A preliminary survey on the perception level of mobile-based exam: a case study of Wawasan Open University students

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ABSTRACT – This paper is a preliminary result of a survey carried out to the Wawasan Open University students for the proposed of mobile-based examination to replace traditional examination. The purpose of the survey is to have a better understanding of the perception of Wawasan Open University students on the perception of mobile examination implementation. The survey consists of 12 questions. The correspondents consist of 2% of the total Wawasan Open University students that are randomly selected. The result obtained shows that there are positive acceptance of the potential of the implementation of mobile-based examination at Wawasan Open University.

1. INTRODUCTION

Nowadays, mobile-based examination is not considered as a new issue anymore. S. Shareza et al. [1] developed M-Quiz mobile for multiple-choices quiz by using Short Message Service (SMS). In 2011, Joan et al. [2] proposed an architecture for database management for mobile exam system. In the same year, Gupta [3] also proposed the mobile examination system which is derived from online examination system which uses PC for exam. Meletiou et al. [4] seized the rapid growth of the use of Android-based smartphone by designing and implementing of an E-exam system dedicated for the platform. Aslihan et al. [5] proposed the development of an internet-based exam system for mobile environment in year 2013.

Wawasan Open University as the name suggests is an open university in which blended learning had been the integral part of the students learning experience. e-Learning has been heavily emphasized where most of the learning interaction happened in the Learning Management System (LMS). The great exposure to e-learning among the students is expected to influence the survey result where it is expected to be biased towards acceptance of technology-based learning system.

2. METHODOLOGY

The purpose of conducting the mobile learning survey is to collect the feedbacks from students in Wawasan Open University (WOU), whether they are looking forward for the mobile learning under the open and distance learning (ODL) environment.

This survey also collected the feedbacks whether the students agree that a mobile exam should replace the conventional exam method, and their desired type of a mobile exam application.

Besides, the types of mobile devices and operating systems running on the devices are also part of the survey. These results supports and helps on determine the targeting development platform and supported devices. The brief survey consists of 12 questions as shown in Table 1.

Table 1 Details of survey questions.

Question No.	Question	Question Type
1	Do you prefer mobile learning to support in ODL (Open and Distance Learning) environment?	Yes No Question
2	Do you think it is affordable to invest on a mobile device for the mobile learning?	Yes No Question
3	Do you agree that using mobile learning can save the resources such as travel expenses and times?	5-scale Linkert scale Question
4	Do you agree that using mobile learning can achieve the same effects as ODL?	5-scale Linkert scale Question
5	Do you agree that the online tutorial session has more effective as you will be able to recap the tutorial session by viewing the recorded video?	5-scale Linkert scale Question
6	Do you think that using mobile device for exam can replace the conventional exam in WOU?	5-scale Linkert scale Question
7	Do you think that answering the exam questions using mobile device is easier than writing on papers?	5-scale Linkert scale Question
8	Do you agree that mobile exam is more efficient as students can get their results immediately after they completed and submitted the answers?	5-scale Linkert scale Question
9	Do you agree that mobile exam can prevent cheat as the exam questions can be randomly selected for the students in same subjects?	5-scale Linkert scale Question
10	Which type of exam answers do you think a mobile exam app should support?	Multiple Choice Question

3. RESULTS AND DISCUSSION

The correspondents consist of 2% of the total Wawasan Open University students that are randomly selected, below are the analysis for each question in this survey.

Based on Figure 1, there are 58% of the total students participated are keen to give it a try on mobile learning. From the same figure, the result shows that majority of the students do not have an issue of getting a mobile device. Only 19% from the total students are not afforded to own the mobile device. The result has affirmed that most of the students are able to use their own mobile device for mobile learning as well as mobile exam.
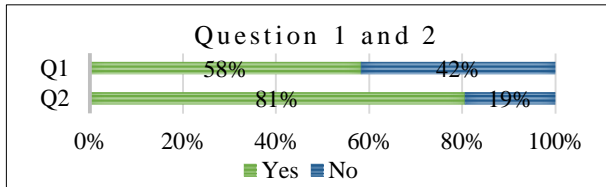

Figure 1 Results for Q1 and Q2

Figure 2 shows that 75% of students are agreed and believe that mobile learning can benefit them. 22% of students vote for neutral. This result implies that mobile learning as well as mobile exam shall be the leading learning and exam method in the near future. For Question 4, 42% respondents are disagreed and 34% are agreed. Although it shows a slightly difference in result, 25% of neutral rate describes that most of students still uncertain or perhaps not fully understand on mobile learning. In Question 5, the result shows 66% of students prefer the online tutorial session over the face to face tutorial. The main reason is likely because of the online tutorial video can be recorded and students can replay the recorded video to learn in their own pace. The vote rate is 45% for maintain with the conventional exam for Question 6. There are 28% of students agreed to use mobile device for exam, the rest are voted for neutral. This result reflected that more students still support the conventional exam and it still cannot be replaced totally as of now. Question 7 shows that are 28% of students have confidence that they are better in typing using mobile device than writing on paper. 41% of students still prefer using handwriting on paper. This could be due to the size of mobile device which may slow down their typing speed or could create more typos. In Question 8, 64% of students agree that they can get their exam result immediately after the exam is over. This result shows most of the students are delighted with this feature as the normal exam marking may take at least one or two months before the results can be released. Question 9 shows 36% of students agreed that mobile exam can prevent cheat, and 33% of students are disagreed. Although mobile exam should help to prevent cheat with the random questions selection feature, but it seems not convinced the participated students as of now.

The result for question 10 in Figure 3 shows that the most favor exam answer type is multiple-choice, which has 40%. The fill-in-the-blank and drag-and-drop answer type have 23% and 20% of votes respectively. There are 10% of students voted for long answer typing, and another 7% of students voted for drawing. This result shows that with the combination of multiple-choice, fill-in-the-blank, and drag-and-drop exam answer types in a mobile exam apps should get more votes from the
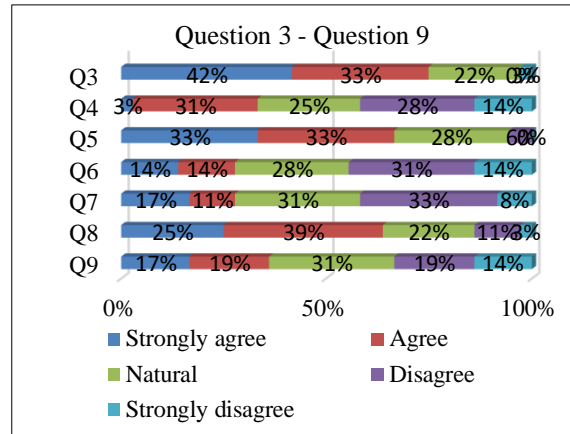
students compare with the conventional exam.
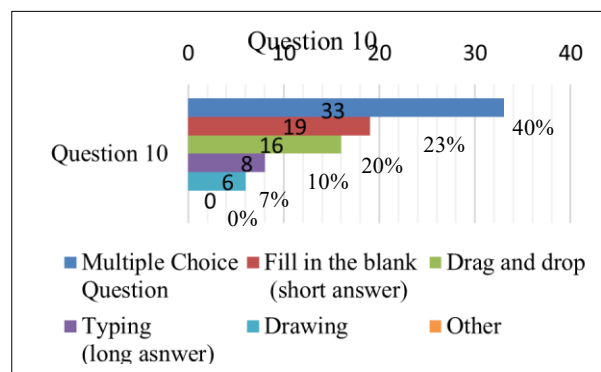

Figure 2 Results for Q3-Q9

Figure 3 Result for Q10

4. CONCLUSION

This paper presented the result of a brief survey done to the 1% randomly picked Wawasan Open University students on their perception of the potential implementation of mobile-based examination. The result of the survey indicates the acceptance of students of the implementation of mobile-based examination.

REFERENCES

[1] Shirali-Shahreza, M. (2007). Taking Multiple-Choise Quiz by SMS on Mobile Phones Including Analyzing Property. *Journal of Computers 2(2)*, 53-60.

[2] Joan Lu et al. (2011). Mobile Exam System – MES: Architecture for Database Management. *The International Conference on Education & Learning in Mobile Age-CELMA*.

[3] Gupta, P.K. (2012). Mobile examination system, Parallel Distributed and Grid Computing (PDGC), *2nd IEEE International Conference*, 302-306.

[4] Meletiou, G. et al. (2012). Design and Implementation of an E-exam System Based on the Android Platform. *Panhellenic Conference on Informatics*, 375-380.

[5] Aslihan Tufekci et al. (2013). Development of an internet-based exam system for mobile environments and evaluation of its usability. *Mevlana International Journal of Education (MIJE)*, 57-74.