Jurnal Review Pendidikan dan Pengajaran
http://journal.universitaspahlawan.ac.id/index.php/jrpp
Volume 6 Nomor 4, 2023
P-2655-710X e-ISSN 2655-6022

Submitted : 27/10/2023
Reviewed : 06/11/2023
Accepted : 08/11/2023
Published : 10/11/2023

Sunah[1]
Rufii[2]

ANALYSIS OF MULTIPLE-CHOICE QUESTIONS IN ECONOMICS SUBJECT CLASS X SMAN I KETAPANG

Abstrak

Penelitian ini bertujuan untuk menganalisis pertanyaan-pertanyaan mengenai pemahaman siswa dalam pembelajaran Ekonomi di kelas X di SMAN I Ketapang. Soal-soal yang digunakan sebagai penilaian harus mempunyai kualitas objektif yang dapat dipertanggungjawabkan, sehingga soal dianalisis secara statistik yang meliputi (1) analisis validitas, (2) analisis reliabilitas, (3) analisis tingkat kesukaran, dan (4) analisis kelayakan. kekuatan pembeda dari pertanyaan-pertanyaan tersebut. Bentuk penelitian yang digunakan dalam penelitian ini adalah penelitian deskriptif kuantitatif. Penelitian ini merupakan penelitian evaluasi yang melibatkan 33 siswa di SMAN I Ketapang. Instrumen yang digunakan dalam penelitian ini adalah pengumpulan data melalui teknik dokumentasi. Analisis data butir soal dilakukan dengan menggunakan program SPSS 25. Hasil penelitian menunjukkan bahwa seluruh soal yang diujikan valid dan reliabel, sehingga dapat digunakan sebagai alat evaluasi yang berkualitas. Hasil uji tingkat kesukaran menunjukkan soal berada pada tingkat mudah dengan presentasi 30%, soal berada pada kategori sedang dengan presentasi 70%. Sedangkan uji daya pembeda soal berada pada tingkat baik dengan penyajian 35%, dan soal berkategori cukup dengan penyajian 65%. Soal-soal yang disajikan dapat dianalisis dengan hasil yang valid dan reliabel serta dapat didistribusikan dengan baik. Jadi, dapat disimpulkan bahwa butir soal tersebut layak digunakan pada ujian tengah semester. Manfaat yang dapat diperoleh dari hasil penelitian ini adalah sebaiknya selalu menyiapkan soal cadangan untuk menggantikan soal yang berkategori kurang baik, dapat dilakukan revisi terhadap soal yang berkategori cukup baik agar dapat digunakan kembali, dan soal dengan kategori baik dapat ditambahkan ke bank soal.

Kata Kunci: Analisis Butir Soal, Pilihan Ganda, Mata Pelajaran Ekonomi

Abstract

This research aims to analyze the questions regarding students' understanding in learning Economics in class X at SMAN I Ketapang. The questions used as an assessment must have an objective quality that can be accounted for, so the questions are analyzed statistically which includes (1) validity analysis, (2) reliability analysis, (3) difficulty level analysis, and (4) analysis of the differentiating power of the questions. The form of research used in this research is quantitative descriptive research. This research is an evaluation involving 33 students at SMAN I Ketapang. The instrument used in this research is data collection through documentation techniques. Analysis of the question item data was carried out using the SPSS 25 program. The research results showed that all the questions tested were valid and reliable, so they could be used as a quality evaluation tool. The results of the difficulty level test show that the questions are at an easy level with a presentation of 30%, the questions are in the medium category with a presentation of 70%. Meanwhile, the discriminating power test of the questions is at a good level with a presentation of 35%, and the questions are in the fair category with a presentation of 65%. The questions presented can be analyzed with valid and reliable results and can be distributed well. So, it can be concluded that these question items are suitable for use in the mid-semester exam. The benefits that can be obtained from the results of this research are that it is best to always prepare reserve questions to replace questions in the bad category, revisions can be made to questions in the good enough category so that they can be used again, and questions in the good category can be added to the question bank.

[1,2)] Universitas PGRI Adi Buana Surabaya
email: sunah.kurniawan@gmail.com

Keywords: Question Item Analysis, Multiple Choice, Economics Subjects

INTRODUCTION

Two important components in the world of education are teachers and students. Teachers who direct students in learning and students who are the objects of that learning (Inawati et al., 2022; Putri Andini & Mukhlis, 2023; Verawati et al., 2023). Pradani & Efendi, (2023) say that teacher competency standards include 4 main competencies, namely pedagogical competency, personality competency, social competency and professional competency. Pedagogical competency is a teacher's ability to manage student learning which at least includes the following things: (a) understanding the insight or foundation of education, (b) understanding students, (c) curriculum/syllabus development, (d) learning planning, (e) implementation of educational and dialogical learning, (f) use of learning technology; g) evaluation of learning outcomes (EHB), and (h) development of students to actualize the various potentials they have.

In the world of education, evaluation is carried out to determine the quality of the educational components. For example, a teacher conducts an evaluation of students, the aim is to find out the extent of the students' abilities. Evaluation or assessment is an umbrella concept that covers several underlying concepts, for example measurement and tests. Evaluation refers to or contains the meaning: an action or a process to determine the value of something. Assessment is the process of giving or determining value to certain objects based on certain criteria. Assessment is carried out with the aim of assessing student learning processes and outcomes at school, diagnosing students' learning difficulties and determining grade promotion or graduation. The function of assessment is as a tool to determine whether or not instructional goals have been achieved, provide feedback for improving the teaching and learning process, increase student learning motivation, and as a basis for compiling reports on student learning progress to their parents (Hidayatunnisa'i et al., 2023; Nur Cahyo et al., 2022; Prawiki & Helendra, 2022).

In general, the evaluation tools used can be classified into two types, namely tests and non-tests. Test techniques can be carried out both written and unwritten. Non-test techniques are used to assess attitudes, skills, behavior, and so on. Tests in education are systematic, valid, reliable and objective assessment tools or assessment methods to determine students' abilities, skills and level of knowledge regarding teaching materials, in the form of a task or problem that must be solved by a student or group of students (Hanan et al ., 2023; Kusumayanti & Jannah, 2022; Rismaulhijjah & Kuswanti, 2022). Based on the objectivity of scoring, tests are divided into objective tests and subjective tests. A multiple-choice test is a form of text that has the correct or most appropriate answer. In this test, the correctness of the answers is absolute. The answer only has four possibilities, namely A, B, C, and D.

The Economics subject test in connection with or as part of Economics learning is a tool used to try to measure how much students have mastered the Economics they have studied. The Economics subject test is a tool to measure student abilities. The activity of analyzing question items (item analysis) is an activity that teachers must carry out in order to improve the quality of the questions that have been prepared. And the aim is to identify good, bad and bad questions. By analyzing the questions, information can be obtained about how bad a question is and "hints" for making improvements.

In this case the author will discuss the study of test content, namely analyzing the level of validity, reliability, level of difficulty, and discrimination. Mira et al., (2022); R. P. Sari, (2022); V. N. I. Sari et al., (2022), As the name suggests, teacher-made tests are tests created by the teacher himself. The test is intended to measure the level of success of students in achieving goals after the teaching process is managed by the teacher concerned.

METHODS

The research method used in this research is descriptive research method using a quantitative approach. According to (Sugiyono, 2017, 2019) quantitative descriptive research methods aim to describe phenomena, events, symptoms and events that occur factually, systematically and accurately. Phenomena can take the form of forms, activities, relationships, characteristics as well as similarities and differences between phenomena. The research was conducted at SMAN

I Ketapang in the odd semester of the 2023/2024 academic year using multiple choice questions designed to determine students' understanding of the class X Economics subject.

Table 1. Indicators of understanding of material regarding Class X Economics subjects

No	Learning objectives
1.	Identify the parts of Economics and describe their functions
2.	Describe economic processes and relate the importance of these processes to living things
3.	Identify and create simulations using charts or simple tools about economic cycles.

The measurement of the level of difficulty of a question item is produced based on a comparison of the number of incorrect and correct responses (Jumini et al., 2023; Marambaawang et al., 2023; Riau & Mukhlis, 2023) and then the results are compared with the question item difficulty index criteria in table 2.

Table 2. Question item difficulty index criteria

Difficulty Index Value	Interpretation
0.00-0.15	very difficult
0.16-0.30	hard
0.31-0.70	currently
0.71-0.85	easy
0.86-1.00	very easy

The discriminating power index for questions is classified based on the quality of the questions which can be referred to from the final score obtained by each respondent (Hanan et al., 2023). This value is used as a reference in the Pearson product moment test to classify the calculated r value for each question item to obtain a distinguishing power index. There are 6 classifications of the differentiating power index categories as shown in table 3.

Table 3. Distinctive power index categories for test items

Differentiating Power Index Value	Criteria
Negative	Damaged
0 - 0.19	Bad
0.20 - 0.29	Medium
0.30 - 0.39	Good
= 0.4	Very well
> 0.4	Superior

Source: (Alfiana et al., 2021)

RESULTS AND DISCUSSION

The validity test is carried out in two ways, namely (1) comparing the Pearson correlation value or rcount value with the rtable value, the rcount value must be greater than the rtable value (rcount > rtable). 2) Combining the Pearson correlation value with the significance obtained, the value obtained must be positive and supported by a significance value <0.05. Test results using Pearson correlation can be seen in table 4.

Table 4. Validity test results

Question No	Results R Count	significant value	Validation
Question01	.682**	0.000	valid
Question02	.387*	0.026	valid
Question03	.642**	0.000	valid
Question04	.616**	0.000	valid
Question05	.505**	0.003	valid
Question06	.545**	0.001	valid

Question07	.500**	0.003	valid
Question08	.517**	0.002	valid
Question09	.463**	0.007	valid
Question10	.436*	0.011	valid
Question11	0.261	0.142	invalid
Question12	.676**	0.000	valid
Question13	0.341	0.052	invalid
Question14	.793**	0.000	valid
Question15	.543**	0.001	valid
Question16	.423*	0.014	valid
Question17	.391*	0.024	valid
Question18	.542**	0.001	valid
Question19	.718**	0.000	valid
Question20	.557**	0.001	valid

In this research, based on the data above, it can be stated that the validity test questions are categorized as valid with a high value of 0.793 and the highest significant value is 0.000 so that the instrument is suitable for use as a measuring tool in evaluating class X Economics learning at SMAN I Ketapang.

The reliability test based on Chronbach alpha compares the test result values with a magnitude of 0.06. If the test result value is greater than 0.06 then the question item is declared reliable. The data shown is stated in table 5.

Table 5. Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.866	.863	20

The suitability parameters of an instrument are not only determined by validity and reliability but must also be able to describe differences in students' knowledge and abilities, therefore a difficulty index instrument and the ability to differentiate questions are needed to be able to differentiate the level of ability of each student (Ismiyati et al., 2023 ; Rahayu et al., 2023; R. P. Sari, 2022)

The item difficulty index is carried out to identify the level of difficulty of each item by comparing the test results and the item difficulty index in table 2. The results of the difficulty index test show that the item items are at an easy and medium level with a presentation of 30% of the questions being in the easy and medium categories. 70% of the questions are in the medium category. More detailed results are presented in table 6.

Table 6. Question item difficulty index

Question No	Results R Count	Decision Criteria	Criteria
1	0.55	Difficulty level index 0.00-0,15 = very difficult 0,16-0,30 = hard 0,31-0,70 = medium 0,71-0,85 = easy 0,86-1,00= very easy	Medium
2	0.76		Easy
3	0.64		Medium
4	0.52		Medium
5	0.64		Medium
6	0.58		Medium
7	0.76		Easy
8	0.64		Medium
9	0.73		Easy

10	0.73		Easy
11	0.70		Medium
12	0.52		Medium
13	0.73		Easy
14	0.48		Medium
15	0.61		Medium
16	0.73		Easy
17	0.67		Medium
18	0.64		medium
19	0.55		medium
20	0.58		Medium

The question discriminating power test functions to describe the differences in abilities possessed by each respondent and compare them with the question discrimination power category. The test results show that the questions are at a very good level with a presentation of 55%, the questions are in the good category with a presentation of 45%. More detailed results are presented in table 7.

Table 7. Results of the differentiating power test of questions

No Question	Results R Count	Criteria for interpreting differential power	Validation
1	0.624	0.70-1.00 = very well 0.40-0.69 = good 0.20-0.39=fair 0.00-0.19=bad	Good
2	0.311		fair
3	0.581		Good
4	0.548		Good
5	0.429		Good
6	0.470		Good
7	0.432		Good
8	0.442		Good
9	0.389		fair
10	0.360		fair
11	0.174		fair
12	0.616		Good
13	0.260		fair
14	0.751		Good
15	0.469		Good
16	0.346		fair
17	0.308		fair
18	0.470		Good
19	0.665		Good
20	0.484		Good

In this study, the results of the differentiating power test of the questions stated that All the questions tested were in the adequate and good categories. So, it can be stated that all the questions are of good enough quality so they do not require improvement and can be used as an evaluation tool in learning.

CONCLUSION

The development of an evaluation measuring tool in the form of multiple-choice questions to measure conceptual understanding of Economics learning in class X at SMAN I Ketapang has been successful. The results of the analysis show that all the questions tested are valid and reliable, so they can be used as a quality evaluation tool. The results of the difficulty level test show that the questions are at an easy level with a presentation of 30%, the questions are in the medium category with a presentation of 70%. Meanwhile, the discriminating power test of the

questions is at a good level with a presentation of 35%, and the questions are in the fair category with a presentation of 65%. The questions presented can be analyzed with valid and reliable results and can be distributed well. So, it can be concluded that these question items are suitable for use in the mid-semester exam. The benefits that can be obtained from the results of this research are that it is best to always prepare reserve questions to replace questions in the bad category, revisions can be made to questions in the good enough category so that they can be used again, and questions in the good category can be added to the question bank.

REFERENCES

Hanan, M. P., Jannah, R. R., & Alim, J. A. (2023). Analisis Butir Question Matematika Materi Kpk Dan Fpb Berbasis Cerita Di Sdn 111 Pekanbaru. Journal Of Educational Learning And Innovation (Elia), 3(1). Https://Doi.Org/10.46229/Elia.V3i1.538

Hidayatunnisa'i, Kusrini, & Kusnawi. (2023). Perbandingan Kinerja Metode Naïve Bayes Dan Support Machine (Svm) Dalam Analisis Kualitas Butir Question Pilihan Ganda. Jurnal Fasilkom, 13(02). Https://Doi.Org/10.37859/Jf.V13i02.5087

Inawati, Arya, A., & Lasmiatun. (2022). Analisis Tingkat Kesulitan Butir Question Mata Pelajaran Bahasa Indonesia Buatan Guru. Bastrando, Vol 1(No 2).

Ismiyati, I., Raharjo, T. H., Tusyanah, T., & Sholikah, M. (2023). Pelatihan Analisis Butir Question Berdasarkan Teori Tes Klasik Berbantuan Iteman Untuk Meningkatkan Kualitas Instrumen Penilaian. Japi (Jurnal Akses Pengabdian Indonesia), 8(2). Https://Doi.Org/10.33366/Japi.V8i2.5064

Jumini, S., Madnasri, S., Cahyono, E., & Parmin, P. (2023). Analisis Kualitas Butir Question Pengukuran Literasi Sains Melalui Teori Tes Klasik Dan Rasch Model. Prosiding Seminar Nasional Pascasarjana Unnes.

Kusumayanti, A., & Jannah, N. (2022). Analisis Butir Question Ujian Masuk Mandiri Uin Alauddin Makassar Dengan Teori Tes Modern. Mapan : Jurnal Matematika Dan Pembelajaran, 10(1).

Marambaawang, D., Bano, V. O., & Hada Enda, R. R. (2023). Analisis Kualitas Butir Question Penilaian Akhir Semester Gasal Tahun 2021/2022 Menggunakan Iteman Di Smp Negeri 1 Kambera. Dharmas Education Journal (De_Journal), 4(1). Https://Doi.Org/10.56667/Dejournal.V4i1.961

Mira, K., Hayon, V. H. B., & Tinenti, Y. R. (2022). Analisis Butir Question Pilihan Ganda Pada Materi Pokok Larutan Elektrolit Dan Nonelektrolit Kelas X Ipa Sma Negeri 1 Lamba Leda Manggarai Timur. Wahana, 73(2). Https://Doi.Org/10.36456/Wahana.V73i2.4201

Nur Cahyo, A., Luriawati, D., & Wagiran, W. (2022). Analisis Butir Question Penilaian Keterampilan Kebahasaan Pada Pembelajaran Teks Eksplanasi Kelas Xi. Jbsi: Jurnal Bahasa Dan Sastra Indonesia, 2(01). Https://Doi.Org/10.47709/Jbsi.V2i01.1493

Pradani, R. A., & Efendi, A. (2023). Analisis Butir Question Ujian Sekolah Menggunakan Program Iteman (Analysis Of School Exam Questions Using The Iteman Program). Indonesian Language Education And Literature, 8(2). Https://Doi.Org/10.24235/Ileal.V8i2.11002

Prawiki, S. M., & Helendra. (2022). Analisis Kualitas Butir Question Ujian Akhir Semester Ganjil Tahun Pelajaran 2020/2021 Mata Pelajaran Biologi Kelas X Sma Negeri 1 Teluk Sebong. Biodidaktika: Jurnal Biologi Dan Pembelajarannya, 17(2).

Putri Andini, D., & Mukhlis, M. (2023). Analisis Butir Question Pada Instrumen Asesmen Kompetensi Minimum Literasi Membaca Di Smp It Insan Utama Pekanbaru. Diglosia: Jurnal Kajian Bahasa, Sastra, Dan Pengajarannya, 6(2). Https://Doi.Org/10.30872/Diglosia.V6i2.658

Rahayu, W., Sulaeman, E., Arnawisuda Ningsi, B., Arofah, I., & Akbari, W. (2023). Analisis Kemampuan Pemahaman Guru Sekolah Dasar Dalam Mengembangkan Butir Question Berbasis Literasi Numerik. Perduli: Jurnal Pengabdian Kepada Masyarakat, 4(01). Https://Doi.Org/10.21009/Perduli.V4i01.30490

Riau, U. I., & Mukhlis, M. (2023). Analisis Butir Question Literasi Membaca Pada Instrumen Asesmen Kompetensi Minimum Siswa Smk. In Sastra Indonesia Dan Daerah (Vol. 13, Issue 2).

Rismaulhijjah, W., & Kuswanti, N. (2022). Analisis Butir Question Ulangan Harian Hasil

Pengembangan Guru Materi Sistem Gerak Manusia Kelas Xi Ipa. Berkala Ilmiah Pendidikan Biologi (Bioedu), 11(3). Https://Doi.Org/10.26740/Bioedu.V11n3.P643-661

Sari, R. P. (2022). Analisis Butir Question Ujian Akhir Semester Genap Mata Pelajaran Matematika Kelas Xi Smk Negeri 1 Percut Sei Tuan T.A. 2019/2020. Jurnal Penelitian Pendidikan Mipa, 7(1). Https://Doi.Org/10.32696/Jp2mipa.V7i1.1360

Sari, V. N. I., Utomo, A. P. Y., & Sumarwati. (2022). Kualitas Question Bahasa Indonesia Di Smp Muhammadiyah 1 Pontianak: Analisis Butir Question Vina. Jurnal Pendidikan Bahasa Dan Sastra Indonesia, 11(2).

Sugiyono. (2017). Metode Penelitian Kuantitatif Kualitatif Dan R&D (25th Ed.). Alfabeta.

Sugiyono, S. (2019). Metode Penelitian Kuantitatif, Kualitatif, Dan R&D (Sutopo (Ed.); 1st Ed.). Alfabeta.

Verawati, Y., Siskawati, F. S., & Susilaningtyas, T. (2023). Analisis Butir Question Ujian Akhir Semester (Uas) Mata Pelajaran Matematika Pada Tahun Ajaran 2020/2021 Kelas Vii Smp Islam At Tanwir Kecamatan Ledokombo Kabupaten Jember. Jurnal Jendela Pendidikan, 3(01). Https://Doi.Org/10.57008/Jjp.V3i01.422