

Development of Speaking Skill Assessment Instruments on Learning Indonesian Language Android-Based at Primary School

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Abstrak

Assessment instruments of speaking skills used by teacher, not yet to able to describe students speaking skills. The teacher was also found to have no assessment rubrics. This developmental research aimed to produce teacher's handbook in the form of valid, reliable, effective, and practical android based-student speaking skill assessment on learning Indonesian language at primary school. This research referred to Borg & Gall with 10 stages of development. However, this research only used until the ninth step. The findings showed that (1) based on expert judgment, the instrument was worthy to test with some revision, (2) empirical reliability of those four instruments both in small and large test scales was reliable, (3) the instrument construct validity was analyzed by Confirmatory Factor Analysis (CFA), all of the constructs were valid, (4) the developed product an android based student speaking skill instrument development was valid, reliable, and practical. The judgment based on the homeclass teacher showed that the product was practice to assess student speaking skill.

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INTRODUCTION

Instrument development is a step to develop new product or to complete it and it could be accounted. Arifin (2013:4) states that assessment is an activity or systematic and sustainable process to collect information about learning process and achievement used to make decision based on certain criteria and consideration.

The rules of National Education Minister Number 16 Year 2007 about academic qualification standard and course teacher competence stated that teacher should develop assessment instrument of learning outcome. Qualified assessment instrument of learning outcome directly influenced learning outcomes of students. The position of assessment instrument shares information for teachers in deciding and in achieving learning outcome for school.

Assessment instrument does not only limit on remembering and understanding but also skill (Susilaningih & Amalia, 2014:1381). Assessment instrument, as for example, which has not been developed by teacher is speaking skill.

Speaking skill is ability to articulate sounds or pronunciation to express, appreciate, deliver ideas, notions, and feelings (Apriani et al, 2018:282). Speaking skill is important to be owned because of as social creatures living in a group and having interaction by using language.

Speaking skill has purpose to train the student braver in sharing argument and notions in official situation in which is adjusted to correct and proper speech contexts.

Lee stated that assessment technique to measure speaking skill is one of them by telling (Saddhono & Slamet, 2014:93). Language development on school aged students is as for example a telling story skill.

Ability to create story, according to Cahyani (2012:62), should be introduced since preschool students until they are habitualized by four types of telling, such as experience with other people, the already read story, personal experience, and fiction. Proper verbal skill is expected could train expression of thought and

feeling systematically and politely. The development of creating story is based on age of children.

Six year old children could tell simply about television program they watch. Seven year old children could tell something more integrated started by expressing problem, planning to solve problem, and solving the problem. Eight year old children are able to create nearly clear story. Children older than eight year could draw attention of listeners through their clearer and structured stories.

Problem found by the researcher was the teacher had not implemented speaking skill assessment regularly. The teacher was also found to have no assessment rubrics. Speaking skill assessment instruments used by the teachers could not measure the real speaking skill. The teacher only singed and checked the attendance when there was brave student to come forward delivering his ideas or presenting a certain task.

The assessment did not use clear guidance to determine criteria of each aspect. Thus, in assessing speaking skill, the teacher was subjective.

Assessing speaking skill is developed from speech assessment elements as stated by Saddhono & Slamet (2014 and Nurgiyantoro (2011), which are adjusted to telling activities: pronunciation, fluency, intonation, language use, method of telling, and story content understanding.

Speaking skill instrument becomes the focus of this research. The instrument was arranged thorough observation by breaking down speaking skill indicators based on targeted Indonesian language learning. The speaking skill indicators were made into rubrics and became observational instrument. To accelerate in accomplishing the learning objectives as stated in lesson plan, a suitable learning model was selected.

This research aimed to develop speaking skill assessment instrument based android to learn Indonesian language, to find out characteristics of speaking skill instrument based android, to find out the validity and reliability of the instrument, and to find out the practicability

of the instrument. This research developed the instrument based on android for Indonesian language learning. It is expected to provide guidance for teachers in assessing speaking skill.

METHOD

This research and development used Borgh and Gall (2003:570) stages, consisting of ten stages. Those are (1) investigation and data collection, (2) plan, (3) development, (4) field trial run, (5) trial run result revision, (6) field test, (7) revision of field test result, (8) field test, (9) final product revision, and (10) dissemination and implementation of the product. However, in this research was only conducted until ninth stage.

Planning consists of arranging learning plan on each competence by selecting learning method and designing indicators of speaking skills, (2) developing initial product in the form of learning designs, indicators of character observation plus its scoring rubrics for each basic competence and the characters, (3) conducting expert judgment done by a professor and a supervising lecturer to test the validity of the instrument construct, (4) revising the main product based on suggestions of the experts, (5) conducting limited test toward each 20 subjects for each competence and character and revising them based on suggestions, (6) conducting field test for each school consisting of 25 subjects plus conducting empirical validity test – validity and reliability test, and (7) conducting final revision to obtain ready to use instrument. The subjects of the trial run was used for field research purpose. After revising, the instrument was tried out again on field as shown on Table 3.

FINDINGS AND DISCUSSION

The questionnaire of speaking skill assessment instrument need was given to six fifth grade teachers at Parakan district as the respondents. The questionnaire consisted of 13 questions and statement by “Yes” or “No” as the answers. The answers shared by the teachers were portray of the needs or demand in

developing speaking skill assessment instruments.

The questionnaire results were used as reference to create speaking skill assessment instruments based on the teachers’ needs. The analysis results of the questionnaire showed that twenty six teachers admitted to have assessed by using android application with percentage 33.33%. Two out of six teachers admitted to have assessed speaking skill regularly with percentage 33.33%. Four out of four teachers had not had speaking assessment instruments. Only two teachers had speaking skill assessment instruments.

Six teachers selected performance or accurate practice as the assessing techniques of speaking skill with percentage 100%. The scale of selected method by all teacher obtained 100%. It was used as the measuring scale to assess speaking skill.

Learning model by telling was selected by six teachers with percentage 100% to assess speaking skill. Five of them, 83.33%, choosing the ways of filling up the assessment column as demanded components to be stated on the assessment guidance.

Six teachers chose to have clear menu on each part of android application used to assess speaking skill with percentage 100%.

Six teachers chose portrait shape position of the application with percentage 100%. Six teachers demanded the application to have colorful combination to differ each part of the application with percentage 100%.

Six teachers demanded the menu to be displayed on beginning display of the android. Six teachers demanded the learning objective to be stated on the android content with percentage 100%. Five of them, 83.33%, demanded the final score display in the assessment would be the final result with their criteria attached on different page.

The filled questionnaire by teachers provided information that heretofore, the teachers used paper ased assessment instrument. Its data processing stage was also done by manual calculation assisted by calculator.

Teachers in assessing speaking skill had not had clear assessment guidance. The assessment was not attached by clear scoring criteria and did not have regular speaking skill assessment. It was due to assumption that students in Indonesia had been fluently speaking (Tambunan, 2016:7).

Tarigan stated that learning Indonesian language could train language skill. One of language skills to be mastered is speaking because it supports other skills (Sintadewi, 2017:2).

The National Education Minister Rule Number 16 Year 2007 about academic qualification standard and course teacher competence stated that teacher should develop

learning achievement assessment instruments. The qualified learning achievement assessment instrument influenced directly to accuracy of students' learning achievements. The position of assessment instrument provides information for teachers in making decision and considering learning outcome for school party.

Proper assessment instruments are done regularly such as test and non-test, and using guidance to facilitate teachers in assessing. Assessment should be done gradually so it could observe the students' skill achievements.

The use assessment instrument on paper is not efficient. Thus, there is a need to develop android based speaking skill assessment by using smartphone.



Figure 1. The Android Based Speaking Skill Assessment Application

The instrument prototype of android based speaking skill assessment consists of 6 main menu as shown at homepage. They are: (1) assessment – consisting of speaking skill assessment page with 13 question numbers, (2) rubrics – consisting of scoring criteria from 1 until 4, (3) indicator – consisting of formative elements of speaking skill, (4) reading text – consisting of text titled *Semut dan Beruang*, (5)

guidance – consisting of assessment implementation guidance in teaching – learning activity, and (6) profile – consisting of developmental profile of speaking skill assessment.

The speaking skill assessment instrument validity test was done by *expert judgment*. It was tested by 4 experts: 2 instrument experts, an

expert of Indonesian language, and an expert of IT.

Instrument validity process of speaking skill assessment for fifth graders of SDN 2 Traji

was done by giving instrument validation to the experts and a discussion about the instrument was done.

Table 1. The Material Validation Result of Speaking Skill Assessment Instrument

No	Expert 1	Expert 2	Expert 3	Expert 4	Score Total	V Indexes	R Critical	Remark
1	3	4	4	4	15	0.91	0.3	Valid
2	3	4	4	3	14	0.83	0.3	Valid
3	3	3	2	3	11	0.58	0.3	Valid
4	2	3	3	3	11	0.58	0.3	Valid
5	2	4	3	3	12	0.66	0.3	Valid
6	2	3	3	3	11	0.58	0.3	Valid
7	3	4	4	3	14	0.83	0.3	Valid

The analysis result of the table shows that 7 numbers of speaking skill assessment material instrument have been valid, higher than 0.3. So, the numbers of instruments showed materials of speaking skill assessment having good content validity.

Bukian (2017), the expert judgment showed all numbers of two developed instruments were relevant. Meanwhile, based on Gregory formula, it was found that Content Validity (CV) of both instruments were equal to 1.00.

On reliability test of speaking skill assessment instrument for the graders, Intraclass Correlation Coefficient (ICC) assisted by Statistical Package for the Social Science (SPSS) were used. Based on the calculation, the reliability $r_{xx} = 0.753$. Therefore, the instrument was reliable and ready to be tried out.

The trial run was done after the instrument was stated valid and reliable based on result of analysis calculation from validators toward the instrument. Then, it was tried empirically. The try out was purposed to test the validity of the numbers, construct, and reliability of the designed instruments. The small scale trial run took 30 fifth graders of the school as respondents.

Validity of the numbers and reliability of the instruments were tested in small scale trial

run. The validity of the numbers was analyzed by *pearson correlation* formula assisted by SPSS version 22.0. The condition used was *pearson correlation* r_{count} should be higher than r_{table} . It was 0.361 (for the sample).

The result of small scale trial run analysis of the instrument showed that there were 13 numbers having correlative coefficient $r_{count} \geq 0.361 r_{table}$. The small scale trial run consisted of 13 valid questions or numbers and could be tested on larger scale trial run.

The reliability test of the instrument on small scale trial run used *Alpha Cronbach* assisted by SPSS 22.0. The measurement obtained that coefficient value of the instrument reliability was 0.702. The analysis result showed that the instrument of speaking skill assessment had good reliability level on small scale trial run.

Larger scale trial run had purpose to test the construct validity and the already designed instrument reliability. The construct validity was analyzed by *Exploratory Factor Analysis* (EFA). Meanwhile, the reliability was tested by *Alpha Cronbach*. Each test was assisted by SPSS version 22.0. The trial run of the instrument took 100 respondents through *random sampling*. The used sample consisted of fifth graders of SDN 1 Parakan Wetan, SDN 1 Parakan Kauman, and SDN 6 Parakan Kauman.

The valid data based on exploratory factor analysis procedure was – when the data met *Keiser – Meyer – Olkin Measure of Sampling Adequacy* requirement (KMO MSA) > 0.5, on sig score of *Chi – Square* < 0.05, the data would be considered worthy and could be tested its validity. The data of field test (see the appendices) obtained KMO > 0.5. It was 0.624 and the sig of *Chi – Square* was 0.000.

The result of coefficient *Measure of Sampling* (MSA) processed by SPSS showed that correlative number indicated by “a” (diagonally from left – corner to right – corner bottom), based on analysis of *Anti – Image Correlation*, was not found that the item having correlative score under 0.5 with MSA > 0.5. It showed that the

data of trial run result was worthy to be analyzed by exploratory factor.

The output analysis of the factors consisted of 4 main parts to be considered: (1) *Total Variance Explained*, (2) *Scree Plot*, (3) *Component Matrix*, and (4) *Rotated Component Matrix*. Table of *Total Variance Explained*, based on Table 4.7, shows results of *component matrix* consisting of six constructive factors. The numbers of factors were determined by *eigenvalues*, higher than 1. The number of *eigenvalues* show relative interest of each factor in calculating all 13 analyzed variances.

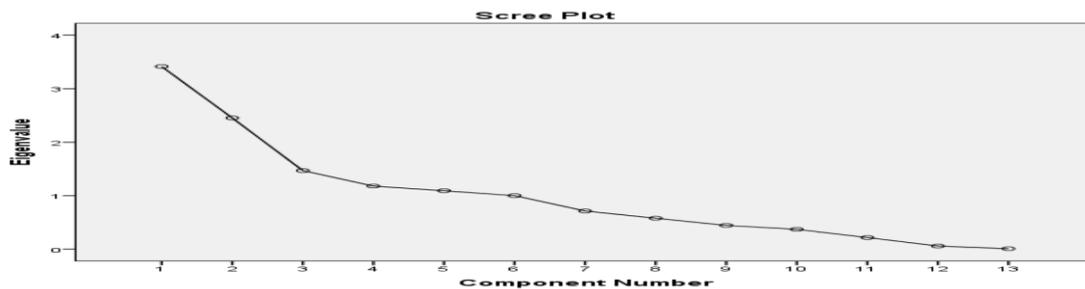


Figure 2. Scree Plot Result

Based on the figure, the *Scree Plot* shows that from factor 1 to 2, to factor 2 to 3, 3 until 4, 4 to 5, and 5 to 6 have their *eigenvalues* lower but higher than 1. Meanwhile, from factor 6 to 7 and so forth, the *eigenvalues* have been lower than 1. It shows that there are six constructive factors.

Table of *Component Matrix* of component factors had to be ≥ 0.3 . When there were component factors which were same as ≥ 0.3 then the higher one would be taken. From the table 4.6, the result of *total variance explained* showed there were no rotating distribution. Then, all 13 questions were included as these analysis results: number 1, 2, 3, and 9 were categorized as factor 1 component, number 5, 6, and 8 were categorized factor 2 component, number 4 and 11 were categorized factor 3 component, number 10 and 13 were categorized as factor 4 component, number 7 and 12 were categorized as factor 5 component. Meanwhile,

factor 6 component had no numbers of the questions.

The *Rotated Component Matrix* table shows that component scores or greater loading factors were multiplied. Meanwhile, the smaller one would be lesser. It shows there were clearer and actual distributive factors. The result shows that after *Rotated Component Matrix* number 1, 2, and 9 were categorized factor 1 component, number 3 and 4 were categorized as factor 2 components, number 5 and 6 were categorized as factor 3 component, number 7 and 8 were categorized factor 4 component, and number 10 and 11 were categorized factor 5 components. Meanwhile, number 12 and 13 were categorized factor 6 components.

Table of speaking skill assessment instrument question categorization shows that reliability coefficient based on analysis assisted by SPSS version 2.0 is 0.724. Good reliability is indicated if the index is equal or higher than

0.70 (Mardapi, 2016:115). The analysis concluded that the instrument for the fifth graders on large scale trial run with the research sample had good reliability level.

The recapitulation of practicability test result of the instrument done for SDN 2 Traji and five fifth graders teachers obtained score with percentages: 37, 36, 38, 32, and 34. The practicability categorization could be seen on Table 4.11. The result of practicability test of the instrument based on android on Indonesian language learning at school showed that the instrument was practical to use in assessing speaking skill.

Speaking skill improvement could be occurred when teacher used appropriate method to teach. Ningsih (2014) stated that speaking skill taught by telling learning model was in line. Lamajau (2014) used group discussion. Widiyanti et al (2015) used telling method through pictorial media showed improvement of speaking skill.

The speaking skill assessment instrument based on android to learn Indonesian language had met validity and reliability score. The validity analysis result done by experts stated that 13 questions were valid and reliable to be tested on small scale. The content validity result on small scale trial run showed that 13 questions having correlative coefficient $r_{\text{count}} \geq 0.361$. r_{table} could be used for further test on large scale trial run of sample test. The reliability coefficient on small scale test was 0.702. It was stated reliable. The larger scale obtained construct validity by using *Exploratory Factor Analysis* (EFA) obtaining *Kesier – Meyer – Olkin Measure* (KMO) > 0.5. It was 0.624. Its *Bartlett's Test of Sphericity* significance was 0.000 while the *Measure of Sampling* coefficient (MSA) from 13 questions obtained 0.5. It meant the instrument had met the factor analysis test criteria. The table of *Total Variance Explained* showed there were 6 formative factors. The numbers of the factors from *eigenvalues* were higher than 1. The numbers of factors were also supported by *Scree plot* resulted by *component matrix*. It showed the distribution of 13 questions on 6 formed factors. The obtained result from *rotated component matrix* showed that there was high loading factor on a

factor and moderate loading factor on other factor. The loading factor score of 13 questions was ≥ 0.3 . Therefore, the questions of the instruments were included into six current factors. The reliability coefficient was 0.724.

CONCLUSION

Based on the findings and discussion, it could be concluded that (1) the factual condition of speaking skill assessment instrument which was used by the teacher was not standardized, (2) the product was a handbook of teacher to assess speaking skill based on android. The book was complemented by android based assessment application which was operated by *smartphone*. In assessment application, there have been several menu selection, such as “assessment menu, guidance, rubrics of assessment, assessment indicators, and reading text. (3) The construct reliability of the fourth developed instrument had met reliability requirement with reliability coefficient > 0.70 for both small scale test and larger scale test with 60 students as the sample. The obtained data was analyzed by confirmatory factor analysis (CFA). It showed from four instruments of peer assessment model performance of volley ball basic technique had all valid indicators, and (4) the student speaking skill assessment instrument based android was practical to use in assessing speaking skill of the students in learning Indonesian language.

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