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STUDENTS' READINESS FOR TECHNOLOGY INTEGRATION IN LANGUAGE LEARNING

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Abstract

Technology is playing an important role in transforming the global education scene. The purpose of this study is to examine students' readiness for technology integration in online learning of the Mandarin language at the beginner level. Student readiness in learning a new language is important in order for them to progress in the learning process. This will help them to adapt, accept, process and apply themselves to the new or foreign language. For non-native speakers of the language, this can pose a challenge. A group of tertiary students at the degree level of a local university were selected for the study to answer an online survey form and to be interviewed in order to find out if they found online learning of Mandarin Language doable at the beginner level. An online application was designed to facilitate the learning using Padlet, Quizlet and Quizizz. The study found that students were able to adapt to online learning of the Mandarin language and were ready to accept the learning process although it was different from their physical class session. Comparatively, the study also found that students' interest for learning were more aroused by the online lessons as there were more pictures, audios, games and quiz that were interactive and fun. Furthermore, it was found that students were indirectly able to cultivate discipline and independent learning through the online lessons.

Keywords: Online Learning; Mandarin as A Foreign Language; Technology; Tertiary Students

1.0 INTRODUCTION

Many studies have pointed to the difficulties in learning a new language for non-native speakers. In challenging times of Covid-19 outbreak, learning cannot take place normally at learning institutions and the new norm is to have online learning at home. In the beginning, this has raised unrest among educators and students who were forced into online learning settings in their ill-prepared state [1]. For example, it found that learners of Chinese as a foreign language in Saudi Arabia faced challenges of language difficulty, learner motivation and aptitude as well as learner culture [2].

However, after a while of adjusting to the situation, home based online learning has become the new norm that has to be cultivated.

Educators have started learning to use technology in order to provide effective learning content to their students. Through self-learning and the internet websites as well as attending many online workshops and webinars, educators have moved on and are becoming more competent in handing and managing online lessons.

Many online learning methods and applications have mushroomed among educators such as learning through videos, audios and other internet applications. New online games and Quizizz have emerged as well as online aids to enhanced learning such as Canva, Padlet, Google classroom, Microsoft teams, and so forth.

In keeping abreast with current learning strategies and methods via online, the current study thus will consider the use of Padlet as an outlay integrated with 6 lessons that are interfaced via link to Quizlet, Quizizz as well as YouTube for beginner mandarin as a foreign language class.

2.0 EXPERIMENTAL

Technology in teaching and learning. Due to the Covid-19 outbreak, undeniably the use of teachnology for teaching and learning has become essential transforming the global education scene. There are obvious advantages to the online learning but at the same time, untold challenges.

Online learning is said to have better forms of instructions compared to other forms and it was also found that online learning provided exposure to native pronunciation of language learning [3]. Online learning has also been found to promote individualized learning [4]. Thus, besides the fact that online learning enables one to continue learning without meeting physically in the school environment due to the lockdown, there are other positive benefits of online learning that has been found by studies.

Online learning has been successfully executed without doubt by the many technology-assisted applications. One of the popular applications or platforms used of teaching and learning is Padlet. Padlet was found to have supported learning tasks and promoted student engagement [5]. The application in the form of post-its, provided little boxes that each

lesson or topics can be posted by means of interface or links with other applications such as slides, YouTube video links and many more. In another study, Padlet was used as a technological tool for assessment of students' writing skills and it was found to have positive reactions. Further, it was found that Padlet enhanced cognitions in the online teaching [6].

The use of online flashcards for online language learning has also proven to be beneficial. In a study of online flashcards, it was found that flashcards help in learning foreign language vocabulary [7]. Online flashcards were also found to have promoted positive learning motivation to students [8]. In effect, flashcard vocabulary language learning of Mandarin was found to have increased students' interests and grade scores [9].

Cognitive development of students is empowered by increase of knowledge of the foreign language learnt. Online Mandarin language lessons in a study in London found that the sense of 'presence' by both the teacher and students played a vital part in the cognitive development of the students by means of imparting a meaningful learning experience for the students [10].

However, in order for online education to succeed, five high-impact principles had to be adhered to which includes high relevance between online instructional design with student online learning, effective delivery, strong support by the faculty, quality meaningful participation by students as well as back-up plans in case of unexpected online incidents [11].

The unexpectedness and ill-preparedness of the students and teachers have been a challenge to overcome in online learning [12][1][13]. Further challenges included financial support, foreign language difficulty, learner motivation and aptitude as well as learner background culture [2].

Student readiness. Mental stress and anxiety among students have been found to increase because of not being able to attend school and socialize with friends [14]. Thus, student motivation and attitude towards the learning has to be cultivated by means of introducing different online methods for teaching and learning [8][18].

In addition, it was found that student readiness could be cultivated especially in times of new challenges due to the pandemic by means of self-discipline and time management [15].

Furthermore, it was found that student readiness for online learning can be overcome by attractive lessons and providing motivation to learn [16].

In the study of educational games listed 5 constructs for learning which includes student motivation, student attitude, student cognitive development, student perception towards design and interface and student expectation, it was found that based on the constructs, students' perception towards learning were generally positive [17].

3.0 METHODOLOGY

A technology integrated language learning tool was developed for the study known as "Pocket Mandarin".

The e-learning tool consisted of the Padlet platform integrated with other online applications such as Quizlet, Quizizz, slides and videos. There are six lessons in the beginner level Mandarin language learning Pocket Mandarin. Each lesson has three parts namely, vocabulary, pronunciation and simple writing of phrases. Games and Quizizz were also incorporated in the learning.

To facilitate this study, an online survey form was used to examine student readiness for technology integration in language learning. Further, an interview with three selected participants was also conducted for the study with a total number of thirty-seven participants.

The online survey was carried out using google form and it was based on the research by Ibrahim et al. (2011). Adapting the constructs of that study, a framework was developed as shown in figure 1.
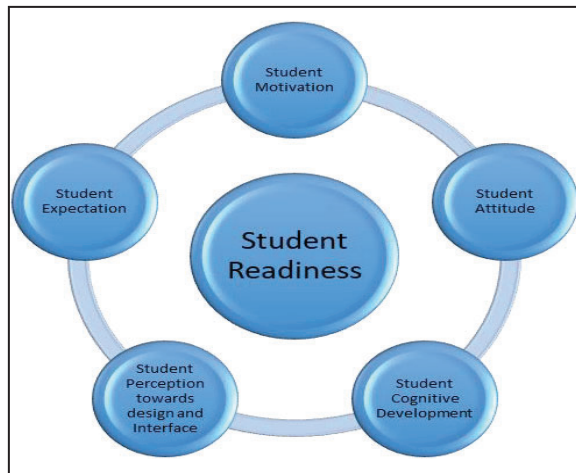

Fig. 1. Framework of the study (adapted from Ibrahim et al., 2011)

Figure 1 shows the framework of the study in relations to student readiness. Student motivation is important to ensure that they are ready to accept the new technology in online language learning. If their motivation is high, they would probably adapt well and accept the new language learning method.

Besides that, student attitude should also account for the acceptance of technology in online language learning. If the attitude is negative, then learning could be slow. On the other hand, if the attitude is positive, the learning could be positive. The negative attitude could be triggered by apprehension and anxiety to the new technology implemented in the learning.

Furthermore, student cognitive development would be enhanced if acceptance of the new technology in their learning is complied. Also, student perception towards design and interface is important. If the design is attractive and the interface easy and user friendly to access, then this would be better accepted by students and they would more readily learn with the integrated technology.

In addition, student expectation of the learning outcomes with the use of technology is also important. If students' expectations are fulfilled, then learning can take place adequately.

The interview session was conducted after the students were introduced to the technology. Three participants were selected for the semi-structured interview and the session was meant to further support the findings of the survey.

4.0 CONCLUSION

Survey results. The survey results are tabulated according to the five constructs of the framework.

Table 1. Students' motivation towards the technology

No	Items	N	A	SA	Mean	SD
1	I think "Pocket Mandarin" game gives me a lot of benefits.	2.7 (1)	43.2 (16)	54.1 (20)	4.51	.558
2	I am very interested in using "Pocket Mandarin" for my learning process.	2.7 (1)	43.2 (16)	54.1 (20)	4.51	.558
3	I am keen to participate in using "Pocket Mandarin" to learn Mandarin.	2.7 (1)	48.6 (18)	48.6 (18)	4.45	.557
4	I found this "Pocket Mandarin" spark my interest towards Mandarin.	0	45.9 (17)	54.1 (20)	4.54	.505
5	"Pocket Mandarin" makes learning Mandarin more interesting and fun.	0	35.1 (13)	64.9 (24)	4.64	.483

*SA=Strongly Agree, A= Agree, N= Neutral, SD= Standard Deviation

Table 1 shows the results for students' motivation towards the technology. Overall, the mean for all the items were above 4. Besides that, majority of the participant responses were above 50 percent for strongly agree and agree. This indicates that students' motivation was moderately high in terms of benefits, learning process, participation, interest and fun of the technology introduced in learning Mandarin as a foreign language at the beginner or introductory to Mandarin level.

Table 2. Students' attitude towards the technology

No	Items	N	A	SA	Mean	SD
1	"Pocket Mandarin" enables me to learn better by myself.	8.1 (3)	43.2 (16)	48.6 (18)	4.40	.643
2	"Pocket Mandarin" enables me to learn Mandarin at my own pace.	5.4 (2)	37.8 (14)	56.8 (21)	4.51	.606
3	"Pocket Mandarin" is more flexible for me to determine my own learning time.	5.4 (2)	37.8 (14)	56.8 (21)	4.51	.606
4	"Pocket Mandarin" is more flexible for me to choose my learning place.	2.7 (1)	51.4 (1)	45.9 (17)	4.43	.554
5	The content of "Pocket Mandarin" met my learning needs.	2.7 (1)	51.4 (1)	45.9 (17)	4.43	.554
6	"Pocket Mandarin" can be an effective method of learning Mandarin.	2.7 (1)	43.2 (16)	51.4 (1)	4.51	.558
7**	Using "Pocket Mandarin" to learn Mandarin bores me.	16.2 (6)	18.9 (7)	40.5 (15)	3.64	1.418

*SA=Strongly Agree, A= Agree, N= Neutral, SD= Standard Deviation

Table 2 shows the students' attitude towards the technology. The mean results were mostly above 4 except for item 7 where students disagreed that using Pocket Mandarin to learn Mandarin bored them. Overall, the results indicate that students agree or strongly agree that they could learn better, at their own pace, had flexibility in time management, had flexibility in learning place, the content met their expectations, the method used was effective and it was not boring.

Table 3. Students' cognitive development towards the technology

No	Items	N	A	SA	Mean	SD
1	I have learned various Mandarin new	2.7 (1)	62.2 (23)	35.1 (13)	4.32	.529
	words and phrases through "Pocket Mandarin".					
2	I gained knowledge on the Mandarin expression phrases through "Pocket Mandarin".	2.7 (1)	54.1 (20)	43.2 (16)	4.40	.550
3	These online education games (eg: Quizlet, Quizizz) in "Pocket Mandarin" help me to think critically.	5.4 (2)	45.9 (17)	48.6 (18)	4.43	.602
4	It is worth to try using "Pocket Mandarin" in the future.	2.7 (1)	48.6 (18)	48.6 (18)	4.43	.647
5	Looking for answer to the questions given "Pocket Mandarin" is an encouraging activity.	5.4 (2)	43.2 (16)	51.4 (19)	4.45	.605
6	"Pocket Mandarin" challenge my understanding of the lessons taught in class.	2.7 (1)	56.8 (21)	35.1 (13)	4.18	.844

*SA=Strongly Agree, A= Agree, N= Neutral, SD= Standard Deviation

Table 3 shows the students' cognitive development towards the technology. The mean results were all above 4. Also, the percentage for agree and strongly agree were high which shows that students believe they have learnt new words, gained knowledge on Mandarin expressions and phrases, were able to think critically, that the technology was worth using in future, the activities provided were encouraging and challenge their understanding of the lessons taught.

Table 4. Students' perceptions toward design and interface of the technology

No	Items	N	A	SA	Mean	SD
1	Instructions provided in "Pocket Mandarin" are easy to understand.	5.4 (2)	45.9 (17)	48.6 (18)	4.43	.602
2	Navigation in "Pocket Mandarin" are easy to use.	2.7 (1)	54.1 (20)	43.2 (16)	4.40	.550
3	Multimedia elements in "Pocket Mandarin" are interesting.	0	45.9 (17)	54.1 (20)	4.54	.505

4	I just need a very short time to know how "Pocket Mandarin" is functioning.	5.4 (2)	48.6 (18)	45.9 (17)	4.40	.559
5	The use of color and design layout in "Pocket Mandarin" are attractive.	2.7 (1)	45.9 (17)	51.4 (19)	4.48	.558
6	The information provided in "Pocket Mandarin" are informative.	0	54.1 (20)	45.9 (17)	4.45	.505

*SA=Strongly Agree, A= Agree, N= Neutral, SD= Standard Deviation

Table 4 shows the students perceptions toward design and interface of the technology. The mean results were all above 4. The percentage for agree and strongly agree were also high. Students perceived that the instructions were easy to understand, easy to use, multimedia elements were interesting, learning the functions did not take much time, the colour and design were attractive and informative.

Table 5. Students' expectation in using the technology

No	Items	N	A	SA	Mean	SD
1	I wish I have more opportunities to learn Mandarin using "Pocket Mandarin".	2.7 (1)	56.8 (21)	40.5 (15)	4.37	.545
2	I prefer using "Pocket Mandarin" to learn Mandarin compared to traditional method in class.	13.5 (5)	48.6 (18)	37.8 (14)	4.24	.683
3	I would recommend "Pocket Mandarin" to the others.	2.7 (1)	48.6 (18)	48.6 (18)	4.45	.557
4	I would like to learn more about Mandarin (eg: Chinese character, Chinese culture) using "Pocket Mandarin".	5.4 (2)	43.2 (16)	51.4 (19)	4.45	.605

*SA=Strongly Agree, A= Agree, N= Neutral, SD= Standard Deviation

Table 5 shows the students' expectation in using the technology. The mean scores were all above 4. Majority of the students chose to strongly agree and agree that they wished they had more opportunities to learn the Mandarin language using the technology. They preferred learning through the technology then traditional methods, they would recommend the technology to others and they would like to learn more about Mandarin using the technology.

Interview sessions. The interview sessions were held after the survey was conducted. 3 students were selected for the interview.

Table 6. Summary of Interviews

No	Items	Student A	Student B	Student C
1	Is Pocket Mandarin interesting? Why?	Yes. I like the colour and images compared to the actual book.	Yes. I like the colour and the fun activities.	Yes. It provides many exercises such as vocabulary exercises, conversation practices and Quizizz.
2	Is Pocket Mandarin effective for learning Mandarin? Why?	Yes. I can access it anywhere and anytime without using an actual book.	Yes. The fun activities and cartoonish pictures capture my attention.	Yes. It is more fun than traditional exercises on paper.
3	How does Pocket Mandarin motivate you to learn?	The Pocket Mandarin content is the same with the textbook. But, Pocket Mandarin offers attractive activities like gravity and matching games to boost my motivation to learn.	As someone who enjoys electronic games, I am motivated to learn and memorize the vocabulary.	Pocket Mandarin motivates me to learn in a fast pace as I enjoy doing the exercises and games with my classmates.
4	How does Pocket Mandarin help you learn Chinese vocabulary?	Flashcards and audios help me memorize vocabulary. I can understand and play repeatedly. When I give the wrong answer to the quiz, I can repeat the quiz until I get the right answer.	I can flip the flashcard to guess the meaning of words, I can also practice the conversation and pronunciation phrases with the flashcard and audio.	The flashcards help me memorize the vocabulary and learn the meaning. Then I can go to lean and test modes to test myself. There a variety of activities and my favourite is Matching game

5	How does Pocket Mandarin help you learn Chinese sentences?	The exercises and flashcards are very helpful. For example, Quizizz exercise of rearranging words to form a correct sentence.	First, I use flashcard, then the learn mode and the play mode to make Mandarin sentences. The process is from memorizing to familiarizing myself with the sentences.	because it measures the speed of matching answers correctly. It helps me to understand how to construct the sentences based on the vocabulary that I have learnt. The activities like rearrange words to make correct sentences in the time given, helps me work fast to do the sentence.
6	How does Pocket Mandarin help you improve your pronunciation?	I can press the audio button and the pronunciation can be heard and repeated many times so I can remember.	I can click the speaker option to listen to real pronunciation of the words to follow and practice my pronunciation.	Each flashcard has a sound button to check the pronunciation.
7	What do you think about the design of Pocket Mandarin?	The design and colour is attractive.	The design is colourful and cartoonish and has music. It boosts my mood to study Mandarin.	I like the design because it is full of graphics and eye-catching colours.
8	Are you able to learn to translate English vocabulary and sentences to Mandarin?	Yes. The flashcards and exercises helps me to remember and guess the words to translate.	The question given was in English and Quizizz helps me to translate to Mandarin. If the question is in Mandarin, Quizizz also helps me translate to English.	Quizizz helps me to learn Chinese characters and also to select the correct vocabulary for translation from English to Mandarin.

Table 6 shows the summary of the interviews held. The results indicated that the students felt that Pocket Mandarin was interesting because of the colours and activities provided. They believed it was effective because of its easy access and fun activities compared to traditional exercises on paper.

In terms of motivation, they felt that they were motivated by the games and fast paced activities. Learning of vocabulary was effective by means of the flashcards which is similar to previous research [7][8][9]. Learning of Chinese sentence construction was helped by Quizizz exercises of rearranging words to sentences as well as flashcards for words and phrases. Learning of

pronunciation was greatly helped by the audio button where students were able to click the word to listen to the pronunciation.

The students liked the design and found it attractive in terms of colour, cartoonish graphics and music. They believed that they were able to translate from English to Mandarin based on the exercises given in the flashcards and Quizizz.

Overall, the answers given by the students in the interview sessions were positive towards the use of the Pocket Mandarin as an educational technology for enhancing learning of the Mandarin language at the beginner level.

Conclusion. Several conclusions can be derived from the study. Firstly, although the situation of the pandemic has caused educationists to resort to home based online learning, teachers and students who were ill-prepared have been gradually adapting to the situation by coming up with innovative teaching and learning through technology.

Secondly, although learning a foreign language has many challenges especially when taught online, it has inspired the development and creation of new teaching tools such as "Pocket Mandarin".

Furthermore, it has been found that if the education technology used as a learning tool is attractive, user friendly, well-designed, filled with a variety of activities like games, Quizizz and exercises, students can be motivated and ready to learn.

Student readiness in terms of acceptance of the new technology based on motivation, attitude, cognitive development, design and interface and student expectation shows that they can be trained to prepare themselves for the new technology in language learning if their motivation is high, they have a positive attitude, the can be cognitively challenged to improve their knowledge, the design and interface is attractive and their expectations are met.

Overall, their feedback on the use of Pocket Mandarin is positive and their readiness in accepting the new technology for learning Mandarin as a foreign language is high. Thus, it is recommended that Pocket Mandarin can be used as a learning tool for Mandarin lessons at the beginner or introductory level. Future studies on different age groups could be done to compare the responses towards the new technology.

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