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An Insight of Employing of New Technologies in Conducting Online Assessment among Arabic School Teachersin Northern Malaysia

ABDUL RAZIF ZAINI,
ICESCO Centre of Education, Malaysia, Selangor International Islamic College (KUIS),
abdulrazif@kuis.edu.my, yaakob@kuis.edu.my
MUHAMMAD SABRI SAHRIR,
Kulliyyah of Education, International Islamic University Malaysia (IIUM),
muhdsabri@iium.edu.my
Coresponding Author
YAAKOB HASSAN,
ICESCO Centre of Education, Malaysia, Selangor International Islamic College (KUIS),
yaakob@kuis.edu.my,
ZULKEFLI HAMAT,
Head of Internationalization Unit, BPI, Ministry of Education (MOE), Malaysia
zulkefli.hamat@moe.gov.my,
KHADIJAH KHALILAH ABDUL RASHID,
Kulliyyah of Education, International Islamic University Malaysia (IIUM),
khadijahkhalilah@iium.edu.my

ABSTRACT
This study is conducted to investigate the level of technological pedagogical content knowledge (TPACK) skill among Arabic school teachers in preparing online assessment for remote teaching and assessment prior to a trainingworkshoporganized by the Malaysian branch of Islamic World Educational, Scientific and Cultural Organization, ICESCO-KUIS and Islamic Education Unit, Ministry of Education, Malaysia. This research team has been conducting the TPACK training module among 75Arabic school teachers in Northern Malaysia on 28-29March, 2021 from the states of Kedah, Penang and Perlis in a hybrid mode of training, while only 69 of them responded to the survey after the workshop via Google Form. In addition, all participants were also responding to the open-ended survey during the workshop via Mentimeter.com. This research instruments were investigating the teachers' knowledge about three essential components of TPACK, which include technology, content, and pedagogy as well their suggestions and feedbacks towards employing online assessment and effectiveness of conducted workshop. The findings are expected in contributing towards the understanding of the teacher's level of knowledge in technology, pedagogy, and content among Arabic school teachers in

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Malaysia especially for preparing and conducting effective online teaching and assessment activities especially during the COVID-19 pandemic,Thestudy may also beneficialto other similar settings where the technology has not been effectively utilized by teachers in schools and home-based learning environment.

Keywords: TPACK, instructional technology, remote teaching and learning, online assessment, Arabic language.

INTRODUCTION

The framework of Technological Pedagogical Content Knowledge (TPACK) is crucial for every educators and teachers when dealing with teaching and learning by using technology. Technological Pedagogical Content Knowledge (TPACK) was introduced by Mishra and Koehler (2006) as a conceptual framework for teacher knowledge specifically with regard to technology integration in teaching and learning. TPACK is built on Shulman's (1986) study of PCK, with the addition of technological knowledge by Mishra and Koehler (2006), to explain effective teaching with the use of technology. Although, TPACK was mentioned by Mishra and Koehler (2006), this idea is not recent, as several researchers have addressed a similar concept while describing the associations between technology, content, and pedagogy. The term TPCK referring to technology-enhanced PCK has been also utilized by Niess (2005). There are three essential components of TPACK which have to be fully mastered by them in order to conduct any teaching and learning session through any kind of technological platforms and applications, especially in the current situation of COVID-19 pandemic which requires the teacher to adapt with suitable teaching and learning strategies including online assessment.

THE ROLE OF TPACK IN TEACHING AND LEARNING

The use of technology in teaching and learning has becoming a crucial skill among teachers and educator especially in the 21st century education. Moreover, the current global emergence situation of COVID-19 pandemic has been pushing the educators towards emergency remote teaching and learning (ERTL) by using various online platforms and technologies. However, it is essential for the educators to master the TPACK knowledge and skill in order to ensure the proper conduct of online teaching and assessment. The development of three overlapping components of learning including content, pedagogy and technology in TPACK conceptualizes the pedagogical approaches (Mishra & Koehler, 2006).

Although there is positive impact of Information and Communications Technology (ICT) on various learning processes as reported by Romeo (2006), Cox and Graham (2009) have argued that TPACK is important to help educators in understanding the potential contributions of new technologies in education. According to Graham (2011), TPACK can be used to assess the way in which teachers' professional development affects their performance in the classroom with the use of ICT. The added value of TPACK can be found in the support it provides students through

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technology in their learning, and their development of conceptual, and procedural attributes (Voogt, Fisser, Pareja Roblin, Tondeur& Van Braak, 2013).

In TPACK, the development of three overlapping components of learning including content, pedagogy and technology conceptualizes the pedagogical approaches. It is commonly used for understanding, learning, and describing different knowledge types needed by educators and teachers (Mishra & Koehler, 2006). Hence, it is supporting the argument by Bransford, Brown and Cocking (2000) that general teaching skills are required in order to revise with the use of advanced technologies for effective teaching. At the same time, Lee (2002) suggested that with the integration of ICT into schools, teachers ought to play the role of mentors, rather than expert in formation givers. Moreever, technological advancements in education should not only be focused, but additionally, there is the need for more effective learning tools (Romeo, 2006). Proper guidance also should be provided by the decision and policy makers while formulating the education policyin order to develop and implement technologies in teaching and learning (Lee, 2002).

ONLINE REMOTE TEACHING AND LEARNING DURING COVID-19 PANDEMIC

On 31st of December 2019, there was a growing report on the acute respiratory illness that started in China, specifically in the area of Wuhan City, Hubei Province. The virus, which is later identified as coronavirus disease 2019 (COVID-19), attacks the respiratory system and can be fatal if patients do not get immediate treatment. Hence, a majority of countries have announced the temporary closure of schools, impacting more than 91 per cent of students worldwide around 1.6 billion children and young people (Miks. J. and McIlwaine, J., 2020).Due to the seriousness of the rapid spread of this disease and to further prevent the spread, almost 1 billion people across the globe are put on home confinement (lockdown/movement control order) (NST Online, 22, March 2020) and Malaysia is of no exception.

The Prime Minister of Malaysia announced the first phase of the Movement Control Order (MCO) to start on 18th March until 31st March and now MCO has been extended to the third phase that ended on 12th May 2020. As such, all sectors including the education sector especially the Higher Education Institutions including schools are badly affected. Since the partial lockdown or MCO is unprecedented, teachers have been urged to explore the best teaching or instructional methods or strategies in teaching their students remotely. Hence, the teachers, support staff are busy trying and adapting with online learning activities with the hope of providing a support system for parents and a semblance of routine for the school students. This prompted, the Ministry of Education (MOE) to issue a circular on Teaching and Learning Implementation Guidelines (PdP) during the Movement Control Order (MCO) due COVID-19 pandemic. The circular on Teaching and Learning Implementation Guidelines (PdP) consists of KPM's commitment to ensure that students are not left behind and are able to continue their learning in a safe manner.For this purpose, teachers are not allowed into the school and must

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perform all homework assignments from their homes (MOE, 2020-a).As such, this study is conducted to investigate the level of TPACK skill among Arabic language school teacher in Johor due to the current situation of COVID-19 pandemic which requires the teacher to adapt with suitable teaching and learning remote strategies including online assessment.

RESEARCH OBJECTIVES

This study embarks on the following research questions:

1- What is the level of Arabic school teachers' knowledge of technology, pedagogy, and content, including the combinations of these domains after undergone into the TPACK training in designing teaching and online assessment?

2- What are comments and suggestions to empower the use of educational technology in Arabic teaching?

3- What are comments and suggestions to empower the use of educational technology in Arabic assessment?

4**-** What are suitable new technologies and applications in conducting teaching and online assessment for Arabic language in face-to-face and home-based learning environments?

METHODOLOGY

As mentioned before, this study is conducted to investigate the level of technological pedagogical content knowledge (TPACK) skill among Arabic school teachers in preparing online assessment for remote teaching and learning in addition to face-to-face situation. The respondents were purposively selected among 75 Arabic school teachers in Northern Malaysia on 28-29 March, 2021 from the states of Kedah, Penang and Perlis in a hybrid mode of training, while only 69 of them responded to the survey after the workshop via Google Form. In addition, all participants were also responding to the open-ended survey during the workshop via Mentimeter.com.This research instruments were investigating the teachers' knowledge about three essential components of TPACK, which include technology, content, and pedagogy as well their suggestions and feedbacks towards employing online assessment and effectiveness of conducted workshop organized by the Malaysian branch of Islamic World Educational, Scientific and Cultural Organization, ICESCO-KUIS and Islamic Education Unit, Ministry of Education, Malaysia.

The respondents were allowed to complete the adapted TPACK survey by (Mishra & Koehler, 2006; Shulman, 1986) in their own chosen place at a time that was convenient to them, via self-administered survey (Robson, 2002). The first part of the survey is concerned with the collection of demographic information such as participants' gender, highest academic qualifications, school location and years of teaching experience. This aspect is useful to understand the background of all the respondents that facilitated in testing different variables. The second part of questionnaire is based on adapted TPACK as a guiding framework that enhanced the level of knowledge

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among the teachers in designing online assessment in 10 questions and 4 open-ended surveys (Mishra & Koehler, 2006; Shulman, 1986).

RESULTS AND FINDINGS

The results for the results and findings are presented in separate subsections such as the followings:

a) Demographic Information:

As shown in Table 1, it is very clear that most of the respondents are male with 19 respondents (28.4)%, while the rests are female (72.5)%.

Table 1: Gender

Gender	Frequency (N)	Percentage (%)
Male	19	28.4
Female	50	72.5
Total	**69**	**100**

According to Table 2, the majority of respondents are between 41-50 years old (36.2%), while the second largest of them are between the age of 36-40(23.2%). There are 28 respondentsfrom four groups of age range have percentage below 20% which are 26-30 (17.4%), 31-35 (13%), 51 and above (8.7%) and only one teacher (1.5%) is below 25 years old.

Table 2: Age of Respondents

Category of Age	Frequency (N)	Percentage (%)
Below 25	1	1.5
Between 26 and 30	12	17.4
Between 31 and 35	9	13
Between 36 and 40	16	23.2
Between 41 and 50	25	36.2
51 and above	6	8.7
Total	**69**	**100**

In terms of the highest academic qualification as reported in Table 3, most of the respondents hold the Bachelor degrees with 69.6%, while small numbers of them have Doctorate (3%) and Diploma degrees (4.5%).

Table 3: Highest Academic Qualification

Category of Age	Frequency (N)	Percentage (%)
Diploma	3	4.5
Bachelor	48	69.6
Master	16	23.9

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PhD	2	3.0
Others	0	0
Total	**69**	**100**

As displayed in Table 4, the respondents have different ranges of teaching experience at school from less than 5 years (25%), between 5 and 10 years (17.6%), between 11 and 20 years (42.6%) and more than 20 years (14.7%).

Table 4: Teaching Experience at Schools

Number of Years	**Frequency (N)**	**Percentage (%)**
Less than 5 years	17	25
Between 5 and 10 years	12	17.6
Between 11 and 20 years	29	42.6
More than 20 years	10	14.7
Total	**69**	**100**

The selected participants were coming from different states in NothernStates of Malaysia. Based on Table 5, most respondents areteaching at schools at Kedah (63.8%), while the second largest of them are from Penang (20.3%). The smallest number is7.2% and theyare from Perlis.

Table 5: Location of Schools based on NothernStates of Malaysia

States of Malaysia	**Frequency (N)**	**Percentage (%)**
Kedah	44	63.8
Penang	14	20.3
Perlis	5	7.2
Others	6	8.7
Total	**69**	**100**

b) Competency Level on Technological Pedagogical Content Knowledge (TPACK)

The results competency level on technological pedagogical content knowledge (TPACK) among Arabic school teachers are displayed in Table 6 as the following:

Table 6: Results of TPACK Survey

No.	Item	Frequency and Percentage				
		SD	D	N	A	SA
1	I can search for materials with the help of educational technology to understand Arabic and use them in the teaching process.	0	0	3 (4.3%)	41 (59.4%)	25 (36.2%)
2	I can use the internet to understand Arabic and use it in	0	0	0	37 (53.6%)	32 (46.4%)

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	the T&L process.					
3	I can use a teaching strategy that combines Arabic content, educational technology and pedagogy.	0	0	4 (5.8%)	44 (63.8%)	21 (30.4%)
4	I can choose Arabic resources and educational technology innovations based on suitability to meet the needs of the Arabic T&L.	0	0	3 (4.3%)	47 (68.1%)	19 (27.5%)
5	I can teach Arabic by combining pedagogy, Arabic content and educational technology.	0	0	4 (5.8%)	47 (68.1%)	18 (26.1%)
6	I can access Arabic resources and educational technology innovations to meet the needs of the Arabic T&L.	0	1 (1.4%)	7 (10.1%)	46 (66.7%)	15 (21.7%)
7	I can use educational technology to understand Arabic to support the Arabic T&L.	0	0	2 (2.9%)	48 (69.6%)	19 (27.5%)
8	I can use educational technology to understand Arabic to support Arabic research.	0	0	4 (5.8%)	47 (68.1%)	18 (26.1%)
9	I can demonstrate leadership in helping others coordinate the use of Arabic content, educational technology and pedagogy in schools.	0	2 (2.9%)	15 (21.7%)	47 (68.1%)	5 (7.2%)
10	I can find materials with the help of educational technologies to understand Arabic language and use them in the process of evaluating and assessment of Arabic language.	1 (1.4%)	0	4 (5.8%)	53 (76.8%)	11 (15.9%)
Average Score (Frequency and Percentage)		0.1 (0.14%)	0.3 (0.43%)	4.6 (6.52%)	45.7 (66.23%)	18.3 (26.52%)

Based on Table 6, the average frequency and percentage results and findings are showing a clear high level TPACK competency level among respondents. After participating in the workshop,

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the Arabic language teacher are having high confidence of TPACK skill in searching and using Arabic resources and educational technology to meet the needs of the Arabic teaching and learning in item 1 until 10.

The weakest elements recorded in this TPACK study are related to accessing Arabic resources and educational technology innovations to meet the needs of the Arabic T&L (item 6), demonstrating leadership in helping others coordinate the use of Arabic content, educational technology and pedagogy in schools (item 9), as well as finding materials with the help of educational technologies to understand Arabic language and use them in the process of evaluating and assessment of Arabic language (item 10).

c) Further comments and suggestions to empower the use of educational technology in Arabic teaching.

The responses were gatheredfrom the respondents in this open-ended questionnaire can be summarized as shown below:

Table 7: Further comments and suggestions in light of the use of educational technology in Arabic teaching

No.	Main Theme	Sub Theme
1	Technological support	• Empower internet access in schools especially in rural area. • Organizing pedagogical courses on technology. • Adding more techniques. • Delivering courses related to IT use in Arabic learning and teaching. • Spending more time. • Providing enough technology tools for teachers and students. • Make support group among Arabic teachers. • Use application that can be benefited by both Arabic teachers and learners. • Maximize the use of technology. • Empower internet speed.
2	E-Learning resources	• Implementation of Google Meet and Google Classroom. • Organizing advanced courses on

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		implementing modern applications for Arabic learning, teaching and assessment. • More additional workshops on 21st century pedagogy. • Making videos on implementation of any application and publish them on YouTube. • Empowering modern educational applications. • Providing a sharing platform on Arabic learning and teaching materials. • Develop specific application in learning Arabic.
3	Instructional support	• Collaboration among school teachers, researchers and university lecturers for guidance in skills and knowledge. • Conducting focused and consistent Arabic courses, seminars and workshops to teachers. • Sharing Arabic learning and teaching materials. • More regular in organizing courses and workshops. • Conducting courses for Arabic teachers in every state in Malaysia. • Techniques of constructing interactive sheet questions. • Conducting teaching and learningcourses for all Arabic language teachers. • Organizing Professional Learning Community (PLC). • Apply to learners in the classrooms.

From the open-ended responses, the findings in general can be divided into 3 main themes of technological support, e-learning resources and instructional support for both of comments and suggestions in light of the use of educational technology in Arabic teaching and learning.

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d) Further proposals to empower the use of educational technology in Arabic assessment. –

The responses were gathered for this this open-ended questionnaire can be summarized as shown below:

Table 8: Further comments and suggestions for the use of educational technology in Arabic language assessment

No.	Main Theme	Sub Theme
1	Technological support	• Designing special website for student assessment. • Introducing more recent apps. • Having technology sharing with developed foreign countries in the use of technology related to the way they implement teaching/assessment/online assessment. • Introducing offline applications for areas with internet access problems. • Sufficient technology equipment and time.
2	E-Learning resources	• Building special teamwork at the state and district levels to produce appropriate assessment materials and share them with other teachers. • Preparing a reference module and encourage teachers to practice theassessment in Arabic. • Cultivating general research in schools using educational technology.
3	Instructional support	• Conducting more frequent workshops and trainings. • More and multiple exposures. • More knowledge about apps. • Conduct courses to all teachers in every state. • Conduct targeted courses. • Conduct workshop tutorials on using applications for assessment. • Using education technology during assessment.

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		• Introducing easier and more interesting apps. • Exposure to students on online assessment. • Conducting practical trainings and workshops. • Keep all teachers updates on the latest applications. • Using more easier application such asGoogle Forms that provide automatic printed assessments. • Using assessment methods that are appropriate for pupil level.

From the open-ended responses, the findings in general can be divided into 3 main themes of technological support, e-learning resources and instructional support for both of comments and suggestions in light of the use of educational technology in preparing Arabic assessments.

d) Proposed suitable home-based learning activities for the teaching of Arabic language with technology.

The responses were gathered for this this open-ended questionnaire can be summarized as shown below:

Table 9: Proposed suitable home-based learning activities for the teaching and assessment of Arabic language with technology

No.	Main Theme	Sub Theme
1	Technological support	• Providing available Internet access.
2	E-Learning resources	• Providing QR code for each oflanguage skills such listening and speaking in the textbook.
3	Instructional support	• Maintain and enhancing the existing applicationsamong the teachers. • Selecting the applications that are suitable to the students. • Conducting the workshop in group. • Enquiry of information before home-based learning activities.
4	Suggested	• Padlet

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	applications	• Google Meet • Telegram • Edmodo • Interactivequiz • Wordwall • Quizizz • Mentimeter • Virtual GalleryWalk • QuizBot • Poll Everywhere • Yoteachapps • Vocaroo • Power point Presentation via Youtube • Kahoot • Chatting application with Arabic native speakers. • Treasure Hunt • Liveworksheet • Video through Flipped classroom • Google Form • Jamboard • Podcasts • Recorded video viaScreencast O-Matic or Loom application or video using Canva. • Arabic Fairy Tales (Youtube channel) • Classroom screen, • Edpuzzle • Using video and musics.

e) The effectiveness of TPACK workshop in enhancing the TPACK skill among Arabic school teachers

In the one of the final sessions in the 2-day workshop, the participants were asked to participate in an open-ended survey on effectiveness of this TPACK workshop via Mentimeter.com. The word cloud response in Figure 1 show that they are mostly satisfied with various positive feedbacks.

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Figure 1: Perceived effectiveness of TPACK workshop by participants - UPDATED

DISCUSSIONS OF RESULTS AND FINDINGS

In general, this study show that the Arabic language teacher are having high confidence of TPACK skill when they are dealing with teaching and learning Arabic language at schools. However, few elements are still in need to be improved based on the results and findings which are related to higher technological element of TPACK.

The ministry of education may need to empower the aspect of selecting and assessing Arabic resources and educational technology to facilitate the needs of the Arabic teaching, learning and research, in addition to demonstrating leadership in helping others to use Arabic content, educational technology and pedagogy in schools which may indicate the uncapable competency that enable the teacher to be the trainer or mentor for other peer school teachers. This teaching mentorship is practiced in the schools known as "Jurulatih Utama" or Main Trainer.

From the open-ended responses, the findings in general can be divided into 3 main themes of technological support, e-learning resources and instructional support for both of comments and suggestions in light of the use of educational technology in Arabic teaching and assessment. The comments and suggestions can be collaboratively addressed by various levels of authorities and personnel such as teachers, expert teachers, schools, school administration divisions at the district, state and national levels. Better coordination between these parties may be more useful

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and fruitful in order to maximize the effective implementation of TPACK skill and teaching and assessment.

The respondents were also suggesting suitable home-based learning activities for the teaching and assessment of Arabic language with technology as shown in Table 9. Interestingly that this study found that the Arabic teachers have high level of exposure to various types of recent new technologies in conducting online teaching and assessment activities. However, during personal coaching between the trainers and the participants during the workshop, it was found that few participants are still in need of continuous personal coaching in the use of online teaching and assessment activities. The need for this instructional supports are very obvious and clearly elaborated in Table 7, 8 and 9.

CONCLUSION

This study was conducted to investigate the level of technological pedagogical content knowledge (TPACK) skill among Arabic school teachers in preparing online assessment for remote teaching and learning prior to a training workshop. In light of the findings, it is implicit that this study has revealed few pertinent issues that needs to be improved and enhanced in terms of the implementation of TPACK skill and teaching and assessment especially among Arabic language school teachers in Johor, Malaysia. However, this workshop is found to be positively evaluated by the participants in improving their TPACK skill.

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