



Quality of Multiple-Choice Questions in the Indonesian Language Examination for Junior High School Level

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Abstract. There are several steps must be taken in order to carry out education, including planning, implementing, evaluating, and reflecting. The focus of evaluation or assessment of learning outcomes is the individual, which is learning performance achieved by groups or classes. Assessment of learning outcomes can be in the form of daily tests, semester tests, and final semester tests where the material is taken from teaching materials. The objective of this study is to find out and describe the quality of multiple-choice questions to deepen the material for Indonesian language school examinations at the junior high school level. This is qualitative research and data was validated using triangulation method while and reliability testing is used for data collection. Data was collected using documentation method. Data was analyzed using evaluative analysis method. The subject of this study is multiple choice questions from the junior high school level for Indonesian school examination, while the object is the quality of the multiple-choice questions to deepen the Indonesian language school examination material. The results of the study can be concluded that in terms of objectivity and practicality, the questions can be categorized as good, but in the economic aspect they are still not good. The validity of the 20 sample questions tested, 13 questions were categorized as valid, 6 questions were categorized as invalid, and 1 item could not be assessed. The reliability of the questions is at moderate level. The suitability of the questions with the convention of the Indonesian language is not yet said to be good, because there are 5 questions that are not in accordance with the convention of the Indonesian language.

Keywords: questions quality · multiple-choice · Indonesian Language

1 Introduction

The development of a nation can be measured by its level of education. A nation can easily develop if its citizens have a high level of education. The main industry for the development of a nation is often education [1]. Basically, it has the function to educate the life of the nation and preparing human resources capable of interacting with their

surroundings. In the current era of globalization, the Indonesian people are required to become people who have good quality of human resources. Therefore, its people must have the ability to think critically, logically, systematically, creatively, and have the ability to work together effectively [2]. Learning improvement is used in increasing the quality of education as assessed by the sustainability of quality learning programs. Learning is a process, the success of which is determined by many such as surroundings, teachers, and students. There are various steps that must be taken in order to carry out education, including planning, implementing, evaluating, and reflecting. The curriculum is prepared by the government for these objectives. The 2013 curriculum currently implemented by the government is a curriculum to replace the Education Unit Level Curriculum (KTSP). Implementation of this curriculum is expected to enable Indonesia to advance its education system.

Attitudes, knowledge, and skills are required qualifications for graduation in accordance with the National Standards in Regulations no. 20 of 2003 article 35. Therefore, an assessment method is also needed to find out whether the curriculum objectives have been achieved in learning activities. Evaluation or test is an overview of the tools used in measuring learning outcomes. Evaluation is the process of providing information that can be used to make decisions, support accountability, and deepen understanding of a phenomenon [3]. The objective of evaluation is to obtain evidentiary data, which will be an indication of the level of ability and level of success of students in achieving curricular objective after they have taken the learning process within a predetermined period of time [4]. This can be used to assess the objectives that have been achieved as well as their design, implementation and impact. Through assessment, information about what has been and what has not been achieved. This information will then be applied to improve a program.

This evaluation tool is needed in order to understand students' ability to think about learning activities carried out. This is indicated by the ability of students to work on the test. This assessment can be carried out during the process of teaching and learning activities. The assessment can be in the form of an internal assessment and an external assessment. Internal assessment is basically carried out by the organizers of teaching and learning activities, which is the teacher. Whereas external assessments are carried out by other parties who do not carry out teaching and learning activities, usually by an institution, which is intended for quality control.

In actualizing the assessment guidelines, the teacher must determine the aspects to be assessed before carrying out the evaluation. Evaluation process should be done in a systematic and sustainable manner. The objective is to present, describe, collect, and interpret information about a program so that it can be used as a basis for making and formulating further program policy decisions. Evaluation in it is carried out by presenting, describing, collecting, and interpreting information about a program so that learning success can be carried out properly and can achieve the desired educational objectives [5]. One form of measurement is a test, and through tests, information such as students' competence, knowledge, and skills can be obtained easily [6]. A test consists of a series of questions that must be answered to measure or reveal a particular aspect of the subject being examined. Therefore, examination must have good quality. To assess whether a test has good quality or not, the following must be carried out: (1) the questions

that have been made should be honestly examined; (2) question analysis should be carried out which consist of three approaches, including difficulty level index (ITK), discriminating power index (IDB), and effectiveness of the detractor; (3) conduct validity test; (4) conduct reliability test [7]. There are essentially a variety of objective checks available. This can be observed in the multiple-choice test items that can be used to examine learning outcomes, ranging from simple to complex forms.

For each question on a multiple-choice test, there are often three to five potential solutions. The test taker must choose one of the possible answers after considering certain factors as the right answer. Stem or the main part of the question, options or answer choices, keys or answer keys, and distractor or answer distractors are parts that are included in multiple choice questions. In test and non-test learning evaluation systems, teachers are required to have an assessment system that is in accordance with agreed regulatory standards. In test learning evaluation system, test is conducted in writing or orally, while in non-test learning evaluation system the development of students is measured from both psychomotor and affective aspects. In Indonesia, commonly used learning evaluation is written exam, this can be seen from several tests such as daily tests, PTS (Mid Semester Assessment), and PAS (Final Semester Assessment). In this case the role of the teacher is of course very important. Teacher should master the competence in the academic, social, personal and pedagogical fields. Not only do they have to be good at carrying out teaching and learning activities, teachers also have to be smart and able to make quality questions for students. These questions will later be used to assess learning outcomes by measuring the extent to which students understand the material that has been delivered and to see the success of the learning objectives that have been implemented. Tests that are used as evaluation material often do not carry out an analysis of the quality of the items, so the quality of the questions that have been compiled is unknown. Therefore, to determine the quality of the items used for the test, it is necessary to analyze the items [8].

In making questions the main objective is to measure the learning outcomes that have been received by students. Therefore, questions for students need to be analyzed determine the effectiveness of these questions. This is because the measurement or assessment of student competency can be inaccurate because the questions used to measure do not meet standards and are less effective. If a question meets the criteria of validity and reliability, then the question is considered as high-quality measuring tool. So good quality questions must meet the requirements of objectivity, validity, reliability, practicality, and economy. Questions requirements cover material, construction, and language aspects [9]. The material aspects include; suitability of questions, logical and homogeneous or similar answer choices, and each question has the correct and most correct answer. Analysis of construction aspects of multiple choice questions includes; clarity in the formulation of the main questions, the main formulation of the questions is only the necessary statements, the subject matter does not lead to a correct answer, does not contain negative statements, the length of the answer choices is the same, the answer choices are "All the answer choices above are wrong" or "All the answer choices in above is correct" is not contained in the question, the answer choices in the form of numbers are arranged from the smallest, pictures, tables, and such in the questions are functioning properly, and the questions do not depend on the previous questions.

While the analysis of language aspects related to; each question uses language that is in accordance with Indonesian language convention, does not contain local language if the questions made are to be used nationally, communicative language is used in each question, and each answer choice does not repeat words or phrases that are not one unit [9].

Relevant research regarding the assessment of questions quality has been carried out by several researchers [10–26]. The similarities with this research are that they both examine the quality of the questions. The difference is that most of these studies examine questions in various fields. There is one study that examines the quality of Indonesian language questions but in different schools and in different classes.

The objective of this research is to know and describe the quality of multiple-choice questions on Indonesian language school examinations at the junior high school level.

2 Method

This research applies qualitative research method. This research was conducted by analyzing the questions and answers of students. Multiple-choice questions from the Indonesian language school examination at the junior high school level are the subject of this study, while the quality of the multiple-choice questions in depth of Indonesian language school exam material is the object studied. The focus of this research is the quality of Indonesian language school exam questions used at the junior high school level. Data validation and reliability testing were used to test data validity, while evaluative analysis was the data analysis method used in this study. This method is a research activity that evaluates an activity or program aiming to measure and determine its expected success.

3 Result and Discussion

Indonesian language school examination questions for junior high school level have been aligned with the Competency Standards and Basic Competency Curriculum, so the contents feasibility is complete as a whole.

3.1 Questions Objectivity

The questions for the Indonesian Language School Examination for junior high school level were made directly by the Subject Teacher Forum (MGMP) so that it can be said that these questions are very objective or have high objectivity. Purwanto (1992), although test results are evaluated by many assessors, the quality the similarity of the scores obtained with the test determines the objectivity of the exam. The questions have high objectivity because it has been standardized, indicating the method applied has been standardize for testing methodology, standard definition, standard specification, standard procedure or practice, and others. Therefore, standardization of a question will determine of the quality and is used as a minimum reference in achieving harmony to achieve the objective of the assessment.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Name	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Question	Amount
2		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
3	arya aditya	0	0	1	1	1	1	0	1	1	1	0	1	1	0	1	0	1	1	1	1	14
4	fira	0	0	1	1	1	1	0	1	1	1	0	1	1	0	1	0	1	1	0	0	12
5	haikal	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	1	1	1	1	13
6	ismi	1	1	0	0	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	15
7	irssi	0	1	1	0	0	1	1	1	0	1	0	0	1	0	0	0	1	0	0	0	8
8	m. Fahrul	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	5
9	muhammad agil	1	1	1	1	0	1	1	0	0	1	0	0	1	0	1	0	0	1	0	1	11
10	mon. Anif	1	1	0	0	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	13
11	ria andini	1	1	0	1	0	1	1	0	1	1	0	0	1	0	1	0	1	0	0	1	11
12	rini mayas	0	1	1	1	1	0	0	1	1	0	1	1	1	0	0	0	0	0	1	1	11
13	widya	0	1	0	0	0	1	1	1	1	0	1	1	0	1	0	0	0	0	0	1	9
14	zakia	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	1	1	0	0	12
15																						
16	r count	0,357	-0,011	-0,223	-0,022	0,395	0,704	0,255	-0,179	0,692	0,704	#DIV/0!	-0,139	0,704	0,480	0,692	0,480	0,580	0,758	0,252	0,252	
17	r table	0,576																				
18	result	Invalid	Invalid	Invalid	Invalid	Valid	Valid	Valid	Invalid	Valid	Valid	#DIV/0!	Invalid	Valid	Valid	Valid	Valid	Valid	Valid	Valid	Valid	
19																						
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Fig. 1. Validity Test

3.2 Validity

Validation produces a validity. Validation is a technique used by the user or constructor of the instrument to collect empirical data to verify the conclusions drawn from the instrument scores. The extent to which the test assesses what is specified to be assessed is what constitutes the degree of validity of the evaluation instrument.

To ensure that the instruments made are appropriate and consistent with the research being conducted, a validity test was carried out. The validity of the items was analyzed using the calculation of the correlation coefficient between the scores of the items and the total questions [27]. There are lots of software that can be used in testing the validity of an instrument, one of them is Microsoft Office Excel. The advantage of using excel software is the practicality of changing instruments. Test the validity of using excel by presenting 12 respondents with a sample of 20 questions. The results of the validity test are presented in Fig. 1 and Table 1.

After conducting the validity test, it can be concluded that from 20 sample questions, 6 questions were declared invalid, 1 item could not be counted, and 13 questions were declared valid. Data or instruments can be declared valid if the value of rcount > rtable, but if rcount < rtable then the data can be declared invalid.

3.3 Reliability

Reliability is an instrument used to measure the accuracy of the questions. Therefore, consistency in measurement can be concluded to be a key component of reliability. Consistency in measurement is the ability of a question to have stable or steady results across multiple measurements of the same factor. The reliability index is between 0 and 1. The consistency or correctness of a test will increase when the reliability coefficient approaches 1.

This reliability test is carried out to show the consistency of a measuring instrument in measuring the same symptoms. Instrument reliability test is conducting using Alpha Cronbach formula or technique with the help of Microsoft Excel. Test the validity of using excel by presenting 10 respondents with a sample of 20 questions (Fig. 2).

Table 1. Validity test result

Questions	Validation
Question 1	Invalid
Question 2	Invalid
Question 3	Invalid
Question 4	Invalid
Question 5	Valid
Question 6	Valid
Question 7	Valid
Question 8	Invalid
Question 9	Valid
Question 10	Valid
Question 11	Cannot be calculated
Question 12	Invalid
Question 13	Valid
Question 14	Valid
Question 15	Valid
Question 16	Valid
Question 17	Valid
Question 18	Valid
Question 19	Valid
Question 20	Valid

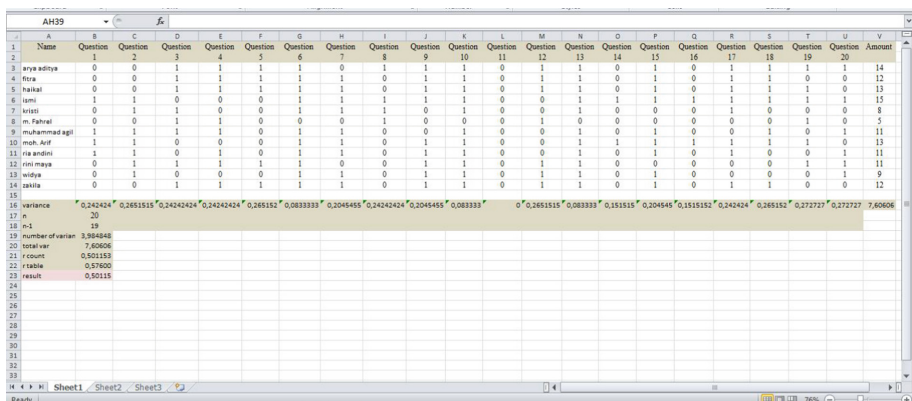


Fig. 2. Reliability test

PETUNJUK UMUM	GENERAL INSTRUCTIONS
<ol style="list-style-type: none"> 1. Isikan identitas Anda ke dalam Lembar Jawaban Ujian Sekolah (LJUS) yang tersedia dengan menggunakan pensil 2B, sesuai petunjuk di (LJUS). 2. Tersedia waktu 120 menit untuk mengerjakan paket tes tersebut. 3. Jumlah soal sebanyak 50 butir, pada setiap butir soal terdapat 4 pilihan jawaban. 4. Periksa dan bacalah soal-soal sebelum Anda menjawabnya. 5. Laporkan kepada pengawas ujian apabila terdapat lembar soal yang kurang jelas, rusak, atau tidak lengkap. 6. Mintalah kertas buram kepada pengawas ujian, apabila diperlukan. 7. Periksalah pekerjaan Anda sebelum diserahkan kepada pengawas ujian. 8. Lembar jawaban tidak boleh dicoret-coret atau terlipat. 	<ol style="list-style-type: none"> 1. Fill in your identity into the provided School Examination Answer Sheet (LJUS) using a 2B pencil, according to the instructions in (LJUS) 2. There is 120 minutes to work on the test package. 3. The number of questions is 50 items, in each item there are 4 answer choices 4. Check and read the questions before you answer them 5. Report to the exam supervisor if there are questions that are unclear, damaged or incomplete. 6. Ask the exam supervisor for black paper, if needed. 7. Check your work before turning it in to the exam supervisor 8. Answer sheets may not be scribbled on or folded

Fig. 3. General Instructions

After reliability test, the result shows that from 20 sample questions, the multiple choice questions on the Indonesian language school exam have a moderate level of reliability. Data have a moderate level of reliability because it has an alpha value between 0.50–0.70 while the alpha value in the data is 0.50115.

3.4 Practicality

A good evaluation has clauses that forward instructions or guidelines about how the test should be conducted. Practicality test should have the following properties [28]:

- 3.4.1. Easy to implement, does not require a lot of equipment and gives freedom to students to work on the components they find easiest first. In accordance with general instructions number 1, students can answer these questions using a 2B pencil. It means that in the process does not require students to use a lot of equipment, and in answering questions students are given the freedom to answer questions that are considered the easiest first.
- 3.4.2. The test questions cover answer keys and assessment standards, so they are easy to verify. In accordance with general instructions number 1, students work on questions in the School Exam Answer Sheet (LJUS) and school exam questions are equipped with answer keys and scoring guidelines brought by the corresponding teacher.
- 3.4.3. Can be given to other people because it is equipped with work instructions. School exam questions are equipped with general instructions to make it easier for students to work on them. This question can also be given to other people, meaning that this question can be delivered by a teacher or supervisor who is not in line with the corresponding subject being tested (Fig. 3).

3.5 Economical

Overall, it cannot be said that the Indonesian Language School Examination at the junior high school level is economical. Economical means saving time, money, goods,

and other resources. From the expense aspect, the questions still require quite a lot of money for its development and distribution. Distributing the questions from Balaesang to Dampelas, took 31 kilometers and from from Balaesang to Tanjung needs 28 kilometers. Therefore, it require a lot of expenses in distributing questions from one region to another. Developing the questions also still requires a lot of money and a lot of energy. Practically, the timeline is only set at 120 minutes. Therefore, in terms of timewise, it doesn't take a long time to work on (Fig. 4).

Although the quality of the questions can be stated to be good, in some aspects it cannot be said to be good. This is indicated by a number of questions that do not pay attention to aspects of language related to the use of language in accordance with linguistic rules, because some of the writing questions are found not in accordance with the General Guidelines for Indonesian Spelling (PUEBI). Furthermore, the results of the analysis of the quality of the questions on the question of deepening Indonesian language school exam material will be displayed as follows

Question (1)

The mistake of using Indonesian in question (1) is in the sentence “Bacalah paragraf berikut.” and on the word ‘hujanterjadi’. The writing is not in accordance with the rules of the Indonesian language, because the use of punctuation marks is not appropriate and after the word rain and before the word occurs do not use spaces. The punctuation mark should be an exclamation mark (!), because this sentence is an imperative sentence. Writing the right words using spaces makes it rain. Inappropriate writing like this can confuse students in working on questions (Fig. 5).

MATA PELAJARAN	SUBJECTS
MATA PELAJARAN : Bahasa Indonesia Jenjang : SMP/MTs	Subjects : Indonesian Level : SMP/MTs
WAKTU PELAKSANAAN	EXECUTION TIME
HARI/TANGGAL : Senin, 2020 WAKTU : 120 Menit	Date and time : Monday,.....2020 Time : 120 minutes

Fig. 4. Subjects and execution time

1. Bacalah paragraf berikut.

Bencana banjir tidak dapat dihindari jika hujanterjadi terus menerus. Banjir yang tinggi dapat menyebabkan lumpuhnya jalur transportasi. Selain itu, bencana banjir juga dapat mengakibatkan timbulnya berbagai macam penyakit.

- A. Penyakit yang disebabkan banjir
- B. Dampak bencana banjir
- C. Dampak lumpuhnya jalur transportasi
- D. Penyebab terjadinya banjir

Fig. 5. Question 1

13. Bacalah teks berikut!

(1) Pengfunaan *smartphone* 'ponsel pintar' dikalangan pelajar kini sudah tidak bisa terelakkan. (2) Smartphone sudah menjadi bagian kehidupan manusia dan pelajar – khususnya. (3) Keberadaan *smartphone* di9 kalangan pelajar ibarat dua sisi mata uang. (4) Smartphone dapat membantu pelajar untuk mengetahui informasi yang terjadi didunia melalui aplikasi sosial media. (5) Disisi lain, pengguna *smarthphone* secara berlebihan dna tidak bijak dapat menjerumuskan pelajar ke hal-hal yang negatif, seperti mengganggu konsentrasi belajar, mengakses informasi yang tidak seharusnya, dan lain-lain.

Kalimat yang menyatakan penolakan atas isu tersebut ditunjukkan oleh nomor...

- A. (2)
- B. (3)
- C. (4)
- D. (5)

Fig. 6. Question 13

Question (13)

Spelling errors in question (13) are in the words “pengfunaan”, “di9”, and “penguna”, because the writing does not use proper Indonesian. It should be written as penggunaan, di, and pengguna. Things like this can make it difficult for students to understand the word (Fig. 6).

Question (23)

The spelling error found in question (23) is that between the comma (,) and the word beliau does not contain hyphens or spaces. It should have written “Sebagai seorang raja, beliau tidak mau”. This writing makes the paragraph above the writing not in accordance with the rules of the Indonesian language (Fig. 7).

Question (43)

Spelling errors in question (42) are (1) between the word merokok and the word nenek; (2) between the words saja and the words aku, both of them have no hyphens or spaces. It should have written “Kakek duduk di kursi malas sambil merokok, nenek diam saja, aku dan Bi Ijah menjahit pakaian”. This error makes the text fragment above not in accordance with the rules of the Indonesian language (Fig. 8).

Question (46)

The error in the text of question (46) is the use of the word belio. The word includes a form that is not standard. According to the Big Indonesian Dictionary (KBBI), the

23. Sisingamangaraja XII merupakan salah satu pahlawan nasional Indonesia yang gigih berperang melawan penjajah. Beliau merupakan pahlawan sekaligus seorang raja dari Toba, Sumatera Utara. Keberadaan beliau membuat penjajah Belanda yang waktu itu berusaha menjajah Indonesia kewalahan. Sebagai seorang raja, beliau tidak mau wilayahnya yang merdeka, subur dan makmur dijadikan kawasan penjajahan yang kehilangan kemerdekaan.

Hal yang tepat untuk diteladani dari tokoh dalam kutipan biografi tersebut adalah...

- A. Salah satu pahlawan nasional Indonesia yang gigih melawan penjajah
- B. Pahlawan sekaligus seorang raja dari Toba, Sumatera Utara
- C. Membuat penjajah Belanda kewalahan
- D. Tidak mau wilayahnya dijadikan kawasan penjajahan

Fig. 7. Question 23

43. Bacalah kutipan teks berikut!

Kakek duduk di kursi malas sambil merokok, nenek diam saja, aku dan Bi Ijah menjahit pakaian yg perlu untuk perkawainanku. Sambil menjahit, Bibi mengajarku bagaimana seorang wanita harus bercakap-cakap secara halus, melayani orang dengan baik, berbicara dengan calon suaminya dan lain-lain.

Isi tersirat pada kutipan cerita tersebut adalah

- A. Seorang kakek harus duduk di kursi malas.
- B. Orang tua selalu mengurus keperluan anaknya.
- C. Nasihat orang tua kepada anak wanita yang mau menikah.
- D. Orang tua senantiasa memberi nasihat pada semua anaknya.

Fig. 8. Question 43

Bacalah teks berikut, kemudian kerjakan soal nomor 46 dan 47

Jendral Sudirman adalah seorang perwira tinggi Indonesia pada masa revolusi nasional Indonesia. Belio lahir tanggal 24 Januari 1916 di Purbalingga.

Sudirman adalah seorang siswa yang rajin dan sangat aktif dalam kegiatan ekstrakurikuler terutama program kepanduan (Pramuku) yang dijalankan oleh organisasi Mohammad Diyah. Belio sangat dihormati oleh masyarakat karena ketaatannya pada ajaran Islam. Pada tahun 1936, ia menjadi guru kemudian menjadi kepala sekolah di sekolah dasar Mohaman Diyah.

Tahun 1944, Sudirman bergabung dengan tentara PETA (Pembela Tanah Air) yang dibentuk oleh Jepang. Ia menjabat sebagai komandan batalion di Banyumas. Karena melakukan pemberontakan sesama prajurit lainnya, ia kemudian diasingkan ke Bogor. Setelah Indonesia memproklamkan kemerdekaannya, belio terpilih menjadi panglima besar, tepatnya pada tanggal 12 November 1945. Dalam keadaan sakit pun belio tetap memimpin perang gerilya melawan Belanda yang ingin menguasai kembali Indonesia. Tanggal 29 Januari 1950, pada usia 34 tahun belio wafat kurang lebih 1 bulan setelah Belanda mengakui kemerdekaan Indonesia. Jendral Sudirman sosok panutan pemimpin sekarang.

46. Keistimewaan tokoh pada teks tersebut adalah

- A. Lahir tanggal 24 Januari 1916 di Purbalingga
- B. Melakukan pemberontakan bersama prajurit lainnya
- C. Dihormati masyarakat karena ketaatannya kepada agama Islam
- D. Menjadi panglima besar pertama setelah kemerdekaan Indonesia

Fig. 9. Question 46

word he should have used means ‘the person being talked about (used to honor him)’ (Fig. 9).

The findings of this study lead to the conclusion that Indonesian language school exam questions for junior high school level generally have good content because they are aligned with the Competency Standards and Basic Competency Curriculum. Objectivity and practicality aspects of these questions can be categorized as good, but the economic aspect is not. 13 questions were categorized as valid, 6 questions were categorized as invalid, and 1 item could not be assessed. The reliability aspect from 20 sample questions has a moderate level of reliability with an alpha value of 0.50115. There are 5 questions that are not in accordance with the rules of the Indonesian language, KBBI and PUEBI.

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