Development of Instruments for Assessing Linguistic Intelligence in Elementary Schools

Dea Sinta Maharani[1*], Otang Kurniaman[1], Eddy Noviana[1]
[1]Prodi PGSD, FKIP, Universitas Riau, Pekanbaru, Indonesia
*deamaharani0505@gmail.com

Abstract

Linguistic intelligence is one of eight multiple intelligences that currently attracts attention in the world of education. Linguistic intelligence is a person's ability to speak both verbally and in writing, besides that people who have linguistic intelligence also master the components of linguistic intelligence which consists of phonology, syntax, semantics and pragmatics. The type of research used is research and development (R & D) with a 4D model. The subjects in this study were experts as validators, fifth grade students for trials and homeroom teachers in elementary schools. Data collection is done by giving a questionnaire to the validator. In this study the researchers concluded that the product of the developed linguistic intelligence assessment instrument was declared feasible to be used based on the results of validation of 86% with very feasible categories. The obstacle in developing the product of this instrument of linguistic intelligence assessment is the lack of knowledge of the school about the importance of linguistic intelligence for students in elementary schools.

Keywords: Development, assessment, linguistic intelligence

1. INTRODUCTION

Based on the purpose of education in the opening of the 1945 Constitution, education must be able to develop all aspects of human potential as a whole and one of them is the aspect of student intelligence. Intelligence is a quality of humanity that cannot be ignored. Associated with efforts to educate the life of the nation, it is necessary to have an effort to implement a national education system that seriously and tries to function intelligence optimally. The optimal function of the intelligence during the learning process, is an effort to achieve high quality education. In the past, individuals were said to be intelligent and would be successful if they had a high IQ. It turns out that the "conventional" opinion is now refuted by the emergence of various intelligences. Both are initiated by Gardner with multiple intelligences or by other experts (Violinda, 2012)

Intelligence is one of the most important things possessed by all humans. Nowadays intelligence has been developed into several parts called

multiple intelligence (Armstrong, 2003). Multiple intelligence consists of eight intelligences and is still developing. The theory of multiple intelligences that was developed by Howard Gardner in 1983, refers to the traditional philosophy that exceeds the traditional view of being focused on verbal linguistics and logical mathematical intelligences into a multifaceted human intelligence. Accordingly, Gardner (Karim, Nerina, Neil, & Seyed, 2018) posits that there are at least varying intelligences including verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, interpersonal, and intrapersonal, naturalist, and existential intelligences.

Linguistic intelligence is one of eight plural intelligences that are currently developing. According to Gardner (Hali, 2017) linguistic intelligence is a combination of the left brain and right brain so that it can combine various different systems such as expression of motion, intonation and cognitive ability to express and describe sentences. Linguistic intelligence is defined as using language and is an innovative and special way. Adding to this definition, Armstrong believes that verbal-linguistic intelligence involves the syntax's ability to use, semantics, phonology and pragmatic dimensions of language or its practical use (Karim, Nerina, Neil, & Seyed, 2018).

To measure the linguistic intelligence possessed by students, an assessment instrument is needed that can measure the intelligence. The instrument of linguistic intelligence assessment is an assessment tool or evaluation tool which in this case is used to collect judgments related to linguistic intelligence. The assessment instrument is a very important part of measuring the level of intelligence of students so that the assessment instruments made must be in accordance with the objectives to be achieved by the assessment. The instrument of linguistic intelligence assessment can be made with the form of tests or non-tests that will be adjusted to the aspects of linguistic intelligence to be measured and by making the right assessment instrument, the measurement of the level of linguistic intelligence possessed by students is more accurate (Samiyan, 2013).

2. Contexts and Literature Review

Instruments are tools to collect data or information needed (Arikunto, 2012), while evaluation or assessment is the process of determining the information needed, the collection and use of information is used to make judgments before making a decision. In the assessment of linguistic intelligence assessment, the aim is to find out the prerequisite abilities possessed by students and the results will be used to design programs and subsequent learning activities. Based on the attachment of Permendikbud Number 66 of 2013 concerning assessment standards, the assessment instrument must fulfill the requirements, namely the substance that presents the competencies assessed, construction that

meets the technical requirements in accordance with the instrument used and the use of good and correct language and communicative according to the level of development of students . In addition, in the assessment of linguistic intelligence, the type of assessment conducted is an assessment in the form of a description test and performance assessment.

Linguistic intelligence is the ability to use words effectively, both verbally (eg storytellers, narrators or politicians) or in writing (eg writers and poets). People who have high linguistic intelligence can argue, convince people, entertain or communicate effectively through spoken words. In addition to being intelligent in arguing and expressing the opinions of intelligent people in this field, they are also able to quickly and precisely capture the intent and essence of the conversation while communicating with others. Linguistic intelligence includes (1) phonology, learner in issuing, imitating, or language sounds, (2) morphology, the ability to acquire vocabulary, choose a vocabulary, and develop it into a combination of morpheme and word, (3) syntax, which are acceptable phrases, clauses, and sentences, either a simple sentence which is only one subject and one predicate, and also has complex sentences with correct language structure, including the ability to arrange simple essays in discourse with elements of cohesion and coherence in structuring ideas. Language aptitude also has a close relationship to social aspects such as sociolinguistics and psycholinguistics (Hali, 2017).

In addition to the components of linguistic intelligence, aspects of linguistic intelligence are also important. In its application, linguistic intelligence covers several aspects. Aspects of linguistic intelligence are related to language skills, namely reading skills, writing skills, speaking skills and listening skills (Armstrong, 2003).

In elementary school, it is very important for teachers to know the level of linguistic intelligence possessed by their students. So from that the instrument of linguistic intelligence assessment is very important for students to measure the linguistic intelligence possessed by each student. Linguistic intelligence of students in elementary school can be measured by conducting a series of tests related to aspects of linguistic intelligence, namely reading skills tests, writing skills tests, speaking skills tests and listening skills tests (Armstrong, 2013)

3. RESEARCH METHODS

Type of research used is development research or commonly known as Research and Development (R & D). The development model used in the development of this assessment instrument is the 4-D model proposed by Thiagarajan and Semmel with four stages consisting of Define, Design, Development and Disseminate (Sugiyono, 2017), In this study I only used three steps in the 4-D model that is define, design and development. The

flow of development using the 4D model in this study was carried out by following the first stage, namely the defining phase containing field analysis and literature analysis, followed by the design stage containing product design activities for linguistic intelligence assessment instruments in the form of test sheets and assessment rubrics and the development stage which contains product validation activities with experts and practitioners.

The Purpose of this study was to develop a linguistic intelligence assessment instrument that is appropriate for use in elementary schools. The feasibility of the product of the linguistic intelligence assessment instrument is measured by validators who are experts in the field of linguistics. This validation was carried out by 5 experts consisting of 1 linguistics lecturer, 1 Indonesian language lecturer and 3 elementary school teachers as field experts. The object of this research is the development of products for linguistic intelligence assessment instruments for elementary school students. The data collected in this study is the product validation of the linguistic intelligence assessment instrument with the instrument form of product validation sheet. The validation values provided by the validator are then categorized using the Likert scale.

Table 1. Grid of Validation Sheets

No	Component of Assessment	Code	Number of Statements
1	Test equipment	K1	3
2	Overall assessment of linguistic intelligence instruments	K2	5
3	The linguistic intelligence instrument reads aspects	K3	7
4	The linguistic intelligence instrument write aspects	K4	7
5	The linguistic intelligence instrument speak aspect	K5	7
6	The linguistic intelligence instrument listening aspect	K6	8

Data collection techniques are ways that researchers use to obtain data. In this study, the data was obtained by giving a questionnaire to the validator, namely the questionnaire validation of linguistic intelligence instruments and providing questionnaires to the teacher on limited trial activities. The data obtained is then analyzed and processed by the researcher so that the results of data analysis are obtained. The data in this study were then analyzed using descriptive analysis techniques that aimed to describe the results of

validation given by 5 validators after the validation stage. The validation aspects assessed by the validator are made in the form of a Likert Scale with a score of 1-4. This scale gives flexibility to each validator to assess the linguistic intelligence assessment instrument developed.

4. RESULTS

The main result of this study consist of the results of validation of linguistic intelligence products by experts and practitioners and products of linguistic intelligence assessment instruments that can be used as assessment instruments to measure level of linguistic intelligence in elementary school students.

The following are the results of the development of assessment instruments adapted to the stages in the 4-D model:

The definition phase consists of field analysis activities with the results of many elementary schools that do not yet have specialized linguistic intelligence assessment instruments and are still unaware that students' linguistic intelligence is important for developed though some learning innovations to improve student competence can be done by competent teachers (Nandang & Nasruddin, 2019) and analyzed literature activities related to linguistic intelligence. Furthermore, the design stage is an activity to design the product of an instrument for the assessment of linguistic intelligence developed. The following are some of the initial design drawings for the assessment instrument products that were developed.
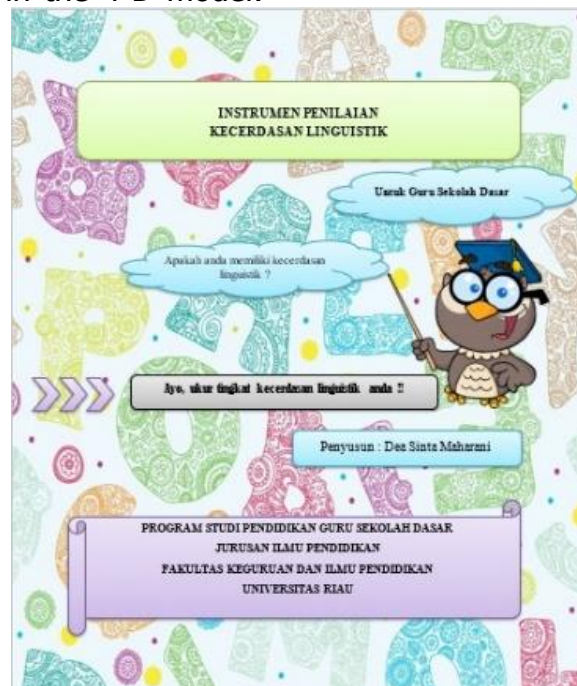

Figure 1. Cover of Linguistic Intelligence Assessment

Figure 1 is a preliminary draft cover product linguistic intelligence assessment instrument consisting of the product title, author name, campus identity of the author and product users.

Figure 2. Linguistic Intelligence Test

Figure 2 is one example of a linguistic intelligence test for reading skills. The reading skills test contains the text of the discourse given to students who will run the linguistic intelligence test.

Figure 3. Linguistic Intelligence Assessment Rubric

The linguistic intelligence assessment rubric contains a component of linguistic intelligence, assessment indicators and grading score descriptors that users will use to calculate the linguistic intelligence of students who have run previous tests.

The next stage is the development stage which contains product validation activities by experts and practitioners.

This validation was carried out by 5 experts consisting of 1 linguistic lecturer, 1 linguist expert, 3 field experts. The product of the assessment instrument is then validated by the validator in accordance with their respective fields of expertise by filling in the validation sheet.

The validation results provided by the validators can be seen in the table below.

Table 1. Validation Results

No	Component	Average	Eligibility Value (%)	Category
1	Test equipment	3,3	82%	Very Decent
2	Overall assessment of linguistic intelligence instruments	3,6	89%	Very Decent
3	The linguistic intelligence instrument reads aspects	3,4	85%	Very Decent
4	The linguistic intelligence instrument write aspects	3,4	85%	Very Decent
5	The linguistic intelligence instrument speak aspect	3,4	84%	Very Decent
6	The linguistic intelligence instrument listening aspect	3,6	89%	Very Decent
	Average	**3,5**	**86%**	Very Decent

Based on the results of data analysis presented in table 1 it can be seen that linguistic intelligence assessment instrument products developed by researchers get very decent values because the results of the validation of each component are rated to get values above 80%. This is because during the validation process each validator provides input, suggestions and improvements to the product developed by the author.

In the table above it can also be seen that the assessment component that gets the lowest score is the linguistic intelligence test component, this component contains a series of linguistic intelligence tests developed. The validation results given by the validator

on this component as a whole are 3.3 with a feasibility value of 82%, this is because in the developed linguistic intelligence tests there are still instructions for use and language use errors.

Some suggestions and improvements provided by the validator during the product development process of this assessment instrument are improvements to the instructions and instructions for using tests and assessment rubrics, improvements to formulas to calculate the level of linguistic intelligence and improvements to descriptors at each linguistic intelligence assessment.

The results of the validation are in line with what was stated by the National Education Standards Agency (BSNP, 2006) which states that overall assessment instruments are declared feasible if the selection of assessment techniques is adjusted to the characteristics of the area to be assessed and the assessment instruments made must be adjusted to the characteristics of students carrying out the assessment. Based on the provisions of the BNSP, the appraisal instrument product developed is considered feasible because it has carried out the validation and improvement process mentioned earlier so that the developed product is worthy of distribution.

5. CONCLUSION

Based on the results of data analysis, it can be concluded that after designing linguistic intelligence assessment instrument products and validating the experts who are in accordance with the developed product field, the linguistic intelligence assessment instrument products developed by the authors are considered appropriate to be used to measure the level of linguistic intelligence students in elementary school. Based on the conclusions previously explained, the authors recommend this product be used by teachers in primary schools to measure the level of linguistic intelligence students have and can be used for other research that is in line with the assessment instrument products developed.

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