MyMUET: A Design of a Mobile based Crowdsourced Assessment for Malaysia University English Test with Non-Synchronous Participant Interaction

Yarshini a/p Thamilarasan, Raja Rina Raja Ikram

Abstract : Malaysian University English Test is a compulsory exam for local Malaysian students and a prerequisite for graduation. In 2017, more than five hundred thousand local students were enrolled in Malaysian public universities and therefore will need to sit for this examination. This enrolment number is increasing every year. However, there number of competent TESL graduates or English teachers available to cater this volume of students yearly is unknown. Many of these students are not from English speaking background and there are limited resources and assistant available for tutors who need to cater the demand of these students. Even though there are many resources online, the resources for speaking module mainly consists of tips to score and question examples. Students are unable to get feedback of their speaking module even if they practiced the mock exam questions. Moreover, the MUET speaking exam consists of group speaking tasks which the student or user may not be able to fulfil the quorum for practice. This paper shall propose MyMUET, a design of a one stop mobile based crowdsourcing tutor service for MUET to enable students to be able to obtain real time feedback of their speaking exam with interaction with non-real time participants with recommended tutors. Other MUET modules such as writing, reading and listening is also available to be used. MyMUET is developed based on Android studio and enables tutors to list their services and students to select the respective tutors. This method saves time for tutors to develop their own exam questions, enable them to focus on evaluation. This shall also be able to standardize the MUET examination to students receive high quality mock exam questions. MyMUET is then evaluated to ensure its relevance based on subject matter expert feedback. The evaluated system shows that students and academic expert find the application helpful to improve students learning experience.

Keywords: muet application, mobile education, crowdsourcing service

I. INTRODUCTION

Advancements in technology have enabled a shift to occur in teaching and learning. We are living in a connected world where physical boundaries of attending an institution to gain an education no longer apply. There are currently thousands of courses available online that do not require formal attendance. As such, this era of "open learning" pioneers an innovative research, across multiple disciplines. One domain of knowledge where open learning can be advantageous is within education.

Recent technologies in education support the use of crowdsourcing for the purpose of creating education contents, provide practical experience for learners, exchanging complementary knowledge and provide evaluation for learner [1]. Crowdsourcing for education is defined as a type of online activity in which an educator, or an educational organization proposes to a group of individuals via a flexible open call to directly help learning or teaching [2]. Actors involved in crowdsourcing includes both human and non-human actors and may be divided into four roles: organizers, learners, contributors, and information technology platforms [1].

II. BACKGROUND

The use of standardized English proficiency tests like IELTS and TOEFL for admission and placement purposes is widely practiced in academic institutions throughout the world. Similarly, in Malaysia, many tertiary institutions utilize the results of a localized version of such tests called the Malaysian University English Test (MUET) as a measure of students' proficiency level, prerequisite for admission, as well as placement in various academic programmes. MUET is divided into the four language skills of listening, speaking, reading and writing. It measures and reports candidates' level of proficiency based upon an aggregated score ranging from 0 to 300. The scores correlate with a banding system ranging from Band 1 to Band 6; Band 1 being the lowest where else Band 6 being the highest. This paper shall propose a design of crowdsourcing tutor assessment for MUET to enable flexible participation for educators in the learners education.

III. RELATED WORKS

The table below shows the related works for MUET application that are available. The closest competitors to our proposed E-MUET system are English Listening Test, Grammar Test and Miracle English.

	English Listening Test	Grammar Test	Miracle English	E-MUET(Proposed mobile application)
Speaking			✓	✓
Writing				✓
Reading		✓		✓
Listening	✓		✓	✓
Tutor Selection & Feedback				✓
Tutor crowdsourcing				✓

Table 1 shows the comparison between the existing mobile applications and proposed mobile application

Based on Table 1, English Listening Test application provides practice for listening only. Next, Grammar test mobile application provides practice for reading only. Meanwhile, Miracle English mobile application provides practice for speaking ad listening only. However, all these applications are developed to improve self-English skills only. My-MUET is the only application that contains all the features that is involved in the MUET examination, including additional features for tutor selection, feedback, rating and also tutor crowdsourcing. The main purpose of MyMUET mobile application is to provide practice and help students to prepare themselves for MUET examination. Furthermore, this application also can be used to improve English proficiency.

IV. METHODOLOGY

A survey was conducted to ninety-one participants who have experience sitting for the MUET exam. The sampling method used was convenience sampling where the participants are students. The example of questions that were asked to the respondents are:

1. Do you think session taken in the classroom would be enough for the students to learn and get enough practice for MUET examination?

2. Do you think students are completely relying and make use of the MUET book that is being given to them?

3. Do you think MyMUET, a mobile application would be a good platform for the students to practice and prepare themselves for the MUET examination?

4. Do you think learning through MyMUET application would be more convenient for the students?

5. Do you think having a tutor to give feedback and guide the students throughout in the MyMUET application would be useful for the students?

A MUET subject matter expert was also involved to provide opinion on the current and proposed model or solution for an E-MUET application. Other information that was elicited from the data collection was
- What is the process flow or current framework of the current manual system?
- What are the major problems encountered that require the proposed system to solve?

The data obtained from the study was used to design MyMUET, a crowdsourced tutor assessment application.

V. RESULT

A significant number of 90% of students who participated had achieved a band of 3 and above in MUET examination, implying a good command of English in the participants as most university require a band of 2 or 3 and above. Speaking module has been rated as the toughest examination for the participants. 55.6% or 50 out of 90 students believed that the in-class training provided for MUET is not sufficient to provide practices to score for MUET examination. This is quite alarming as it is a very significant figure. An overwhelming 76.7% of students also responded that they prefer a combination of classroom and online learning. An astounding figure of 91% of students also supported the idea of using a mobile application. A feature to include feedback for tutor service also was positively received by 88% of participants.
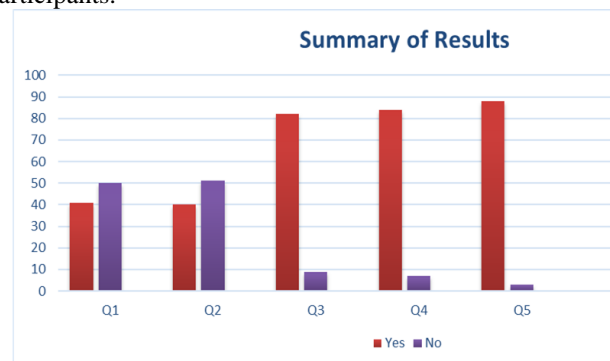

Figure 1: Summary of questionnaire result.

Based on figure 1, the summary or output from the survey conducted is shown. According to the question 1, the respondents were surveyed whether the session taken in the classroom would be enough for the students to learn and get enough practice for MUET examination. As the result, 41 out of 91 respondents or 45.55% has agreed meanwhile remaining 50 respondents or 54.45% respondents has disagreed with the statement. From the results, it can be concluded that the session taken in the classroom only would be insufficient for the students to prepare themselves for the MUET examination.

Next, based on question 2, the respondents were also surveyed whether the students are completely relying and make use of the MUET book that is being given to them. 40 respondents or 43.9% has agreed to the question while, remaining 5 respondents or 56.05% has disagree with the statement. From the results, it can be concluded that most of the students are not relying on the MUET book provided to them and finding some different resources too.

Besides that, according to the question 3 from the figure 1, the respondents were also surveyed whether having a mobile application, MyMUET would be a good platform for the students to practice and prepare themselves for the MUET examination. 82 out of 91 respondents or 90.10% has agreed that MyMUET mobile application would be a good platform. Meanwhile, remaining 9 respondents or 9.9% has disagreed with the statement. However, it can be concluded that most of respondents thinks that having a mobile application would be a great platform for the students to practice and prepare themselves for MUET examination.

Based on question 4, the respondents have responded whether learning through a mobile application, MyMUET would be more convenient for the students. 84 out of 91 respondents or 92.30% has agreed that learning through mobile application would be more convenient. Meanwhile, remaining 7 respondents or 7.7% has disagreed with the statement. As the conclusion, most of respondents thinks that learning through MyMUET mobile application would be more convenient for the students.

Lastly, based on question 5, the respondents were also surveyed whether having a tutor to give feedback and guide the students throughout in the MyMUET application would be useful for the students. As the result for this survey question, 88 out of 91 respondents or 96.70% has agreed while only 3 respondents have disagreed. As for conclusion, having a tutor to give feedback and guide the students would be the best choice as majority of the respondents have agreed to it.
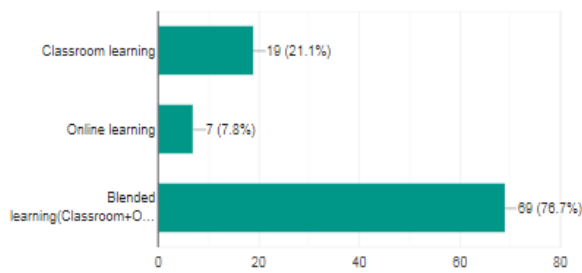

Figure 2: Types of learning

Figure 2 shows the results for the best type of learning for the students to improve themselves. According to the figure above, 69 out of 91 respondents or 76.7% thinks that blended learning (Classroom + Online) would be the best choice for the students to score in MUET examination. Meanwhile, 19 respondents or 21.1% and 7 respondents or 7.8% have chosen classroom leaning and online learning respectively.
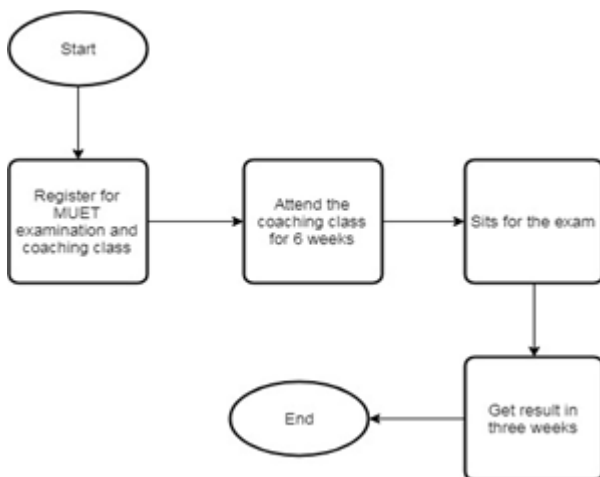
VI. CURRENT FRAMEWORK

Figure 3: Current framework or process

The current system or framework of registering and sitting for MUET examination is shown in Figure 3. The students would require attending several coaching classes in their institution before sitting for the exam. The coaching provided by their respective institutions however is deemed not sufficient by the respondents. There are also no approach

for those who want to register themselves as tutors to participate in the interaction because the lecturers have been selected by the university and the places are limited.
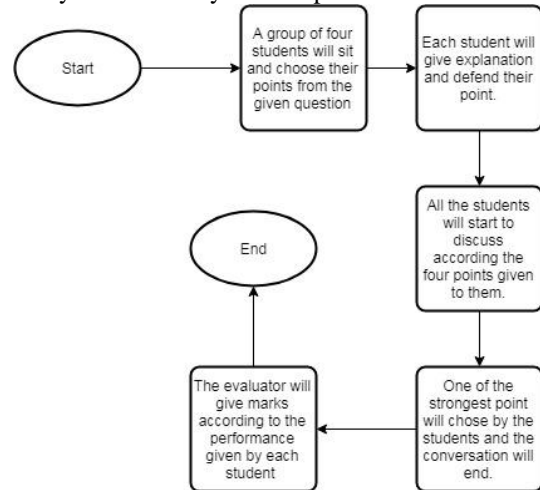

Figure 4: Current process flow for speaking module education

Speaking is one of the section that will be tested for the students during the MUET examination. As for this section, a group of 4 students need to sit together. Each student will be labelled as candidate A, B, C and D. They need to choose the points according to the label given to them. For example, candidate A will take point A to discuss and defend. During this session, as for Task A each candidate needs to talk about the point given to them. As for Task B, all the candidates need to defend, agree and disagree among them. In the end, they need to come for a conclusion and choose the best point. This is may be time consuming and may only allow practise to take place when there is accessibility to a group of students. They also need an evaluator would be able to point out about their skills in speaking. This shows that students only will be able to practice during class hours which may lead the students to have less opportunities of self-improvements in the speaking section.
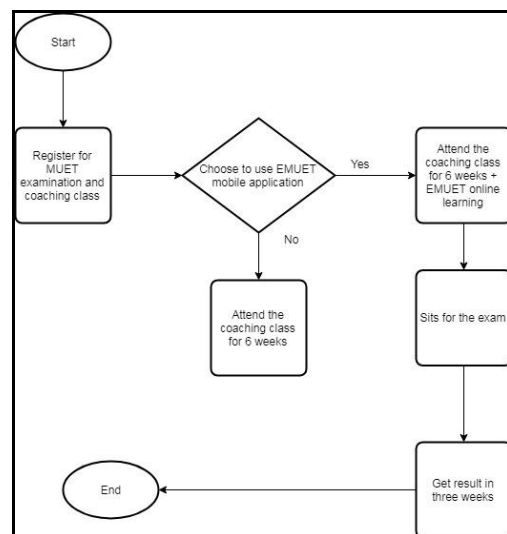
VII. PROPOSED FRAMEWORK

Figure 5: Process flow of MyMUET

Figure 5 shows the proposed solution. The solution proposed is providing a mobile application which can be used by both tutors and students. This application is an alternative choice for the students who wants to improve their reading, listening, speaking and writing skills. As for reading, students can answer multiple choice questions and view the result and for listening, students need to listen to the audio, answer the questions given and view their result. One of the major improvements done in the proposed mobile application is a feature for crowdsourcing tutoring for writing and speaking. Tutors will be able to register as tutors and students will be able to rate their feedback for their services. Through this application, students may be able to get proper guidance from tutor 24/7. The interactive interface will enable the students to understand on how to use the application. Students may get extra coaching from the tutors for speaking and writing too through the application.
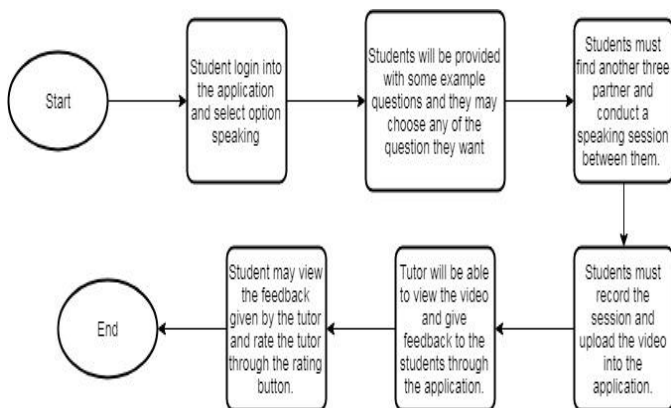

Figure 6: Process flow for student participation in speaking module

Figure 6 shows the process for tutors participate in the crowdsourcing MUET education. The services allow tutors who are also interested to contribute as educators in online learning. As for section speaking and writing, students need to upload their video or writing file and choose their own tutor each time they submit their assessments. Once submit the assessments, tutor can view and give feedback for their assessments. Meanwhile, students may view the feedback and give rating to the tutor. Recent data suggests that crowdsourced peer-to-peer assessment (unlike self-assessment) offers ratings that are highly correlated with instructor assessment and demonstrate strong inter-rater reliability [3]. Specifically, the results show that crowdsourced peer to-peer assessments are perceived by students as fair and accurate [3].

VIII. MYMUET

Figure 7: Use case for MyMUET

Figure 7 shows the use case for MyMUET. In this use case, there are three main actors (users); admin, student and tutor. There are sixteen activity in this use case; register, login, reading, listening, writing, speaking, give feedback, view feedback, give rating, view rating, update details, view users, delete users, add listening questions, add speaking questions and add writing questions. Student may access to register, login, reading, listening. writing, speaking, update details, view feedback and give rating for the tutor. Meanwhile, tutor have access to register, login, writing, speaking, give feedback for the students, update details and view rating. Students may answer short quiz given in the reading and listening module, submit their files in writing and speaking module. The tutor will view the uploaded file by the students and give feedback for the students. Students may view the feedback from tutor and give rating for the tutor. Tutor may view the rating given to the feedback. Admin may view the details of users and delete the users as well. Besides that, admin also would be able to add questions for speaking, writing and listening.
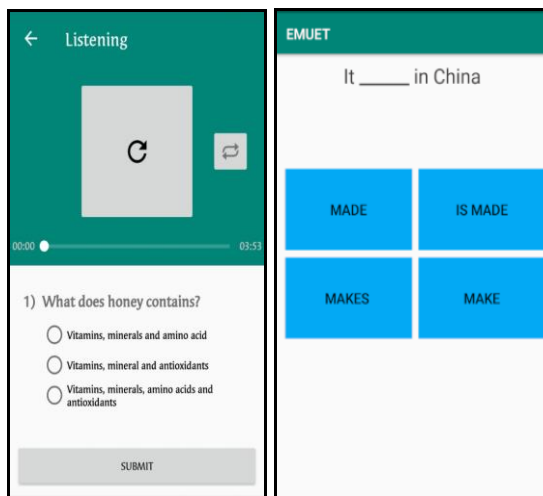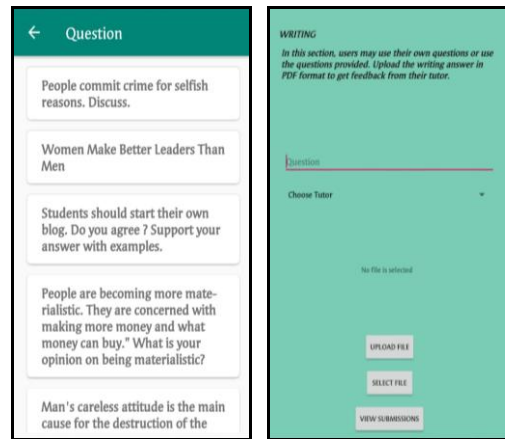
Figure 8: MyMUET modules

Figure 9: Writing MyMUET modules

This is one of the new function that has been added to the MyMUET mobile application. As for writing section, there are two different section is created. One is to view sample questions and another one is to submit the writing assignment files. Another function added to the application is students would be able to choose the tutor each time they submit an assignment. Students need to enter the title name, select tutor and upload the writing file. The writing file would be automatically submitted to the selected tutor. Meanwhile, after submitting, student need to select view files button in order to view the feedback given by tutor and give rating for the tutor's feedback.

B. *Speaking*

Figure 10: MyMUET Speaking modules

Figure 8 shows MyMUET and the modules included. Like most English proficiency tests, the assessment for MUET primarily focuses on Listening, Reading, Writing and Speaking components.

There will be four different tests for each of the component tests, and scores be allocated scores for each component. Time will also be allocated for each component as per the MUET requirements to simulate an environment similar to the MUET exam. Two tasks will be allocated for writing and speaking, for summary writing, essay writing, individual and group presentation.

Students can upload their individual speaking videos for assessment by crowdsources tutors. Individual and group speaking assessment is available. However, for group assessment, participants will be required to upload individual videos and respond to other speaking videos by peers. This method is slightly different than the real time group interaction assessment during MUET exam. However, it is the recommended method of online assessment by the subject matter expert involved in this research.

A. *Writing*

Another new function that has been added to the MyMUET mobile application is speaking. As for speaking section, there are two different section is created. One is to view sample questions and another one is to submit the speaking assignment video. Another function added to the application is students would be able to choose the tutor each time they submit the video file. A group of four students need to take a video of their speaking session and upload it to the application. Students need to enter the title name, select tutor and upload the speaking video file. The speaking video file would be automatically submitted to the selected tutor. Meanwhile, after submitting, student need to select view files button in order to view the feedback given by tutor and give rating for the tutor's feedback.
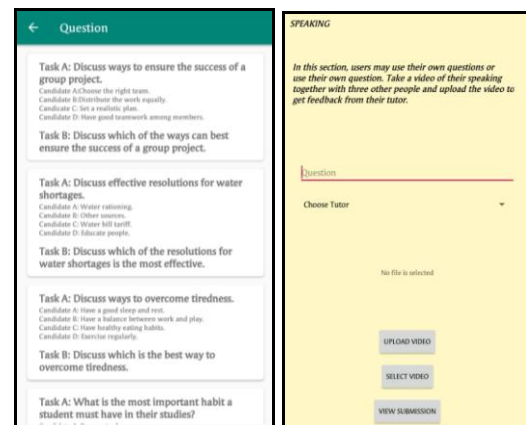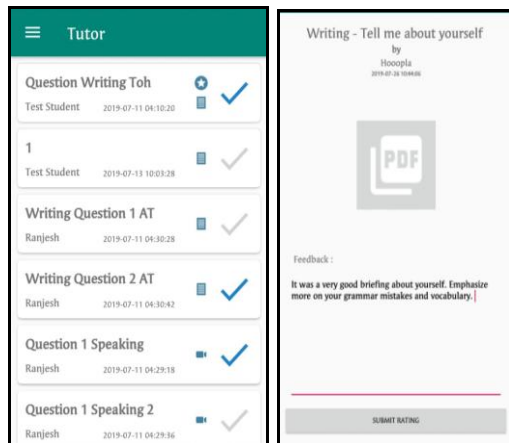
C. *Tutor Feedback*

Figure 11: MyMUET Tutor Feedback modules

Third function is tutor feedback. This function is developed for the tutor to give feedback for the assignments submitted by the students. Once tutor login into the application, tutor would be able to view the list of assignments submitted by the students. Tutor need to click on the specific assignment to download and view the submitted file. Later on, tutor need to give feedback for the assignments.
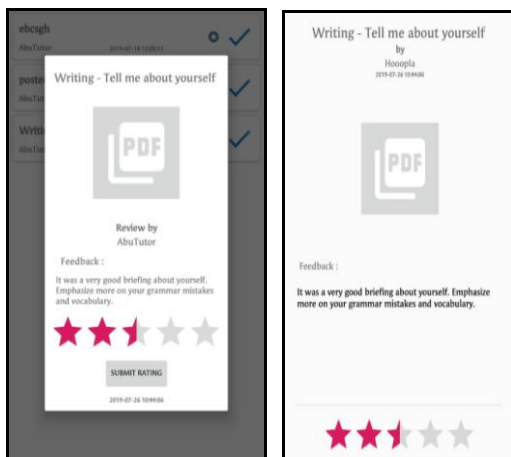
D. *Tutor rating*

Figure 12: MyMUET Tutor Rating modules

Last extra function is tutor rating function. This function is developed for the students to give rating and tutor can view the rating given by the student. Once student view the feedback given by the tutor, student would be able to give the rating for the tutor. In the other side, tutor would be able to view the rating given by the student.

IX. CHALLENGES IN CROWDSOURING

Challenges still exist to elevate the application of crowdsourcing in education. Invalid, inaccurate, or biased contribution is to be concerned [1][4]. Tutors profile are included in MyMUET for students to select the tutors they require based on the credentials. Quality control methods for crowdsourcing in education is significant and need further research [5] . Applying machine learning techniques is possible to explain and predict the quality of crowdsourced contributions [6]. Second, crowdsourcing educational contents collaboratively among online crowd requires time and effort in coordinating the writing and review process to ensure that the end product is beneficial to learners and maintained moving forward [7].

X. FUTURE RESEARCH

Third, the study of motivations of participating in crowdsourcing in education has been a specific focus [8]. However, no general model has been agreed on what motivate contributors to support education. Finally, legal problems should be kept in mind when crowd co-creating educational contents, such as the copyright and privacy [9]. And careful design is also needed to get the educators and learners to feel comfortable in an open environment.

XI. CONCLUSION

In conclusion, there are many advantages and disadvantages are found through this application. One of the advantages is student able to improve their English language skills meanwhile the disadvantage is inaccurate tutor profile information. However, there are more improvements that can be made for the user tutor in order to improve the accuracy the information and quality of the application.

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