Penyelidikan Dedikasi. Jilid 13
- 20. Muhammad Izzat Mailis. (2021). Tahap pengetahuan guru-guru sekolah kebangsaan di daerah sepang, selangor terhadap Pembelajaran abad ke-21. *Jurnal Kesidang*, Volume 6;16-29.
- Nurul Izzati Azizi, H. M. (2011). Perbandingan faktor yang mempengaruhi proses pengajaran dan pembelajaran antara sekolah di bandar dan luar bandar. *Journal of Education Management*, Vol. 1:34-47.
- Nurzarina Amran & Roslinda Rosli. (2016). Kefahaman guru tentang kemahiran abad ke-21. Fakulti Pendidikan, Universiti Kebangsaan Malaysia.

- 23. Raja Abdullah Raja Ismail & Daud Ismail. (2018). Aplikasi 'Konsep 4C' Pembelajaran Abad ke-21 dalam Kalangan Guru Pelatih Pengajian Agama Institut Pendidikan Guru Kampus Dato' Razali Ismail. Asian People Journal. Volume 1, Issue 1;45-65.
- Shamilati, C.S., Wan Mazwati, W.Y. & Rahimah, E. (2017). Teacher's challenges in teaching and learning for higher order thinking skills (HOTS) in primary school. *International Journal of Asian Social Sciences*. 7(7): 534-545.
- 25. Sharifah Bee. (2015). Transformasi Dijana Legasi: Koleksi Ucapan 2012-2015. Timbalan Pengarah Pendidikan Pulau Pinang. KPM, JPPP. Pulau Pinang.
- 26. Sukiman Saad, Noor Shah Saad & Mohd Uzi Dollah. (2013). Pengajaran kemahiran berfikir: Persepsi dan amalan guru matematik semasa pengajaran dan pembelajaran di bilik darjah. Jurnal Pendidikan Sains & Matematik Malaysia, Vol. 2,(1): 18-36.
- 27. Zamri Mahamod. (2012). Inovasi P&P dalam pendidikan Bahasa Melayu. Universiti Pendidikan Sultan Idris.