Validity And Reliability Test of A Written English Test Online-Based Using Google Form

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ABSTRACT

The purpose of this research are (1) to produce an online-based English test and (2) to determine the validity and reliability of the online-based written English test with using Google Form. Writing is a key element of communication and a critical part of comprehension. This research used quantitative descriptive analysis as a method research design. The instrument used is an instrument developed online, through the expert validation instrument data analysis, analysis of assessment data and student responses to tests, and instrument trial. The development of an online-based written English test using Google Form is expected to be able to measure the extent to which a student's ability to the material has been taught. Then, the result of validity test were counted by using Pearson Product Moment. The result of this research is a software product in the form of a website which includes a discussion of each indicator and fulfills the requirements eligibility criteria, there are 8 categories of questions that are not valid from 40 multiple choice questions and has been tested on a limited basis, and the product has been well received by students when trials.

Key words: Google forms; Test; Online; Instrument

INTRODUCTION

An education is broadly inclusive term referring to a process of fostering cognitive, physical, social, emotional, or moral growth and development in individuals or groups (Collins & O'Brien, 2011). Education also capable to give power for them to voice out their views, expose to them their real potential, lead them to become a better person and widen their views in certain area (Idris, Hassan, Ya'acob, Gill, & Awal, 2012).

An education is a process of instilling something into human beings. In this answer 'a process of instilling' refers to the method and the system by which what is called 'education' is gradually imparted; 'something' refers to the content of what is instilled; and 'human beings' refers to the recipient of both the process and the content (Al-Attas, 1980).

Based on this explanation, it can be concluded that education is a place or a place to develop one's potential. Therefore, education is not only transferring knowledge, but also must be able to understand the extensions and potentials they have.

One form of education that can develop self-potential is English. Currently the use of English is very important, especially used to communicate throughout the world. In Indonesia, English is the third language after the mother tongue and Indonesian. Meanwhile, English is taught with the aim of communicating.

Based on the results of an interview with English teacher at SMK N 10 Kota Bekasi, he said that not all teachers understand how *online*-based teaching is and there are still some who still do paper-based/conventional tests so they tend to make students not interested in taking the test. To solve the problems in the English test, it is necessary to develop an online-based written English test using Google Form so as to create an atmosphere that allows students to be enthusiastic about working on exam questions and can motivate students. And also can help students complete the English learning test more easily.

The English test requires student activeness such as memorizing a lot of vocabulary and practicing practice questions. Therefore, to increase the value of English, it is necessary to have a media or test tool that is effective and efficient in its use by students. One alternative in overcoming the English test is to develop an online-based written English test using internet technology. One of the learning technologies is *Google Form*.

Based on the above conditions, the researcher took the initiative to make an online test English is based on *Google Form*, because it is more flexible. Usually the presentation of online tests based on google form for tests easily absorbed and understood by students so it will be very assist in the process of the English test.

LITERATURE REVIEW

Previous Related Study

The written test is a test where the questions and answers are given in writing and students are not always responds in the form of writing, answers, but can be in other forms such as marking and coloring. According to Downing (2009), written test are most often and most appropriately used to assess knowledge acquisition-as formative or summative assessments, to provide feedback on learning or to measure the sufficiency of learning in order to proceed in the curriculum.
In addition, Russell and Airasian (2007) have said, "A test is a formal, systematic procedure used to gather information about students' achievement or other cognitive skills." According to Mayo (1965), test is a specific instrument or set of instruments to determine a certain quality or trait, or a series of such qualities or traits.

It can be concluded that the test is an assessment tool to strengthen learning and through tests, teachers should not only teach and motivate students, but also improve teaching and learning activities.

Google Form

In today's technological era, education must be able to adapt to increasingly sophisticated technological developments. One of the goals is to encourage the implementation of education, especially evaluation activities in the learning process. One of the software that is easily accessible and free to use and good enough to be developed as an evaluation tool in the learning process is Google Form.

Google Form is a component of the Google Docs service. This is a form template application for creating quizzes, forms and surveys online that can be used alone or together to get information from users. Google Forms are computer programs or software designed to carry out specific tasks based on an integrated web that can be used to facilitate the online survey, questionnaire, and quiz design with a user-friendly interface process (Chaiyo, 2017).

To use Google Forms, we must have a universal Google account, by registering at *http://account.google.com/login*. Some of the functions that Google Forms provides in education are as follows: 1) Provide online exercises/exams through the websites, 2) Collect opinions of others through the websites, 3) Collect various data obtained by students / teachers through websites, 4) Create an online registration form for the school, 5) Distribute questionnaires to people online.

Using Google Forms as an assessment tool for the learning process also supports paper-saving programs. In addition, the energy and time required for teachers to distribute surveys and process data will be more efficient and easier.

There are several advantages to learning using Google from are: 1) Appearance of an attractive form. 2) Have various types of tests that are freely chosen 3) Respondents can respond immediately anywhere. 4) The form is responsive. 5) The results are immediately compiled and analyzed automatically. 6) Can be done with other people. 7) Can be published to web pages or share to social media accounts.

Based on the explanation above, the writer took the initiative to make an online English test using Google Form, because it is more flexible. So that it can reduce fraud in the evaluation process and also help the earth in order to remain sustainable, because of saving paper media.

METHOD

Design and Samples

This research uses quantitative descriptive analysis as the research method. The goal of quantitative description is not deep understanding of personal perspectives of a phenomenon, but a more general understanding of patterns across a population of interest (Loeb et al., 2017). In this study, the researcher conducted classroom action research. The sample of this research is class X students that containing 36 students.

Instrument and Procedure

By action research, means teacher researching their own practice of teaching. The purpose of action research is to seek an improved understanding of educational situations in which they teach so that they then can become a part of the knowledge base of teaching and learning (Feldman & Minstrell, 2000).

The data collection method is the way the researcher collects data in the research. Researchers collect data through the following steps: 1) Interviews. Bacon-Shone (2013) stated that interviews can be used to provide rich qualitative data and provides flexibility to explore differing points of view, 2) The assessment test, 3) Documentation.

Data Analysis

After collecting the data, the next step is to analize data analysis. The steps in the research are as follows: 1) Expert Validation Instrument Data Analysis. The data analysis of this study is carry out using qualitative descriptive analysis, namely describing the results of product development in the form of online written exams using Google forms, 2) Analysis of Assessment Data and Student Responses to Tests, 3) Instrument Trial, such as : a) Question Item Validity, b) Construct Validity, c) Test Item Difficulty Level, d) Distinguishing Power Test, e) Reliability Test, f) Distractor Index.

RESULT AND DISUSSION

Validity Test

According to Kimberlin and Winterstein (2008), validity is often defined as the extent to which an instrument measures what it purports to measure. Validity requires that an instrument is reliable, but an instrument can be reliable without being valid. Test construct validity with results as shown in table 1 below:

Table 1.
Test the Validity of Multiple Choice Questions

No	R_{xy}	R_{table}	Description	No	R_{xy}	R_{table}	Description
1	0.482	0.329	Valid	21	0.459	0.329	Valid
2	0.329	0.329	Invalid	22	0.278	0.329	Invalid

3	0.459	0.329	Valid	23	0.414	0.329	Valid
4	0.278	0.329	Invalid	24	0.426	0.329	Valid
5	0.414	0.329	Valid	25	0.395	0.329	Valid
6	0.426	0.329	Valid	26	0.471	0.329	Valid
7	0.395	0.329	Valid	27	0.467	0.329	Valid
8	0.338	0.329	Valid	28	0.408	0.329	Valid
9	0.471	0.329	Valid	29	0.338	0.329	Valid
10	0.467	0.329	Valid	30	0.482	0.329	Valid
11	0.408	0.329	Valid	31	0.329	0.329	Invalid
12	0.375	0.329	Valid	32	0.375	0.329	Valid
13	0.405	0.329	Valid	33	0.405	0.329	Valid
14	0.448	0.329	Valid	34	0.448	0.329	Valid
15	0.207	0.329	Invalid	35	0.207	0.329	Invalid
16	0.604	0.329	Valid	36	0.604	0.329	Valid
17	0.506	0.329	Valid	37	0.506	0.329	Valid
18	0.514	0.329	Valid	38	0.514	0.329	Valid
19	0.461	0.329	Valid	39	0.461	0.329	Valid
20	0.259	0.329	Invalid	40	0.259	0.329	Invalid

Based on findings data in the table 1, it is known that from 40 items multiple choice questions have questions that show $R_{xy} \leq R_{table}$ then the instrument is said to be invalid. An invalid instrument consisting of 8 items cannot be used because the question is not valid as a test item for research sample data collection, and the question needs to be corrected again so that the question can measure what will be measured, because invalid questions do not has a function as a good measuring tool.

The questions cannot be corrected because the valid questions have met the criteria of the revised Bloom's taxonomy and the questions consist of 32 questions. This question is classified as a valid question because the $R_{xy} \geq R_{table}$, so it can be used for data collection based on the revised Bloom's taxonomy in research.

Reliability Test

Reliability estimates are used to evaluate (1) the stability of measures administered at different times to the same individuals or using the same standard (test–retest reliability) or (2) the equivalence of sets of items from the same test (internal consistency) or of different observers scoring a behavior or event using the same instrument (interrater reliability). Nunnally (1994) has said, "Taking the decision for reliability testing, that is, a construct or variable is said to be reliable if it gives Cronbach's Alpha value > 0.80." Based on the result of reliability test Cronbach alpha value 0.867 > 0.80. So, it can be concluded that the test instrument is said to

be reliable and has consistency in measuring samples and suitable for use for test data collection online. Test result can be seen in the table 2.

Table 2.
Reliability Test
Reliability Statistics

Cronbach's Alpha	N of Items
,867	40

Question items

Choose the corrct answer.

1. Mr Daniel . . . (check) his car when I . . . (see) him.
   a. checked / saw
   b. was checking / saw
   c. was checking / was seeing
   d. checked / was seeing

2. I . . . (cut) my finger when . . . (chop) vegetables.
   a. was cutting / chopped
   b. cut / was chopping
   c. was cutting / was chopping
   d. cut / chopped

3. Bob . . . (go out) when I . . . (pick) him up.
   a. was going up / picked
   b. went up / was picking
   c. went up / picked
   d. was going out / was picking

4. The storm . . . (start) while we . . . (drive) back from London.
   a. started / drove
   b. starting / were driving
   c. was started / were driving
   d. started / were driving

5. My brother . . . (eat) fried rice last night.
   a. was eating
   b. eating
   c. ate
   d. was ate

6. It . . . (rain) heavily when I . . . (get up).
   a. rained / got up
   b. was raining / got up
   c. rained / was getting up

    d. was raining / was getting up

7. When I . . . (walk) in, she . . . (talk) to John on the phone.
    a. walked / talked
    b. walked / was talking
    c. was walking / was talking
    d. was walking / talked

8. . . . she . . . (study) last night?
    a. Did / studied
    b. Did / was studying
    c. Did / study
    d. Did / studying

9. I . . . (not/watch) the movie last week.
    a. did not watched
    b. did not watching
    c. did not watch
    d. not watch

10. Betty . . . (open) her e-mail when we . . . (meet) her in the internet cafe.
    a. was opening / were meeting
    b. was opening / met
    c. opened / met
    d. opened / were meeting

11. The sick child . . . when the doctor come.
    a. sleep
    b. sleeping
    c. was sleeping
    d. slept

12. The pupils were still writing their compositions when the bell . . .
    a. ring
    b. ringing
    c. was ringing
    d. rang

13. While he . . . yesterday he cut his chin.
    a. shaves
    b. shaving
    c. was shaving
    d. shaved

14. The boy was knocked down by a bus as he . . . the road.
    a. crosses

b. crossing
c. was crossing
d. crossed

15. The old man never . . . out when it rained.
    a. goes
    b. going
    c. was going
    d. went

16. The travellers reached the town just as the sun . . .
    a. rises
    b. rising
    c. was raising
    d. rose

17. When he saw Jack's father at the window, he . . . off the wall and ran away.
    a. jumps
    b. jumping
    c. was jumping
    d. jumped

18. She . . . along the street when she saw an old friend.
    a. walks
    b. walking
    c. was walking
    d. walked

19. Some pupils . . . a lot of noise when the teacher came into the classroom.
    a. make
    b. making
    c. were making
    d. made

20. Just as the doctor . . . to bed there was a knock at the door.
    a. goes
    b. going
    c. was going
    d. went

21. I . . . when the telephone rang.
    a. ate
    b. eat
    c. eating
    d. was eat

22. It . . . (rain) hard when I . . . (leave) the office at half past four in the evening.

a. rains / left
b. was raining / left
c. rained / were leaving
d. rains / were leaving

23. When you got up this morning, the sun . . . brightly.
    a. was shining
    b. was shine
    c. shining
    d. shine

24. He . . . just . . . (order) breakfast when I visited him at his house.
    a. is / ordering
    b. had / ordering
    c. were / ordering
    d. was / ordering

25. She fell as she . . . into the black car.
    a. getting
    b. was getting
    c. were getting
    d. get

26. She got headache while we . . . to Bali.
    a. drive
    b. drove
    c. driving
    d. were driving

27. When you called me, I . . . just . . . (take) a nap.
    a. were / taking
    b. was / taking
    c. is / taking
    d. did / take

28. When I saw him at the door, he . . . with his mom.
    a. talk
    b. talked
    c. was talking
    d. were talking

29. While I . . . , I felt asleep.
    a. was studying
    b. were studiying
    c. studying

  d. study

30. The car . . . at high speed when it struck the big tree.
    a. travel
    b. travelling
    c. was travelling
    d. were travelling

31. I . . . in class right now.
    a. sat
    b. sit
    c. sitting
    d. was sitting

32. Last morning, just as we . . . the movies, some friends telephoned us.
    a. watch
    b. watched
    c. watching
    d. were watching

33. The baby . . . (not, cry) while her sister was laughing.
    a. does not cry
    b. did not cry
    c. was not crying
    d. were not crying

34. Yesterday I . . . (see) an old friend while I . . . (cross) the street.
    a. saw / crossed
    b. saw / was crossing
    c. seeing / crossing
    d. was seeing / crossed

35. I turned the radio on while I . . . dinner.
    a. made
    b. make
    c. making
    d. was making

36. I didn't hear the phone ring because I . . . a shower.
    a. have
    b. having
    c. was having
    d. were having

37. When I . . . (do) the washing-up, I . . . (break) a plate.
    a. do / break

    b. do / was breaking
    c. did / was breaking
    d. did / breaking

38. I . . . with headphones, so I didn't hear the phone.
    a. listen
    b. listened
    c. were listening
    d. was listening

39. At this time yesterday, I . . . out my window, watching snow fall.
    a. was looking
    b. looking
    c. looked
    d. look

40. He broke his leg while he . . .
    a. skate
    b. skating
    c. was skating
    d. were skating

CONCLUSION

Based on the results and discussion, the following conclusions can be drawn. The results of the validity and reliability of developing an online-based written English test using google form can be concluded that items are declared valid if the $R_{xy} \geq R_{table}$, from 40 items there are 8 questions that are not valid and 32 questions are valid. The result of reliability test Cronbach alpha value $0.867 > 0.70$. Items are valid and said to be reliable and have gaps or consistency in measuring samples and suitable for use for test data collection online.

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