



Do Malaysian pre-service teachers ready to implement 21st century learning in the school? : The Malaysian evidence

¹Ramlan Mustapha.Ph.d, ²M.Asri Abd Razak & ³A. Jailani Che Abas
^{1,2,3}Institute of Teacher Education Malaysia, Tengku Ampuan Afzan Campuses

Article Info

Received:
02 July 2019

Accepted:
4 September 2019

Publish
16 September 2019

E-mail address:

*corresponding Author :
*mujahidpahang@gmail.com

e-ISSN 2682-759X

Abstract

This study is aimed to study This study is to look at the level of pre-service teacher readiness for the implementation of 21st century learning in schools. This study is a quantitative study using online survey form distributed to trainee teachers throughout Malaysia. This study involved 362 teachers trainee using convenience sampling. The finding show that most pre-service teachers are prepared to carry out the 21st century learning in school after they are in school. This finding is a very positive sign that teachers' skills are improving and the learning process in the future will be more competent and interesting. With a high level of skill and competencies, the teacher will be able to move the learning process more effectively.

Keyword: 21st Century Learning, Pre Services, School,

Introduction

Changes in learning methods are rapidly evolving in tandem with current educational needs around the world. In the era of modernization in the education system especially in the 21st century, an education system needs to be more flexible and adaptable to the current situation. The introduction of 21st century-based learning places more and more places in the education system around the world in the need for a capable and competitive generation with current modernization of education (Rusdin, 2018).

The rapid changes that occur in the global, regional and national education systems are linked to the enhancement and ability of an education system to generate information, change and liquidity of current information. Generally knowing education is a key mechanism in providing the knowledgeable, skilled and competent individuals required by todays and future generations (Robinson & Aronica, 2015).

Nevertheless, the key challenge in empowering a system of education is on the question of how an education system and educator can evaluate and strengthen the development of competence and readiness in adapting to the new education system, especially the 21st century learning environment. Are all drivers of education systems especially educators really competent and willing to deploy an educational system? Or just doing it based on the direction of the superior without the spirit of sincerity and the desire to implement it?. Therefore, this study has been trying to find out the level of readiness of the education sector especially among pre service teacher in implementing the 21st century education.

21st century learning

21st century learning skills consist of the skills, abilities, and diversity of learning methods that have been identified as needed for success in the 21st century society. This is part of an international initiative in focusing on the skills needed for students in preparation for success in the ever-changing digital society. Most of these skills are also linked to deeper learning, based on analytical skills, complex problem solving, and teamwork. This skill differs from traditional academic skills that focus more on teacher-centered in the mastery of knowledge (Chris, 2009).

In the new millennium, it is clear that the 21st Century learning is very different from the needs of the 20th century classroom. In the 21st century lesson, teachers are productive learning facilitators and creators of a classroom environment. The 21st century learning focus is on students creating and driving their own learning environments. Project-based curricula, effective communication skills, and technological knowledge are at the center of the 21st century learning environment. The form of learning is more diverse across the discipline of learning and skills between 21st century learning with 20th-grade learning. Lectures on one subject at one time are a commonplace of the past but the aspect of collaboration is a learning lance of today and the teaching strategy of the century the 20th is no longer effective.

Learning in the 21st Century is a student-centered, no longer centered teacher. Teachers no longer function as lecturers but as facilitators of learning. Students learn by doing, and teachers act as coaches, helping students when they work on projects. Students learn to use the method of investigation, and to work with others. Students are no longer learning individually basis, but they work on cross-disciplinary projects that use information and skills from various subjects in acquiring knowledge. The textbook is no longer a source of reference information and key information. Students use a variety of resources, including technology, to find and collect the information they need to solve a problem in learning. They may refer sources from journals, interviews, explore the Internet, or use computer software programs to find whatever information is needed.

Along with this great change, teachers must be smart enough to adapt themselves, their roles and responsibilities. Teachers no longer teach separately and self-centered. They are now teaching together, exploring, and working with other teachers. Teachers are not the only ones responsible for student learning. Other stakeholders including administrators, board members, parents, and students all share responsibility with teachers to educate students. Teachers also need to know that they must involve students in learning and effective instruction using various teaching and technology methods. In implementing learning, teachers need to be involved and co-students in the field.

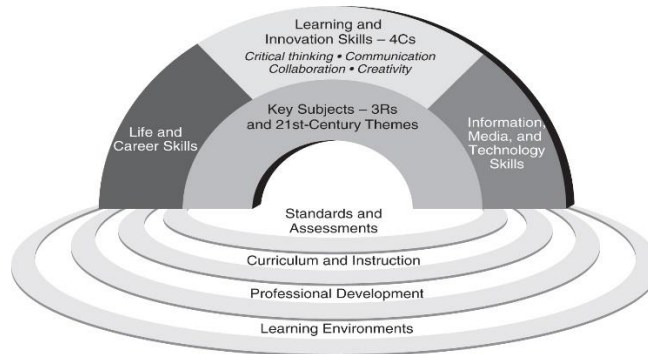


Figure 1: 21st Century Learning Framework

The Nature of 21st century learning in Malaysia

Malaysia is a developing country in the mission of modernizing the education system in line with current needs. Additionally, the 2020 vision that has been designed for a long time in becoming a developed nation needs to be in line with the current education system. As a result, the Ministry of Education Malaysia has drawn up the *Malaysia Education Blueprint 2013-2025* in formulating various initiatives to empower the education system in the country (Ponniah, Sivanathan, Kumar & Nadarajan, 2019). This development plan is designed to enhance the Malaysian education standard internationally and to impart the education system by implementing the 21st century learning in the education system (Mahmood, Ahmad, Zakaria, Harmi & Farihah, 2013).

In realizing this goal, the government through the Ministry of Education Malaysia plans to extensively implement the 21st century learning method in the education system. KPM introduces a 21st Century Skill study model enGauge 21st Century Skill introduced by the North Central Regional Education Laboratory (NCREL) and the Metiri Group (Ponniah et al.2013). This model introduces four critical criteria of 21st century learning that emphasizes digital literacy, inventive thinking, effective communication and high productivity production (Hamsari & Yahya, 2012).

In line with the changes introduced, the need to produce competent students in implementing the 21st century learning becomes an important agenda. curriculum reforms aligned with the 21st century skills began to apply as improvements in the primary school standard curriculum (KSSR) and the standard school curriculum (KSSM) began taking place since 2011 (Norazlin, 2019). The Malaysian government encourages teachers to take the initiative in the development of self-help teachers, improving knowledge in the 21st century learning and increasing skills and applying new methods of learning.

In promoting 21st century learning at all school and tertiary levels, the government has taken some proactive steps to make it work. Through several programs implemented at state and state levels, government schools and institutions of higher learning strive to provide the basic ICT infrastructure (computer and internet connection) needed for technology integration in the teaching process. Teachers at all levels are provided with basic training on computer and internet use through workshops and individual courses (Hoque, Razak & Zahora, 2012). In addition to basic ICT infrastructure and facilities provided, virtual learning platform (VLE Frog) was introduced at all MOE school levels (2012). With this development, basic ICT infra structure, internet connectivity and access to Computers are no longer considered an issue in Malaysian schools (Garba, Byabazaire & Busthami, 2015).

Looking at the scenario and determination of MOE to streamline this 21st century learning, teachers and students should be able to carry out the 21st century learning well. Because of the efforts and commitment of the government in providing training to teachers, the course and implementation of the 21st century learning is not an issue that is reasonably debated. Therefore, this study will explore and debate the aspect of readiness of teachers and pre service teachers in implementing 21st century learning in school.

Statement of the problem

The biggest challenge of a country in implementing education reform is the response and willingness of teachers to implement it. The Ministry of Education Malaysia (2013) notes that the mastering of classroom management of the 21st century is a very challenging issue among teachers (Apak & Taat, 2018). After the Malaysian Education Development Master Plan (2013-2018) was introduced at the national level, it raised concerns among teachers, whether they were able to do so more and more 21st century learning was still introduced and required high commitment ((Hamdan Hamami and M. Al-Muz-zammil Yasin, 2014) Although the various committees and initiatives have been carried out by the government of the 21st century learning integration in teaching, it remains at a minimum (Ewe, Faragai & Rahman, 2018). Ghazali, Tamyis & Ali (2012) identified among the problems arising from the weaknesses and expertise of the teacher on the skills especially when there was a change in the learning system.

Research Objectives

This study was carried out with the following objectives:

1. To find out the level of 21st century learning readiness toward implementation in the school among pre service teacher.

Research Questions

The research questions that forms the basis of this study is as listed below:

1. What are the levels of 21st century learning readiness toward implementation in the school among pre service teacher?

Research Methodology

This study basically uses quantitative methods involving surveys through questionnaires. we use existing instruments adapted from Norazlin (2018). The questionnaire was distributed through google form and distributed to IPG campus throughout Malaysia. After the questionnaire was received, the data was analyzed using SPSS version 22.

Sampling

Basically this study uses a convenience sampling method. This sampling was chosen as it is difficult for researchers to get sampling frames from all students in all campus in Malaysia. This sampling is also considered appropriate as the respondents of the study are homogeneous. According to Sekaran (2003), this method can be used to obtain an initial overview of the situation and if the researcher is not able to obtain the sampling frame. As (Malhotra, 2010; Sekaran & Bougie, 2010) stated that sampling can be used if the researcher is not able to obtain the sampling

frame, although some said it might be biased opinion and does not represent population. This method selected based on suitability and ease to get feedback from survey respondents. This method is also suitable for use when respondents are homogenous which includes a pre services teacher in IPGM campuses in Malaysia.

Data screening procedure

Data screening procedure Before conducting an analysis of the data, we conducted an analysis of procedures for the missing data. The results of the analysis found that there were 4 missing data. We use Estimation Maximization (EM) method by using SPSS version 22 to solve the problem of missing data . This method is chosen because it is more accurate and consistent than the list-waist deletion method (Ramayah, Lee & Lim, 2012; Graham, Hofer, Donaldson, McKinnon & Schaffer, 1997; Mustapha et al. 2017).

Reliability

Reliability refers to the degree of conformity and confidence in the measurement of an instrument which should have the characteristics of stability, consistency, friendliness and accuracy (Kerlinger, 1986; Mustapha, Hussin, Siraj & Darusalam, 2017). This study uses the Cronbach's Alpha model to measure the Cronbach's alpha reliability or credibility of the Scales illustrated by Table 1:

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.906	13

There are a variety of opinions to determine the reliability and value based on the review of literature. Nunally (1978) argues that the reliability needs to be more than 0.70 so as to determine internal consistency. Carmines & Zeller (1979) state that the reliability should be 0.70 or more. However, the new scale shows that the value of 0.60 can be considered and accepted (Nunally & Bernstein, 1994; Mustapha et.al, 2017). The alpha value of this study shows at 0.906 level beyond the recommended level.

Finding

This section will explain the findings of the study after being obtained by the researcher. The study data will be described in detail in this section. The first part will describe the demographic data of the respondents and the second part will discuss the descriptive related data.

Table 2: Demography

Male	Female
59	303
Programme	
PPISMP	123
PISMP	230
PDPLI	9
Total respondent	362

Table 2 shows the respondents' demographic data. This study was attended by 362 respondents. 59 were male and 303 were female. There are 3 programs of study involved in this study: PPISMP (preparatory program for undergraduate degree), PISMP (undergraduate degree program) and PDPLI (graduate diploma program). A total of 123 people in the PPIMSP program, 230 (PISMP programs) and 9 (PDPLI programs) were involved in the study. The next stage is a description of the descriptive data of the study involving mean values and standard deviation.

Table 3: Descriptive Statistics

Research item	N	Mean	Std. Deviation	Interpretation
q1	363	3.81	.705	Moderate high
q2	363	3.92	.754	Moderate high
q3	363	3.80	.828	moderate high
q4	363	3.80	.800	Moderate high
q5	363	4.01	.753	High
q6	363	4.17	.733	High
q7	363	3.75	.762	Moderate high
q8	363	4.22	.697	High
q9	363	4.02	.801	High
q10	363	3.88	.765	Moderate high
q11	363	4.25	.622	High
q12	363	4.40	.638	High
q13	363	4.22	.742	High
Valid N (total sample)	363	4.02	.738	
Grand Mean		4.02		High

Table 4: Mean interpretation

Mean level	Mean value
Low	1.000-2.000
Moderate low	2.001-3.000
Moderate high	3.001-4.000
High	4.001-5.000

Table 3 illustrates the level of readiness to implement the 21st century learning among pre-service teachers. The reasons were ranked according to the mostly answered to the least answered. There are 7 items at the highest mean level “I involve my pupils in activities that promote problem solving, ($\mu = 4.01$, $SD = 7.153$), “I involve my pupils in activities that promote communication and collaboration” ($\mu = 4.17$, $SD = 7.33$), “21st century skills are important in determine pupils’ success at workplace in the future” ($\mu = 4.22$, $SD = .697$), “I need professional development to increase my knowledge about 21st century skills” ($\mu = 4.22$, $SD = .697$), “The ministry has clarified the features of 21st century learning” ($\mu = 4.25$, $SD = .622$), and “Technology plays important part in 21st century learning” ($\mu = 4.22$, $SD = .742$). In addition, the findings show

that certain items are at a moderate level. Item “I have excellent understanding about 21st learning skills” ($\mu = 3.81$, $SD = .705$), “I involve my pupils in activities that promote creativity” ($\mu = 3.92$, $SD = .754$), “I involve my pupils in activities that promote innovation” ($\mu = 3.80$, $SD = .828$), “I involve my pupils in activities that promote critical thinking” ($\mu = 3.80$, $SD = .800$), and “The curriculum promotes 21st century learning” ($\mu = 3.88$, $SD = .765$).

The findings indicate that the level of readiness of pre-service teachers is at a high level (grand mean 4.02). The analysis result showed that the most dominant aspect that leads the readiness on 21st century learning is item no 12 (*I need professional development to build teaching for 21st century pupils*) ($\mu = 4.40$, $SD = .638$). Based on these findings, the research questions successfully answered.

Conclusion

The 21st century learning skills, is a dream of the government in mobilizing a better and more effective learning system. Various efforts by the government in carrying out this program, have begun to show results. This argument may be referred based on the findings of IPG campuses throughout Malaysia showing that the mean value of the study is at a high level (see, table 3). It shows that most pre-service teachers are prepared to carry out the 21st century learning in school after they are in school. This finding is a very positive sign that teachers' skills are improving and the learning process in the future will be more competent and interesting. With a high level of skill and competencies, the teacher will be able to move the learning process more effectively (Calgren, 2013; Rosli, 2017; Rusdin, 2018).

References

- Apak.J & Taat.M.S (2018). Pengaruh Kesiapan Guru Terhadap Pengurusan Bilik Darjah Abad Ke-21, *Malaysian Journal of Social Sciences and Humanities*, Volume 3, Issue 4, (page 6 - 22)
- Carlgren. T. (2013). Communication, Critical Thinking, Problem Solving: A Suggested for All High School Students in the 21st Century. *Interchange*, 44, 63-81.
- Chris Dede.(2009).*Comparing Frameworks for 21st Century Skills*, Harvard Graduate School of Education, Retrieved 2016-03-09
- Ewe, L. C., Rahman, F. binti A., & Faragai, L. A. (2018). Teachers' Awareness towards 21st Century Teaching and Its Implementation (Administrators' Perspective). <https://doi.org/10.2991/iciigr-17.2018.38>
- Garba, S. A., Byabazaire, Y., & Busthami, A. H. (2015). Toward the use of 21st century teaching-learning approaches: The trend of development in Malaysian schools within the context of Asia Pacific. *International Journal of Emerging Technologies in Learning*. <https://doi.org/10.3991/ijet.v10i4.4717>
- Graham, J. W., Hofer, S. M., Donaldson, S. I., MacKinnon, D. P., & Schafer, J. L. (1997). Analysis with missing data in prevention research. *The Science of Prevention: Methodological Advances from Alcohol and Substance Abuse Research*, (October 1995), 325–366.

- Hamsari NA and Yahaya A (2012). Peranan motivasi pembelajaran, gaya keibubapaan dan sikap dengan pencapaian akademik. *Journal of Educational Psychology and Counseling*, 5: 30-57.
- Hamdan Hamami & M. Al-Muz-zammil Yasin. (2014). Beban Tugas Guru Sekolah dan Peranan Pentadbir Sekolah. *Proceedings of International Education Postgraduate Seminar*. 23-24 Disember 2014. Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia, 2, 399-412
- Hoque.K.E., Abdul Rzak.A.Z., & Zahora.M.F. (2012). "ICT utilization among teachers and principals in Malaysia," *Journal of Academic Research in Progressive Education and Development*, vol. 1, pp. 26-42.
- Mahamod Z, Ahmad A, Zakaria A, Harmi N, and Fariyah NN (2013). *Prosiding seminar pascasiswazah pendidikan bahasa melayu dan kesusasteraan Melayu kali pertama 2013*. Conference or Workshop Item (Paper), Respositori Universiti Kebangsaan Malaysia, Melayu, Pendidikan, Malaysia.
- Ministry of Education (2012). *Malaysia Education Blue Print 2013-2025-Executive Summary* [Online]. Available: <http://www.moe.gov.my/userfiles/file/PPP/Preliminary-BlueprintEng.pdf>
- Nunnally, J.C. (1978), *Psychometric Theory*(2nd. Ed.), McGraw-Hill, New York.Nunally, J. C. & Bernstein, I. H. (1994). *Psychometric Theory: Third edition*. New York: McGraw Hill.
- Ponniah.K., Sivanathan.I., Kumar.M & Nadarajan.P. (2018). Implementation of the 21st century learning in learning and facilitation of Thirukural in Tamil primary schools. *International Journal of ADVANCED AND APPLIED SCIENCES*. <https://doi.org/10.21833/ijaas.2019.01.006>
- Puteh, S. N., Ghazali, N. A, Tamyis, M. M., & Ali, A. (2012). Keprihatinan Guru Bahasa Melayu dalam melaksanakan Kemahiran Berfikir Secara Kritis dan Kreatif (Malay Language Teachers' Concern in Implementing Critical and Creative Thinking Skills). *Jurnal Pendidikan Bahasa Melayu – JPBM (Malay Language Education Journal – MyLEJ)*. ISSN: 2180-4842. Vol. 2(2), (Nov. 2012): 19-3119.
- Ramayah, T., Lee, J. W. C., & Lim, S. (2012). Sustaining the environment through recycling: An empirical study. *Journal of Environmental Management*, 102, 141–147. doi:10.1016/j.jenvman.2012.02.025
- Robinson, K., & Aronica, L. (2015). *Creative Schools: Revolutionizing Education from the Ground Up*. Penguin
- Rusdin, N. M. (2018). Teachers' Readiness in Implementing 21st Century Learning *International Journal of Academic Research in Business and Social Sciences*. <https://doi.org/10.6007/IJARBSS/v8-i4/4270>
- Sekaran, U., & Bougie, R. (2010). *Research Methods for Business*. New York: John Wiley & Sons Ltd.

