Designing a ComicQu Application for VIII Graders' Reading – Writing Assessment

Nadya Septiani Rahman [1,*], Hermayawati [2]

Mercu Buana University of Yogyakarta,Yogyakarta,Indonesia

[1] 16131019@student.mercubuana-yogya.ac.id ; [2] Hermayawati.hw56@gmail.com

* corresponding author

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ABSTRACT

This study aimed at producing media that contain the "ComicQu" application as media. This type of research is R&D (Research and Development) using the ADDIE (Analysis, Design, Development, Implementation and Evaluation) model. In the process of collecting data, several instruments such as interviews, observation, documentation, questionnaires, and tests were employed. The obtained data were analyzed both descriptively and statistically. This research product consisted of a smartphone application with 3 quiz parts and contains 10 questions for each section. Twenty students of the 8th Graders of a State Junior High School in Yogyakarta were involved as the participants. The study revealed that the designed product was appropriate to use as an alternative media for: 1) The product was designed based on the Needs Analysis results; 2) Results on Md (Mean Difference) computation between the average scores of pre-and posttest on the learners' reading-writing skills showed Md = 78,2 > 63,2 which was considered significantly higher than the demanded school's KKM (Kriteria Ketuntasan Minimum) or the Minimum Criteria of Learners' learning Mastery; 3) Expert Judgement also revealed coefficient scores respectively 98.34 from the ELT expert and 78.75 from the IT expert. Thus, it can be concluded that "ComicQu" is appropriately to use as an alternative media to improve the learners' reading-writing skills of English particularly at the understudied class.

1. Introduction

In this industry 4.0 era, Information and Communication Technology (ICT) is a common thing in society. From personal problems to business problems, the use of technology is highly exalted. Based on the 2018 Indonesian Ministry of Communications and Informatics (Kominfo) report, internet users in Indonesia increased by more than a half of Indonesia's population. In addition, based on age categorization, the biggest penetrator are teenagers aged between 13-18 years, which is around 75.50%. This data implies that teenagers in Indonesia are very close to technology.

Dealing with teenagers who are still in school, teaching and learning cannot be separated from them. The era in which they live has influenced their characteristics as individuals who are dependent on technology. For example, when they have to answer some unknown questions, search engines are the first and foremost solution to be addressed. Even learning can be done by watching videos or reading on a smartphone. Especially learning English that is categorized as foreign

language in Indonesia, the use of technology really helps students to explore more in any hemisphere with just one click on a smartphone.

Furthermore, in schools, one of the teaching and learning process parts called assessment can also be done with the use of technology. The use of technology in the assessment process has been applied in several schools, such as conditioning assessment through online applications or E-Assessment. According to Ibarra Saiz (2012), E-Assessment is all the assessment processes in which technology is used as a medium that records the assessment process including the end result by actively involving students. Assessment is an important part of the teaching and learning process. In that process, effective and relevant assessments are needed. Assessment can also be used by teachers to find out the extent of students' abilities before, during, and after the teaching and learning process. As said by Arikunto (2009): "Assessment is determining the good and bad sides of something". The implementation of school assessments is part of the teaching and learning process which is a reflection of an understanding of the development and progress of individual students. Based on Permendikbud No.53 of 2015, Assessment is a process of collecting data on student achievement including attitudes, knowledge, and skills that are carried out systematically to observe the process, learning progress, and improving learning outcomes by giving assignments or evaluations.

Conceptually, the assessment of students' skills in English subjects includes four skills, namely listening, speaking, reading, and writing. Today's English Teaching and learning combined the four skills to be integrated skills. The four skills can be combined into one in learning, or divided into two, namely listening-speaking and reading-writing. According to Selma in Hermayawati (2018) the use of integrated skills can bring a positive impact on student learning.

However, in the early investigation it was found that in class VIII one of the junior high schools located in Yogykarta, there was a lack of media especially in the assessment process. Students always do their assignments by completing exercises on the Student Worksheet (LKS). This makes them unmotivated to complete the given task, because there is a dialogue that must be read, text without images that is not appealing to those who are really close with the use of technologies, such as smartphone. As stated by McQuiggan et al. (2015), learning trough smartphone let the students experience and opportunity to make use of the evolution of educational technologies. Furthermore, the early research that was done by Ramadiani et al. (2017) found that the satisfaction of students towards e-learning using smartphone were highly more significant than using computer.

Based on the problems in this research and refer to the theories, an application-based assessment called ComicQu was designed. The use and determination of application-based assessment is useful to assist teachers in the assessment process and also for the progress and motivation of students in learning.

2. Method

The study was conducted at one of junior high school in Yogyakarta, in class VIII in the academic year 2019/2020. This study chose 20 students as subject. The scope of this research is limited to an application products to assess English reading-writing skills. Based on the problems that arise and consider that one of the characteristics of today's teenage students is very close to IT (Information Technology), this kind of character can be used as a basis for increasing their interest in learning. Based on the early observation it was found that the students need kind of technological assessment media as a tool to help them do the reading-writing task. The types of questions in the research product are used to assess students' reading and writing abilities in English. The content in the questions is also provided in an application that consists of comic drawings that are interesting to teenage students.

This research is categorized as Research and Development (R&D). According to Sasso and Ritzen (2016), the end result of R&D research is the development of science and the emergence of new ideas. The focus of this research is to develop an E-assessment media with interesting content to support the process of evaluating English reading-writing skills. Thus this research is very appropriate to use R&D as a research design.

The ADDIE procedure (Analysis, Design, Development, Implementation, Evaluation) was chosen in this study as a guide for product development. Aldoobie (2015) found that the use of the

ADDIE model is widely used by instructional designers, content developers, and even teachers as a guide to produce efficient and effective teaching designs. Data was collected using several instruments namely observation, interviews, documentation, questionnaires. Observations take place in class to collect data about the situation, conditions, and the process of assessment. Interviews were conducted with eighth grade English teachers in order to collect data about the media and assessment methods applied in learning English. Furthermore, the documentation instrument is carried out by identifying the syllabus and books that are used as guidelines for the design of the items. The questionnaire instrument was divided into 2 stages, namely the pre-design analysis phase and the evaluation stage. The pre-design questionnaire was used as an instrument to collect data about the needs, shortcomings, and desires of students to align with the research product. The questionnaire after the design and implementation was distributed to content experts and technology experts to measure the extent of the suitability of the product with the background of the problem.

Qualitative data processing that is the results of observations, interviews, and documentation are described in the form of descriptive explanations. Meanwhile, to produce accurate quantitative data, scale is needed in its process (Sugiyono, 2012: 92). In this study the data processing techniques questionnaire results were categorized using the Likert scale.

Table 1.   Likert scale's standard of evaluation

Number	Score (%)	Category
4	81% - 100%	Very Good
3	61% - 80%	Good
2	41% - 60%	Adequate
1	21% - 40%	Poor

According to Sugiyono (2012: 95) percentage analysis and score calculation formula for each question are:

$$P = \frac{f}{n} \times 100$$

Note :
p : Precentange of score
f : Frequency of categories
n : Amount of questions

3. Findings and discussion

Analysis Phase

Based on the results of the analysis phase that had been done trough interview and quetionnaire, it can be concluded that in the research site use technology as a media of teaching such as power point slides that are displayed through the projector when delivering the material. However, it was found that in the implementation of the assessment, the manual method was still used, that is paper-based assessment. The students done the exercise by fill in the answer on the worksheet which were less attractive in terms of design and appearance. The results of the next analysis is questionnaire that is distributed to students. It was found that: 1) Students need a modern and attractive assessment media; 2) Students are lacking in arranging words and understanding the purpose of English dialogue; 3) Students want media that can motivate them in working on English problems.

Furthermore, the results of the analysis documents was done by analyzing the syllabus used by the English teacher at the research site as a teaching guide. In this study, teaching material or topics that is used as topics in media assessment products are only based on the two basic competencies that have been and are being studied by students.

Table 2.   Standard Competencies of English subject for VIII graders

Kompetensi Dasar	Materi Pembelajaran	Kegiatan Pembelajaran
3.4 Menerapkan fungsi sosial, struktur teks, dan unsur kebahasaan teks interaksi interpersonal lisan dan tulis yang melibatkan tindakan menyuruh, mengajak, meminta ijin, serta menanggapinya, sesuai dengan konteks penggunaannya. 4.4 Menyusun teks interaksi interpersonal lisan dan tulis sangat pendek dan sederhana yang melibatkan tindakan menyuruh, mengajak, meminta ijin, dan menanggapinya dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan yang benar dan sesuai konteks	• Fungsi sosial Menjaga hubungan interpersonal dengan guru dan teman. • Struktur teks - Memulai - Menanggapi (diharapkan/di luar dugaan) - • Unsur Kebahasaan - Ungkapan a.l *let's ...*, *can you ...*, *would you like ...*, *may I*, *please*. - Nomina singular dan plural dengan atau tanpa *a, the, this, those, my, their*, dsb. - Ucapan, tekanan kata, intonasi, ejaan, tanda baca, dan tulisan tangan • Topik Interaksi antara guru dan peserta didik di dalam dan di luar kelas yang melibatkan tindakan menyuruh, mengajak, meminta ijin yang dapat menumbuhkan perilaku yang termuat di KI.	- Menyimak, menirukan, dan memperagakan beberapa contoh percakapan, dengan ucapan dan tekanan kata yang benar - Mengidentifikasi ungkapan yang sedang dipelajari - Menanyakan hal-hal yang tidak diketahui atau yang berbeda - Menentukan ungkapan yang tepat secara lisan/tulis dari berbagai situasi lain yang serupa - Membiasakan menerapkan yang sedang dipelajari dalam interaksi dengan guru dan teman secara alami di dalam dan di luar kelas - Melakukan refleksi tentang proses dan hasil belajar

Design Phase

Then the design phase is carried out based on the results of the analysis phase. In making product designs, researcher used two platforms. Google Form is used as a compiler of assessment questions which are then linked to Appgeyser as the application maker.

Fig. 1. Linking Google Form with AppsGeyser

Figure 1 is the step of making a quiz that was done by selecting Google Form as a quiz tool maker. Google Form was chosen by researchers as a quiz tool because Google Form has features that are very suitable for the main purpose of the application, such as score and response reports. Google Form is also a lightweight quiz tool to be applied. Furthermore, to facilitate users in accessing the quiz, the google form link is linked to the application created in Appgeyser. Appgeyser is an application-making platform that provides free packages for its users. The features offered in this platform are also varied. Unlike the other application making machines, Appgeyser does not require coding in making and developing applications to be made. Users can choose a variety of templates that are available. Quiz content that is displayed on this application was in the form of comic images with English conversation made based on the syllabus used.

Fig. 2. SuperMII to create the character and Canva to create the dialogue

Figure 2 is the applications for designing ComicQu contens. SuperMii application is used to design characters, and the Canva platform to add dialogue. The product named "ComicQu (Comic Quiz)" that is in the form of an application that can be run on Android-based smartphones.

Development Phase

The first step taken by researchers is to design the characters that will be used as characters in dialogue. Then add conversation sentences that fit the learning topic. After the image has been designed. The next step is designing questions on the Google form. The questions consist of 10 items on each topic or subject which includes the language expression of Invitation, Imperative, and Permission.
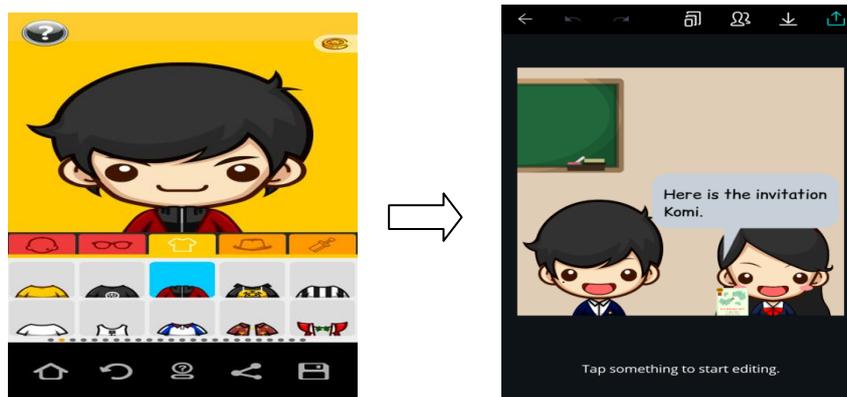

Fig. 3. Design of character and dialogue

Figure 3 is the process of making the comic characters in SuperMii App. The researcher made the characters of teenagers who are wearing school uniform. After the characters had been created, the researcher upload it into Canva App and combine them into one slide. In this step the researcher also created the dialogue which was the assessment material of ComicQu Application.

Fig. 4. Inputing the questions and creating the identity slide

Figure four shows the process of inputting the questions into Google Form. Before inputting the questions, the researcher created the identity form for the users. This identity form will be useful for the teachers to know who were taken the quiz also their score.
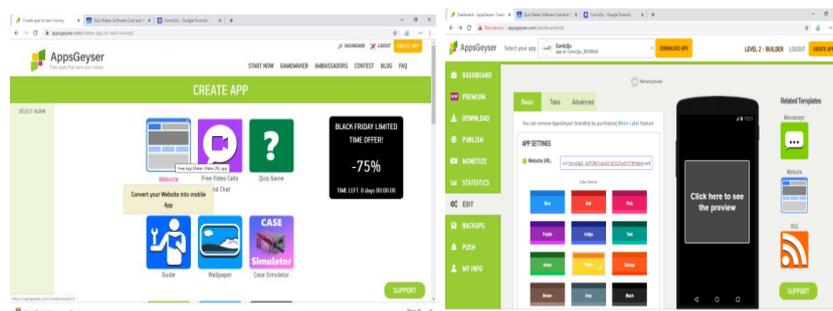

Fig. 5. Creating the Application

Figure five is the process of making the application of "ComicQu" is done after the quiz questions are completed. The "ComicQu" application was created by selecting a website template to connect the Google form online quiz consisting of 3 topics so that it can be opened at once in one application.
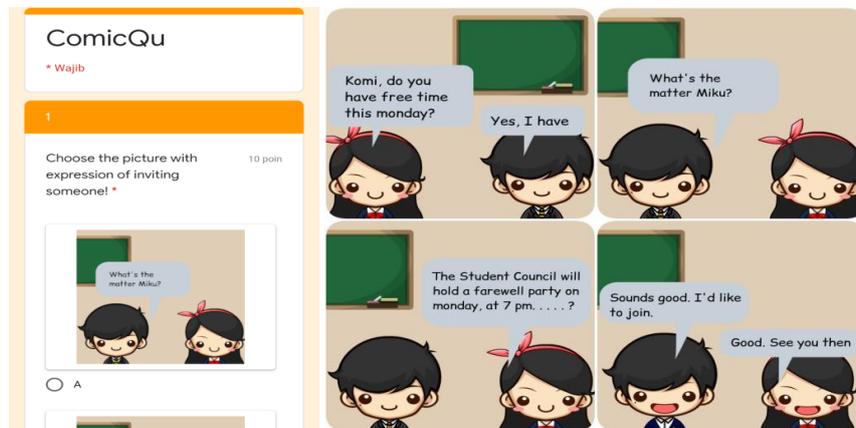

Fig. 6. The design of ComicQu contains expressions that is related to curriculum of 2013

Figure 6 is the final design of comic pictures. The researcher uploaded the pictures into google form together with the questions.

Fig. 7. Final appearance

Figure 7 is the final appearance of the application after all of the design stages have been completed. The ComicQu application consists of one main page that displays 3sub pages in which those are the topics of the competencies.

Implementation Phase

After the media is finished and assessed by experts, the implementation phase is carried out. The implementation phase was attended by 20 participants. Before working on the quiz through the application, the participants must first download the application by scanning the QR code that is shared. After all participants have finished downloading "ComicQu", the participants are invited to run the application and work on the quiz according to the instructions listed on each question. After completion, the results of all of the participant's implementation work are automatically read on google spreadsheets. This implementation takes approximately 30 minutes.

Evaluation Phase

The product evaluation phase of this research was conducted to test the feasibility of media products through the pre-test and post-test reading-writing skills using "ComicQu" as well as through the feasibility of the quality of the product being studied. The results of the pre-test conducted showed that students had not yet reached the KKM (Minimum completeness criteria)

standard when working on questions in the worksheet (Student Worksheet), with a mean of 63.2. From these results indicate that students are lacking of understanding in reading-writing questions. Then in the post-test stage when the product "ComicQu" is implemented the achievement of the mean score of students increases to 78.2. There are only two students who are slightly below the KKM grade standard. Thus there is an increase in the coefficient Md (Mean Difference) of 1.5 or Md = 78.2> 63.2. The next evaluation is the evaluation of media and content carried out by experts using questionnaires. It was done in order to determine the suitability of the media created for the assessment of English literacy skills. The assessment criteria were adapted from Brown (2004). The results of the validation of the feasibility of the statements of language experts and ICT experts.

Table 3 illustrates the results of the assessment analysis of two experts consisting of English learning experts or ELT (English Language Teaching) and ICT (Communication Science Technology) experts. The aspects assessed include Practicality, Reliability, Validity, Authenticity and Learning Effects arising from the utilization of the media product being studied, namely "ComicQu". For the average score concerning the content of learning evaluation in the form of items and related to the expression of Invitation, Imperative, and Expression of asking and giving Permission, the experts involved rated 'Very Good'. The evaluation of ICT display categories, the experts involved on average rated 'Very Good' for the aspects of practicality and reliability, while for the validity, authenticity and Washback the average score was 'Good'.

Table 3.   Experts evaluation result

Aspect	English Language Teaching Expert		Information and Technology Expert	
	Average Score	**Category**	**Average Score**	**Category**
Practicality	100	Very Good	81,25	Very Good
Reliability	100	Very Good	87,5	Very Good
Validity	100	Very Good	75	Good
Authenticity	91,7	Very Good	75	Good
Washback	100	Very Good	75	Good
Total Score	**491.7**	**Very Good**	393.75	**Good**
Average Score	**98.34**		78.75	

Based of the assessment result from five aspects scored by the experts, it can be emphasized that the evaluation media review product called "ComicQu" is suitable as an alternative media assessment, especially for integrated reading-writing skills.

4. Conclusion

Based on the results of the analysis of this research data, it can be concluded that "ComicQu" is suitable as an alternative media assessment, especially for English reading and writing skills. It can be seen from the results of data analysis in the form of: (1) Md (Mean Difference), which is the average results of the initial and final tests (Pre-Post-Tests) showed a significant increase that is Md = 79,4 > 66,1; (2) the results of product evaluation by the experts showed a mean score of 98.34 from the English teaching and learning experts and 78.75 from the Information and Technology Expert with Very Good and Good categories. Although this research product has succeeded in improving learning outcomes especially for integrated reading-writing skills, but this research product also has weaknesses besides its advantages.

The advantages of "ComicQu" are : First, it looks attractive and easily accessed using a smartphone owned by almost all students. Secondly, the media is able to encourage students to be more enthusiastic in learning through the execution of the tasks given, and also to improve learning outcomes and expedite efforts to achieve learning objectives. The main weakness is "ComicQu" application is very dependent on the availability of a good internet connection when accessing language training questions. Therefore, this study product media can only be accessed in all areas of the school that provide good internet access for the smooth utilization process.

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