

Trainee Teachers' Readiness Towards 21st Century Teaching Practices

Norezan Ibrahim

Norezan3881.uitm.edu.my

Azzlina Adzra'ai

azzlinadz09@gmail.com

Rosilawati Sueb

Rosilawati sueb@uitm.edu.my

Siti Fairuz Dalim

sitifairuz3325@gmail.com

*Faculty of Education, Universiti Teknologi MARA,
UiTM Puncak Alam Campus, 42300 Puncak Alam, Selangor Darul Ehsan,
Malaysia*

Received: 24 March 2019

Accepted 8 April 2019

Published: 30 May 2019

ABSTRACT

Teaching practicum is a component in preparing a student to be a beginner teacher. Yet there are a lot of preparations needed for the trainee teacher before he or she could teach in a school. A lack of preparation at the institution level could significantly affect trainee teachers' readiness to teach in schools. Students who are not well-prepared for teaching assignments could become stressed due to high expectations from their supervisors. This study aimed to investigate the level of trainee teachers' readiness and the challenges encountered during teaching practice. A total of 160 questionnaires were distributed to final year Education students who had completed their teaching practice. A descriptive research design was employed which utilized survey method to analyse teaching experiences of trainee teachers at the Faculty of Education, UiTM. The findings showed a high level of readiness among trainee teachers. An important finding from the data showed that students needed more individual attention be the most predominant challenge in teaching practice among the participants. This study sheds light into the crucial needs to help trainees teachers to raise the standard of teaching and to develop world-class teaching capabilities needed for classroom instructions in the 21st century millennium.

Keywords: *Teacher training program, readiness, trainee teachers, teaching and learning, 21st century learning*

INTRODUCTION

The increasingly competitive global environment requires the Malaysian educational system to undergo transformation at all levels. Under the Government Transformation Programme (GTP), a lot of initiatives introduced as National Key Result Areas (NKRA) have been set out to transform the national education system. The process of transformation laid out encompasses all critical aspects of education including students' teaching and learning, teachers' recruiting and training as well as how the Ministry of Education (MOE) itself operates (MOE, 2013; Ismail et al, 2017). As highlighted in the Malaysian Education Blueprint, the education system in Malaysia has moved away from the traditional focus on content knowledge and cognitive skills to include the 21st century elements of leadership, ethics and spirituality.

The syllabus of all subjects have been improvised to include the elements of scientific skills, creative and critical thinking skills, scientific attitudes as well as moral values. Teaching and learning approaches have also been revised to include more critical techniques such as questioning, constructivism, contextual and mastery learning. All these techniques have been incorporated as parts of the instructional method to produce students who are holistically prepared for the 21st century (Nurazidati et al, 2011).

Realizing the role of teachers as key personnel and important change agent, therefore, they must be equipped with all qualities and values needed to face the challenging era of 21st century. Teachers need to be lifelong learners and positively influence students in their thoughts, lifestyle and behaviours (Kolo, 2009). To make the teaching more effective in the 21st century, teachers must not only possess strong educational theory and classroom management, but must also know how to prepare students to enter the global economy (Simmons, 2010; Salleh et al., 2015). Besides, they must know how to utilize technology to maximize teaching and learning (T&L) in classrooms, develop critical thinking among students and provide more meaningful tasks and collaborative groups to enhance students'

understanding as well to nurture their self-directed learning (Partnership for 21st Century Skills, 2010).

Teaching practicum is a component in preparing a student to be a beginner teacher. Yet there are a lot of preparations needed for the trainee teacher before he or she could teach in a school. Teaching practicum has long been considered to be important to future teachers as it provides real experiences in class, encourages the ability to teach, enhances socialization and teaching skills as well as improves motivation for student teachers to continue studying (Valli et al., 2014). It provides a broad field for students to keep experimenting with all the theories and practices that they had learnt in the university. Teaching practicum has also been proven to significantly help student teachers' skills and knowledge in all aspects of teaching and learning in school (Elassy, 2013). Many research have been conducted to assess the trainee teachers' readiness and challenges while undergoing their practicum programme. In terms of readiness, findings revealed that the preparation towards practical teaching in the university is insufficient to provide them with the skills needed to perform in schools (Plessis et al., 2010). The lack of preparation at the institution level significantly affected the trainee teachers' readiness to teach in schools. Some students also reported that they were not well-prepared for the teaching assignments and became stressed due to high expectations from their supervisors (Lamote & Engels, 2010; Caires et al., 2012).

At the implementation stage, students were found to have difficulties to apply the theories they had learnt in university when they went to schools (Nurazuraini et al., 2016). Some were burdened with heavy workloads such as marking, assessing students' work and preparing for the lessons (Al-Momani, 2016). At the post-practicum stage, teaching practice was viewed both positively and negatively by student teachers. The positive comments given to student- teachers helped to enhance their knowledge and skills, self-efficacy, flexibility and spontaneity in delivering knowledge and interactions with the students. Some students also became more aware about how they socialized with others, if they would be accepted and recognized within the school community. The proficiency of the student- teachers was also reported to have improved during their school practicum.

METHODOLOGY

This research is carried out to investigate the level of trainee teachers' readiness and the challenges encountered by them during teaching practice. The study was conducted in 24 schools (14 urban schools and 10 rural schools), randomly selected in Selangor. The research sample consisted of 160 trainee teachers at the Faculty of Education, who had completed their teaching practices in these schools. A descriptive research design was employed using survey method to analyze the trainee teachers' readiness, preparation and the challenges encountered during teaching practice. Questionnaires were designed and disseminated to the trainee teachers during post practicum session at the Faculty of Education. Trainee teachers were required to answer the questionnaires within 20 minutes after the session, and were collected after the students had completed their answers.

The questionnaire was divided into four parts namely Part A, Part B Part C and Part D. Part A attempted to gather the respondents' demographic information. Part B contained 11 items which were related to the trainee teachers's in applying 21st century skills. Part C comprised 6 items on the challenges of trainee teachers during teaching practice and Part D were related to the techniques applied in teaching and learning in schools. A Likert scale with a five point system was used to measure responses on the questionnaire ranging from '1' (strongly disagree) to '5' (strongly agree). The instruments demonstrated moderate to strong reliability index with Cronbach's alpha value 0.703 to 0.879. The Statistical Package for the Social Sciences (SPSS) program version 20 was utilized in the data analysis.

Descriptive analysis (mean and standard deviation) was employed in determining the level of trainee teachers' readiness in applying 21st century skills in teaching and learning, the challenges faced during teaching practice and the common techniques used by trainee teachers in classroom. Independent t-test was further conducted to investigate the difference in readiness level and challenges between science and non science trainee teachers.

RESULT AND DISCUSSION

Trainee teachers' level readiness in applying 21st century

Table 1: Level of Readiness

Mean Score	Level
1.00-2.33	Low
2.34-3.66	Moderate
3.67-5.00	High

Table 1 shows the mean score used as indicator to identify the level of trainee teachers' readiness in applying 21st century skill in teaching and learning. In this study, the mean scores for trainee teachers' readiness were calculated with the overall mean of ($M= 3.93$, $SD= 0.563$). The high value of mean obtained indicates that they possess high level of readiness to teach in 21st century.

Table 2: Trainee Teachers' Readiness in Applying 21st Century

Item		M	SD
1	I possess an excellent understanding of 21 st century skills	3.78	0.419
2	I frequently engage students in lessons and activities that promote creativity and innovation	3.83	0.376
3	I have no problem using English language in teaching	3.47	0.824
4	I frequently engage students in lessons and activities that promote critical thinking	3.90	0.437
5	I frequently engage students in lessons and activities that promote problem solving	3.85	0.392
6	I frequently engage students in lessons and activities that promote communication and collaboration	4.15	0.656
7	I possess the ability to assess students' mastery of 21 st century skills	3.70	0.460
8	I am ready to work with other people	4.10	0.665
9	I know the role and responsibilities as a teacher	4.07	0.674
10	Technology plays a vital role in supporting 21 st century learning	4.13	0.671
11	I am confident with using technology as a tool to teach 21 st century higher-level skills	4.23	0.627
Average		3.93	0.563

From Table 2, it can be seen that item 11, “I am confident with using technology as a tool to teach 21st century higher-level skills” attained the highest mean score to the respondents’ readiness in applying 21st century skills with (M=4.23, SD=0.627). The second highest attained by item 6, “I frequently engage students in lessons and activities that promote communication and collaboration” with (M=4.15; SD=0.656). This was followed by item 10, item 8, and item 9 with (M=4.13; SD=0.671), (M=4.10; SD=0.665) and (M=4.07; SD=0.674) respectively. For item 1, 2, 4, 5 and 7 also showed high readiness level with (M=3.78; SD=0.419), (M=3.83; SD=0.376), (M=3.90; SD=0.437) and (M=3.85; SD=0.392) respectively. However, Item 3 “I have no problem using English language in teaching” attained the lowest mean score with (M=3.47; SD=0.824) which found moderate readiness for their teaching practice. The mean score indicated that most of trainee teachers were ready to apply 21st century education in teaching and learning. This finding is parallel with Shireena et al.(2011) which showed that students were generally ready for their practicum teaching or placement in schools. However, they also shared their concerns about several subjects or courses which required them to have more exposure for embarking on the new teaching and learning environment of the 21st century.

Table 3: Trainee Teachers’ Readiness Between Science and Non-science

Courses	N	Mean	SD	t	p
Science	90	3.882	0.423	-1.612	0.109
Non-Science	70	3.986	0.378		

In this study, a majority of the respondents have high level of readiness in applying technology in classroom as they are confident in using the tools in their teaching and learning process. These trainee teachers also believed that technology played a vital role in supporting 21st century learning. The finding is supported by other studies which found that most of the schools in China were equipped with advanced educational technology due to rapid growth of information technology. They need to make sure that the teachers were not left behind and were aligned with the demands of the 21st century learner (Kayange & Msiska, 2016). Moreover, the findings in Table 3 also showed that there was no statistically significant difference in readiness level ($t(158) = 1.612, (p > .05)$) between science and non-science trainee teachers.

That is, the average mean score of Science trainee teachers readiness in applying 21st century skills ($M= 3.882$, $SD= 0.423$) is not significantly different from that non-science ($M= 3.986$, $SD= 0.378$).

Challenges encountered by trainee teachers during teaching practice

Table 4: Challenges of Trainee Teachers during Teaching Practice at School

Item	M	SD
1 Curriculum content is too much (quantity)	3.670	1.008
2 Curriculum content is too difficult (level)	3.280	1.058
3 Lack of teaching/learning materials	3.800	0.460
4 Students need more individual attention	4.230	0.627
5 Not enough time to prepare for the class	3.630	0.523
6 Not enough time for researching new teaching materials/techniques	3.670	1.008
Average	3.480	0.781

Table 4 shows an analysis of trainee teachers' challenges during teaching practice. It can be seen that item 4, "Students need more individual attention" attained the highest mean score of challenges during practices teaching with ($M=4.23$, $SD=0.627$). For the second highest of challenge attained by item 3, "Lack of teaching/learning materials" ($M=3.80$; $SD=0.460$), followed by item 1, "Curriculum content is too much in terms of quantity" ($M=3.67$; $SD=1.008$), item 5, "Not enough time to prepare for the class" ($M=3.63$, $SD=0.523$), item 6, "Not enough time for researching new teaching materials or techniques" ($M=3.67$; $SD=1.008$) and item 2, "Curriculum content is too difficult in terms of level" ($M=3.28$; $SD=1.058$) respectively.

The findings of the study are aligned with Al-Momani (2016) who reported that the trainee teachers encountered problems in managing students' behaviour in class, understanding and applying related theories to motivate students in class and finding the main cause for students' difficulties in learning certain topics. This is due to the lack of critical thinking and problem solving by the trainee teachers in order to adapt with the issues. The problems also arose when the students always called the teacher to come to their place and asked questions during teaching. Since the class

was too crowded, it was hard for the teacher to give as much individual attention as they wanted.

The researcher also discovered that the result gained was parallel to the research conducted by Melor et al., (2010) where the respondents were required to deal with mixed-ability students. They had to teach according to their students' proficiency and ability. The findings also highlighted on the challenges faced by the respondents with a lack of teaching or learning materials. A study by Mupa et al., (2015) reported that their respondents did not use a variety of instructional materials as there was limited access to textbooks and course syllabus as references. Furthermore, the access to use the technology in classrooms was also very limited. All these factors have negatively affected the effectiveness of teaching and learning in classrooms (Fook, 2011).

In preparing teachers for the 21st century learning, there are few critical aspects that must be given much consideration (Partnership for 21st Century Skills, 2010). The most important area to be mastered is to be creative in using technology to fulfill learning goals. This means, teachers must be able to align technologies with their content and pedagogy in classrooms. Apart from that, young educators must also be creative in using a range of assessment strategies to evaluate their students' performance. Therefore, they should incorporate different kinds of assessment such as summative, formative and project-based. Last but not least, the 21st century learning also requires educators to be lifelong learners as they need to be critical and creative thinkers in contributing knowledge.

The teacher preparation programme in UiTM has been holistically designed to include all the necessary skills for the young educators. Most of the subjects provide opportunity for students to get involved in groups activities and be creative in completing their assignments. Students are continuously encouraged to embed the use of the technology in their learning process. Asides from that, the programmes are also designed to train students to be problem solvers. The problem-based learning is crucial since it helps in developing students' critical and problem solving skills (Mupa, 2015).

Table 5: Challenges Between Science and Non-Science Teachers

Courses	N	Mean	SD	t	p
Science	90	3.713	0.425	0.054	0.957
Non-Science	70	3.710	0.362		

The findings in Table 5 showed that there was no statistically significant difference in challenges $t(158) = 0.054$, ($p > .05$) between science and non-science trainee teachers during teaching practice. That is, the average mean score of science trainee teachers challenges during teaching practice ($M=3.713$, $SD=0.425$) is not significantly different from that non-science trainee teachers ($M=3.710$, $SD=0.362$).

21st Century techniques applying in developing skills of the students

Table 6 reports on the findings of trainee teacher’s techniques applied in the classroom in developing students’ skills and competencies in the future.

Table 6: Techniques Applied by Trainee Teachers in Developing Skills and Competencies of the Students

Item		M	SD
1	Chalk and Talk	3.680	1.013
2	Small group discussion	3.220	1.050
3	Group projects and presentations	3.030	0.945
4	Computer-aided activities (kahoot and animation)	2.800	0.896
5	Individual projects and presentations	2.670	0.830
	Average	3.080	0.947

A Majority of the respondents used traditional method which was “Chalk and Talk” as the main technique for teaching in classroom with highest mean score ($M=3.68$, $SD=1.013$). For the second highest mean score of the technique used in the classroom attained by item 2, “Small group discussion” ($M=3.22$; $SD=1.050$), followed by item 3, “Group projects and presentations” ($M=3.03$; $SD=0.945$), item 4, “Computer-aided activities (i.e. kahoot or animation)” ($M=2.80$; $SD=0.896$) and item 5, “Individual projects and presentations” ($M=2.67$; $SD=0.830$) respectively. This finding is in line

with other study which was conducted by Kayange and Msiska (Kayange, 2016). The results showed that the respondents used lecture methods for teaching. This is perhaps because the schools' facilities were not provided to cater for 21st century education in teaching and learning. Mansilla and Jackson (2011) rejected traditional methods as a medium for instruction. This is because students just memorized and absorbed the knowledge taught in the classrooms. Obviously, traditional writing, reading and arithmetic are not enough for high-skilled work in the 21st century era. Thus, students must be given learning opportunities to use 21st century skills to prepare themselves for the real world. By getting students involved in the learning process of 21st century, they can learn to work in teams, engage in thinking, enhance communication skills, develop imagination and leadership skills which are needed for 21st century learners.

CONCLUSION

Practicum has been part of a critical aspect in teacher education programme since it provides a platform for a great classroom experience (Lamote, 2010). Even though it is associated with some challenges such as stress, heavy workloads and lack of support from the supervisor, many trainee teachers acknowledged the benefits of the training in terms of improving their knowledge, skills, self-efficacy and motivation (Al-Momani, 2016). Developing a 21st century teacher further requires the inculcation of creativity, critical thinking, problem solving, communication and collaboration through an effective instructional strategies (Partnership for 21st Century Skills, 2010). This should also include the integration of technology in all content areas to support more robust teaching methods. Therefore, an effective partnership between teacher training institutions and schools is crucial to ensure that the young educators are equipped with all the qualities needed to raise the standard of teaching and learning.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge to research respondents in the Faculty of Education for devoting their time and energy to participate in this study.

REFERENCES

- Al-Momani, F. (2016). Challenges of Practicum at College of Education : Supervisors & Students' Teachers Perspective. *International Journal of Novel Research in Humanity and Social Science*, 3(3), 45–52. Available at: www.noveltyjournals.com.
- Caires, S. Almeida, L. & Vieira. D. (2012). Becoming a teacher: student teachers' experiences and perceptions about teaching practice. *European Journal of Teacher Education*, 35(2), 163-178.
- Elassy, N. (2013). A model of student involvement in the quality assurance system at institutional level. *Quality Assurance in Education*, 21(2) 162-198
- Fook, C.Y., Sidhu, G.K., Shah, N.K.M., Aziz, N.A. (2011). Pre-service Teachers' Training in Information Communication and Technology for the ESL Classrooms in Malaysia. *Turkish Online Journal of Distance Education*, 12(3) 97-108.
- Ismail, M. H., Abdullah, N., Salleh, M. F. M., & Ismail, M. (2017). Higher Order Thinking Skills (HOTS): Teacher Training and Skills in Assessing Science Learning. *Advanced Science Letters*, 23(4), 3259-3262.
- Kayange, J.J., & Msiska, M. (2016). Teacher Education in China: Training Teachers for the 21st Century. *The Online Journal of New Horizons in Education*, 6(4), 204-210.
- Kolo, I. (2009). A sustainable road map for the education sector in Nigeria. *Leadership Nigeria*, February 6.
- Lamote, C. & Engels, N. (2010). The development of student teachers' professional identity. *European Journal of Teacher Education*, 33(1), 3-18.
- Mansilla, V., & Jackson, A. (2011). Educating for global competitiveness: Preparing Youth to engage the world. *Asia Society Partnership for Global Learning*. Retrieved from www.asiasociety.org

Melor, M. D., Harwati, H., Noriah, M. I., & Zamri, M. (2010). Understanding TESL pre-service teachers' teaching experiences and challenges via post-practicum reflection forms. *Procedia Social and Behavioral Science*, 9, 722–728. Retrieved from <http://doi.org/10.1016/j.sbspro.2010.12.224>

MOE. 2013. *Malaysia Education Blueprint, 2013-2025*, Ministry of Education : Putrajaya

Mupa, P., & Isaac, T. (2015). Factors contributing to ineffective teaching and learning in primary schools : Why are schools in decadence? *Journal of Education and Practice*, 6(19), 125–133.

Nurazidawati, 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.

Nurazuraini, B. M., Mahzan, B. A., & Abdul, R.B. A. (2016). 21st Century Knowledge and Skills in Teaching and Learning History. *International Conference on Education and Regional Development, Indonesia*.

Partnership for 21st Century Skills. (2010). 21st Century Knowledge and Skills in Educator Preparation. *Partnership for 21st Century Skills*.

Plessis, E.C., Marais, P., Van Schalkwyk, A. & Weeks, F. (2010). Adapt or die: The views of Unisa student teachers on teaching practice at schools, *Africa Education Review*, 7 (2), 323-341

Salleh, M.F.M., Kassim, K.A., Ismail, M.H., Abdullah, N. (2015). The Exploration of Malaysian Pre-Service Science Teachers' Knowledge of Sustainable Development, *Advanced Science Letters*, 21(7), 2504-2508.

Shireena, B., Nabilah, A., & Intan, M. A. R. (2011). Trainee Teachers' Readiness towards Teaching Practice : The Case of Malaysia, *Joint Conference UPI-UiTM*.

Simmons, C. (2010). *Teacher skills for the 21st century* eHow. http://www.ehow.com/list_6593189_teacher-skills-21st-century.html

Valli, P., Perkkila, P., & Valli, R. (2014). Adult Pre-Service Teachers Applying 21st Century Skills in the Practice. *Athens Journal of Education*.