

## Relationship between 21st century learning understanding toward teaching practice among Teachers Trainee in Eastern Zone: The IPGM trainee perspectives

\*Nur Hidayah Mohamad<sup>1</sup> & Ramlan Mustapha<sup>2</sup>

<sup>1</sup>Sekolah Kebangsaan Kedawang, Langkawi Malaysia

<sup>2</sup>Universiti Teknologi MARA Pahang, Malaysia

---

Article Info	ABSTRACT
<p><b>Article history:</b></p> <p>Received: 18 Jan 2022 Revised: 30 Jan 2022 Accepted: 6 Feb 2022 Published : 1 April 2022</p>	<p>21st Century Learning (PAK-21) has been introduced and implemented by the Ministry of Education Malaysia (MOE) in schools throughout Malaysia since 2016. This study was conducted to examine the level of understanding of PAK-21 practices faced among teacher's trainer in addition to identifying the relationship between the two. This study uses a quantitative research method involving 186 respondents. Questionnaires were used in this study and the study sample that has been selected is the cluster sampling method (cluster). The findings showed that the level of understanding among Semester 8 trainee teachers was at a high level (<math>B = 4.02</math>, <math>SP = 0.831</math>), while the practice of Semester 8 trainee teachers towards PAK-21 was also at a high level (<math>B = 4.05</math>, <math>SP = 0.951</math>). Furthermore, the researchers found that there was no significant difference between male and female trainee teachers on the level of understanding of PAK-21 and PAK-21 practice based on gender. Moreover, the two aspects had a significant relationship based on the correlation value (<math>r = .770</math>, <math>p &lt; 0.05</math>). This situation indicates that the level of understanding of PAK-21 has a significant impact on the practice of trainee teachers. This study has implications for the Ministry of Education Malaysia (MOE) and the Institute of Teacher Education Malaysia (IPGM) in improving and improving the level of understanding and evaluating the practice of PAK-21 among trainee teachers during practicum in school before actually being placed in the real field.</p>
<p><b>Keywords:</b></p> <p>Understanding, Practice, 21st Century Learning, Teacher Trainee</p>	

---

**Corresponding Author:**

\*Nur Hidayah Mohamad,  
Sekolah Kebangsaan Kedawang Langkawi Malaysia  
Email:

---

## **INTRODUCTION**

The classroom is the nucleus of change in the field of education. To enable 21st century students to compete on the international stage, they need to be equipped with the skills of collaboration, communication, critical thinking and creativity (Roekel, 2017). Teachers play an important role in aspects of 21st century classroom training and learning that focus on student-centered learning, computer use, active learning, self-directed learning, providing a conducive environment and achievement-based assessment. Changes in learning methods are growing rapidly in line with current educational needs around the world. In the era of modernization in the education system especially in the 21st century, the education system needs to be more flexible and able to adapt to the current situation. The introduction of places based on more 21st century learning in education systems around the world in need for a generation that is capable and competitive with the current modernization of education (Rusdin, 2018). The rapid changes taking place in the global, regional and national education systems are associated with the improvement and ability of the education system to generate information, change and the liquidity of current information.

The practice aspect of the implementation of PAK-21 is one of the important elements and the practice of teachers in PdPc is interrelated with the implementation of the pedagogy used. Teachers are highly competent in preparing and doing lesson planning before starting PdPc (Abdul Razif et al., 2017). Aspects of critical thinking skills enable individuals to make judgments and decisions effectively such as analyzing, evaluating evidence, arguments, claims and beliefs as well as critically describing learning experiences and processes that take place. The thinking aspect of creative thinking allows individuals to use a variety of idea creation techniques, develop, implement and communicate new ideas to others effectively. Similarly, communication and collaboration skills can contribute to student success in 21st Century Teaching and Learning. Teachers as mentors have a role in helping students relate new information gained from collaborative efforts with experiences and transfer to new situations.

In the face of future challenges, the government has reviewed the national curriculum and assessment system in order to produce skilled and quality students. The Ministry of Education Malaysia has provided guidance in the selection of pedagogical strategies for the PAK-21 method for teachers. There are three things that teachers need to pay attention to, namely understanding the objectives of PdPc, choosing activities that allow students to practice 4K skills and getting to know students based on their interests and abilities. These three need to be emphasized so that the implementation of lesson plans in the form of PAK-21 can be implemented. Thus, the effectiveness of a PdPc process depends on the methods and strategies practiced. A teacher needs to select and use the most appropriate methods to help students and himself or herself achieve the planned teaching objectives. This means that various PdPc approaches can be used such as teacher -centered approach, student -centered approach and material -centered approach.

## **PROBLEM STATEMENT**

The biggest challenge of a country in implementing education reform is the response and willingness of teachers to implement it. Ministry of Education Malaysia (2013) found that mastery of 21st century classroom management 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 could afford to do so as more 21st century learning is still being introduced and requires a high level of commitment (Hamdan Hamami and M. Al-Muz- zammil Yasin, 2014). Norazlin Mohd Rusdin's (2018) study, stated that since the mean value is large, teachers are ready to implement 21st century learning but teachers' understanding related to skills is at a moderate level. This study is in line with the study of Nooraini Abdul Rahim & Abdul Halim Abdullah (2017) who showed that the level of teacher readiness is moderate for cognitive, behavioral and

affective aspects in implementing 21st century PdPc in the classroom. The readiness of teachers to apply the use of technology in the PdPc process is very important. Several studies have shown barriers to the use of technology in teaching due to lack of skills (Saemah and Siti Fatimah, 2008), technical problems (Siti Fatimah and Ab Halim, 2010) and time constraints (Tang and Abdul Ghani, 2006).

Masyuniza and Zamri (2013) found that aspects of effective communication in 21st century PdP of students are at a moderate level while the five components of 21st century skills studied (digital age literacy, inventive thinking, effective communication, high productivity production as well as spiritual values and norms) is also at a moderate level. If trainee teachers still expect ongoing guidance without considering the characteristics of PdP that can inculcate a range of 21st century skills to students, community and educators' perceptions of the effectiveness of IPGs training competent teachers will remain less effective (Barnet et al. 1987) in Aziz Omar (2011). However, research conducted by Puteh, Ghazali, Tamyis and Ali (2012) has recognized teaching weaknesses due to primary teachers' expertise in teaching strategies and understanding of the vision of new curriculum reform. The results of a study conducted by Salehudin, Hassan and Hamid (2015) prove that teaching strategies and approaches play an important role in attracting students to the subject and change their perceptions of the subject to the difficulty of the subject.

Therefore, it can be concluded that the field of education is a long-term and most important investment in a country. The success or failure of the vision of education depends on the teaching staff as the backbone in realizing the vision and mission of the country. An understanding of teachers' practice in performing teaching tasks in line with the current era needs to be taken seriously. Teachers must always be prepared to face the changes in the education system of the new millennium in order to elevate Malaysia's education in line with other developed countries. Therefore, this study has tried to find out the understanding of the practices of the education sector, especially among IPG trainee teachers in implementing 21st Century Education during the initial practicum in schools before actually being placed in all region of Malaysia.

### **The Research Aim:**

The main objectives of this study are:

- To study the relationship between 21st century teaching understanding toward teaching practice among Teachers Trainee in Eastern Zone

### **Research Framework**

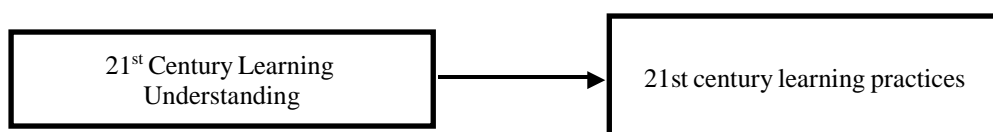


Figure 1: Research framework

## **LITERATURE REVIEW**

### **21<sup>st</sup> Century Learning**

21st Century Learning consists of the skills, abilities and diversity of methods that have been identified as necessary to succeed in a 21st century learning society. This is part of an international initiative in focusing on the skills needed for students in preparation for success in an ever-changing digital society. Many of these skills are also associated with deeper learning, based on mastery of skills such as analytical thinking, complex problem solving and teamwork. In the new millennium, it is clear that 21st

Century learning is very different from the needs of the 20th century classroom. During the second decade of the 20th century and the 21st century, society has experienced an accelerating rate of change in the economy and technology. Its impact on the workplace, and the demand on the education system preparing students for the workforce is very significant in a number of ways. Beginning in the 1980s, governments, educators and key employers released a series of reports identifying key skills and implementation strategies for students leading employees toward meeting changing job demands.

### **Learning Understanding**

Comprehension or knowledge is an ability to recall or identify specific elements. Knowledge is acquired through experience, observation, reading or notification (Faridah, Faiziah & Amran, 2016). Teachers' understanding in recognizing their need to master curriculum content in order to build an effective PdPc process in 21st Century Learning provided the highest mean value. Based on a study (Aznita, 2014) showing the level of readiness of mathematics teachers in implementing the standard primary school mathematics curriculum in Johor Bahru district found that 94.4% of the sample agreed that they will know the formation of the new curriculum and as an implementing agent of a curriculum, teachers need to deepen and understand the content curriculum to feed that curriculum.

### **Learning Practice**

The practical aspect of 21st century learning implementation is one of the important elements that are also discussed. Teacher practice in PdPc is interrelated with the implementation of the pedagogy used. Teachers are highly competent in preparing and doing lesson planning before starting PdPc (Abdul Razif et. Al., 2017). The practices emphasized in this study lead to critical thinking skills, communication, collaboration, creativity and innovation as well as values and ethics.

### **21st century learning in Malaysia**

The implementation of 21st century PdPc was first introduced in the Malaysian Education Development Plan (PPPM) 2013-2025 in line with the development of education in the 21st century. Researchers have referred to several past studies related to the issues studied. A study by Mupa et al., (2015) reported that their respondents did not use a variety of teaching materials as there was limited access to textbooks and syllabus courses as references. Furthermore, access to the use of technology in the classroom is also very limited. All of these factors have affected the effectiveness of teaching and learning in the classroom (Fook, 2011). In preparing teachers for 21st Century learning, there are several important aspects that need to be given much consideration (Partnership for 21st Century Skills, 2010). The most important area that needs to be mastered is to be creative in using technology to meet learning goals. This way, teachers must be able to align technology with their content and pedagogy in the classroom. In addition, young educators also need to be creative in using a variety of assessment strategies to assess the performance of their students. Therefore, they need to combine various types of assessment such as summative, formative and project-based. Finally, 21st century learning also requires educators to be lifelong learners because they need to be critical and creative thinkers in contributing knowledge.

Norazlin Mohd Rusdin's (2018) study, stated that since the mean value is large, teachers are ready to implement 21st century learning but teachers' understanding related to skills is at a moderate level. Teachers are eager to implement 21st century learning but their understanding of the skills is still not enough to enable their best teaching practices. Teachers need professional development to increase their understanding. With higher understanding, teachers can be effective teachers since the influence of understanding how a teacher acts, makes decisions and applies teaching practice (Carlgrén 2013; Amran & Rosli, 2017). Furthermore, the achievement of students in Malay after the application of 21st century skills by Malay language teachers is very high. This means that 21st century skills are very effective in influencing student learning in Malay language subjects. 21st century skills help improve Malay language achievement among students based on the study of Ainun Rahmah et.al (2017).

In a study by Husni Abdullah, Abd Razif Zaini and et.al (2018) entitled 21st Century Education in Arabic Language Teaching in Secondary Schools in Malaysia: Practices and Challenges, teacher practice in PdPc is interrelated with the implementation of the pedagogy used. The findings also show that teachers' perception and readiness are important elements in the practice and implementation of the PAK-21 approach in the classroom. This study also assesses the challenges that need to be faced by teachers in the implementation of such an approach. The findings also show that Arabic language teachers can implement effective and quality teaching and learning that is relevant to current developments. Teachers' understanding of something influences behavior and practice in the classroom. Teachers' understanding of 21st century skills help in determining the best teaching strategies in order to be effectively integrated in the classroom. Nurzarina Amran & Roslinda Rosli (2017) show that teachers have an understanding that 21st century skills are thinking skills and skills in using technology. In the study of Huang Ji Xiang & Zanaton Hj Iksan (2019), the data collected were analyzed according to 6 constructs namely general knowledge of 21st Century Learning, communication, collaboration, critical thinking, creativity as well as values and ethics. Based on the findings of this study shows no significant difference in the level of teachers' understanding of 21st Century Learning based on gender but shows that there is a significant difference in the level of teachers' understanding of PAK-21 based on teaching experience.

## **METHODOLOGY**

This study uses quantitative methods and is entirely conducted in a survey manner. This method is selected based on quantitative data analysis can be implemented easily based on SPSS computer program and more time -saving. The design of the study is quantitative through survey methods. This study follows the survey design that is cross-sectional survey which is a design to collect information from a sample that has been determined in advance. The survey method is a specific way of gathering information about a large group of populations (Creswell, 2009). In this study a quantitative method was used in which a large sample was studied and the results of the study were generalized to the study population (Babbie, 2001).

### **Participants**

The study sample consisted of 186 semester 8 trainee teachers from various options and genders who were studying at IPG East Zone and had undergone practicum in the past semester. Based on the table of Krejcie and Morgan (1970), if the population is 347, then the required sample is 186 trainee teachers from IPG East Zone.

### **Instrument validity**

One of the criteria to meet the content validity aspect is through literature review (Jusoh, 2008). The items used in this study were identified through previous studies while meeting the content validity criteria. In order to meet the validity of the content, the researcher made a careful assessment in the process of forming the measuring instrument. In addition, facial validity is a procedure that researchers must follow before starting a study. Determination of face validity refers to the ability of a research instrument to contain information that covers the components of the field under study (Cresswell, 2008). Cresswell (2007) suggested that researchers refer to experts in a particular field to validate items or questions contained in research instruments. According to (Dimopoulus and Pantis, 2003) at least three experts in related fields are required for expert measurement methods. Therefore, the researcher has obtained the views of three experts in a particular field to confirm the items and constructs that will be used by the researcher later.

**RESEARCH FINDINGS**

Data analysis of this study used Statistical Package for The Social Sciences (SPSS) version 20.0. The following are the tests performed to answer the research questions. To test the hypothesis, a Pearson correlation test was performed and the researcher referred to the table of correlation coefficients by Cohen (1988): The results of Pearson correlation test are as follows (see table 2).

**Table 1: Correlation coefficient**

(CORRELATION COEFFICIENT)	
± 0.01 to ± 0.29	Small
± 0.30 to ± 0.49	Medium
± 0.50 to ± 1.00	Large / strong

Source: Cohen (1998)

**Table 2: Correlation result**

		Understanding	Practice
Understanding	Pearson Correlation	1	.770
	Sig. (2-tailed)		.000
	N	186	186
Practice	Pearson Correlation	.770	1
	Sig. (2-tailed)	.000	
	N	186	186

Table 2 shows the results of the correlation analysis between the level of understanding and practice of 21<sup>st</sup> century learning. The results of the above correlation analysis show that there is a significant relationship between the two variables. These results show that the relationship between the level of understanding of PAK21 practice among trainee teachers of the East Zone Teacher Education Institute is at a high level ( $r = .770, p = .000$ ). This means that there is a significant relationship between the level of understanding and practice of PAK21. These findings indicate that if trainee teachers have a high understanding of PAK21, the situation will have a significant impact on the practice of 21<sup>st</sup> learning among trainee teachers.

**DISCUSSIONS**

Overall, this study successfully achieved the objectives of the study and was able to answer the research questions that have been posed. Based on the analysis of the findings, the researcher will state some of the findings of the study and relate it to the studies related to the study made. As a result of the Pearson correlation test conducted on the two variables, the researchers found that the two constructs had a strong positive and significant relationship. This indicates that the level of understanding of 21<sup>st</sup> Century Learning (PAK-21) has a significant impact on the practice of 21<sup>st</sup> Century Learning (PAK- 21). The findings of this study are in line with the study of Ainun Rahmah Ibrahim et. al. (2017) who

emphasized that 21st century learning encourages students to think critically and creatively. Students are encouraged to work with group members to explore and ask questions about something. This will encourage students to think about sharing ideas and give thoughtful opinions during learning activities. Furthermore, these findings are also in line with the study of Irwan Fariza et. al. (2019) who stated that the relationship between student involvement in 21st Century Learning activities and high-level Thinking Skills is significant and positive. This is due to the current era of education which is more modern and student-centered requires understanding and practice of PAK-21 among teachers whether trainee teachers or real teachers in the school.

### **Guideline for further research**

This study is seen as significant and can be a guide to certain parties involved. There are gaps and things that can be done research in the future in studying this phenomenon in more depth. Future researchers can adapt this study by performing the study with qualitative methods since this study uses quantitative methods. Future researchers can also explore other factors such as skill factors, interests and self - efficacy factors in describing this study in a broader scope.

### **REFERENCES**

- [1] Abdul Razif Zaini, Noor Shamsinar Zakaria, Ahmad Redzaudin Ghazali, Mohd Rofian Ismail, Hasmadi Hamdan, Ahmad Zabidi Abdul Razak, Rushdan Azizan, Naqibah Mansor. (2017). *Kompetensi Guru Bahasa Arab dalam Pengajaran Bahasa Arab di Sekolah Rendah Kementerian Pendidikan Malaysia*. Laporan Geran Penyelidikan Inovasi KUIS 2016
- [2] Aziz Omar. (2011). Kualiti Pelajar Praktikum Institut Pendidikan Guru Kampus Dato' Razali Ismail. *Jurnal Penyelidikan Muaddib*, Jilid VII,72-86.
- [3] Aznita Johan. (2014). *Kesediaan Guru Matematik dalam Mengimplementasi Kurikulum Matematik Standards Sekolah Rendah di Daerah Johor Bahru*. Universiti Teknologi Malaysia, Skudai
- [4] Apak, J., & Taat, M. S. (2018). Hubungan Tingkah Laku Pemupukan Kreativiti Guru dengan Pengurusan Bilik Darjah Abad Ke-21. *Malaysian Journal of Social Sciences and Humanities (MJ-SSH)*.
- [5] Creswell, J. W. (2009). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Educational Research.
- [6] Creswell, J.W. (2008). *Research Design: Qualitative, quantitative and mixed methods approaches*. Third Edition. London: Sage Publications.Inc.
- [7] Creswell, J.W. (2012). *Research Design: Qualitative, quantitative and mixed methods approaches*. Fourth Edition. Boston: Pearson.
- [8] Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale NJ: Lawrence Earlbaum Associates.
- [9] Dimopoulos, Dimitrios & Pantis, John. (2003). Knowledge and Attitudes Regarding Sea Turtles in Elementary Students on Zakynthos, Greece. *The Journal of Environmental education*

- [10] Faridah Nazir, Faiziah Shamsudin dan Amran Bakar. (2016). *Pengajaran dan Pembelajaran Abad 21*. Bangi: Sasbadi Sdn.Bhd..
- [11] Huang,J. X, & Iksan,Z. (2019). Kefahaman Guru Sekolah rendah Daerah pekan terhadap Pembelajaran Abad ke-21 (PAK-21). *International Journey of Modern Education*, 1(2)
- [12] Masyuniza Yunos & Zamri Mahamod. (2013). *Penyepaduan Kemahiran Abad Ke-21 dalam Pengajaran dan Pembelajaran Bahasa Melayu*. Prosiding Seminar Pascasiswazah Pendidikan Bahasa Melayu & Kesusasteraan Melayu Kali Pertama, 338—352
- [13] Mupa, P., M.A, Kamisah, O., Tuan Mastura, T.S. (2011). Instrument Development for 21st Century Skills In Biology. *Procedia Social and Behavioral Sciences*, 15, 1470-1474
- [15] Nurzarina Amran, & Roslinda Rosli. (2015). Kefahaman Guru Tentang Kemahiran Abad Ke-21. *Jurnal Pendidikan*.
- [16] Nooraini, A. R., & Abdul Halim, A. (2017). Kesediaan Guru Matematik Sekolah Menengah Dalam Melaksanakan Proses Pembelajaran Dan Pengajaran Abad ke-21. *Isu-Isu Pendidikan Kontemporari*. <https://doi.org/10.1162/00335530152466269>
- [17] Normazidah Mahmood (2012). *Penggunaan Kaedah Pengajaran Bahasa Arab dalam Kalangan Guru Peringkat Sekolah Rendah: Satu Penilaian*. Tesis Doktor Falsafah Universiti Malaya.
- [18] 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>
- [19] Roekel, D. Van. (2012). *Preparing 21st Century Students for a Global Society An Educator' s Guide to the "Four Cs" able of Contents*. National Education Association.
- [20] Saemah Rahman dan Siti Fatimah Mohd Yassin. (2008). Kemahiran Mengakses dan Mempelajari Bahan Hiperteks dalam Kalangan Guru Pelatih. *Jurnal Pendidikan* 33. 2008. 81-94. Malaysian Journal of Education. Faculty of Education, UKM.
- [21] Salehudin, N.N, Hassan, N.H., & Hamid, N.A.A. (2015). Matematik dan Kemahiran Abad Ke-21: Perspektif Pelajar. *Jurnal Pendidikan Matematik*. Vol 3 (1), 24-36
- [22] Siti Fatimah Ahmad dan Ab.Halim Tamuri. (2010). Persepsi Guru Terhadap Penggunaan Bahan Bantu Mengajar Berasaskan Teknologi Multimedia dalam Pengajaran J-QAF. *Journal of Islamic and Arabic Education*. 2(2), 2010, 53-64.
- [23] Tang Keow Ngang dan Abdul Ghani Kanesan Abdullah. (2006). Kesediaan dan Keberkesanan Penggunaan Komputer dalam Pengajaran dan Pembelajaran Biologi di Sebuah Sekolah Menengah. *Jurnal Pendidikan*. *Journal of Educational Research*. Kuala Lumpur: UM