PENGEMBANGAN SOAL MATEMATIKA MODEL PISA UNTUK MENGUKUR KEMAMPUAN PEMECAHAN MASALAH PADA SISWA SMP

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ABSTRAK

Penelitian pengembangan ini bertujuan untuk mengembangkan soal matematika model PISA untuk mengukur kemampuan pemecahan masalah bagi siswa SMP. Soal yang dikembangkan terdiri dari 12 butir soal, yang disesuaikan dengan karakteristik soal model PISA. Pada penelitian ini model pengembangan yang digunakan adalah model *formative research* yang terdiri dari *preliminary, self evaluation*, *prototyping* dan *field test* . Teknik analisis data yang dilakukan pada penelitian ini meliputi uji validitas isi yang dilakukan oleh 5 orang pakar ahli, uji validitas butir, uji reliabilitas, analisis daya beda dan indeks kesukaran butir tes, serta analisis korelasi soal model PISA yang telah dikembangkan. Berdasarkan hasil uji coba instrumen diketahui: (1) 8 dari 12 soal yang dikembangkan dinyatakan valid dengan koefisien korelasi berkisar antara 0,7048 sampai 0,9054, (2) koefisien reliabilitas soal memiliki nilai 0,92 yang berarti reliabilitas soal sangat tinggi, (3) indeks daya beda seluruh butir soal ≥ 0,40 sehingga bisa diartikan setiap soal valid memiliki daya beda yang sangat baik, (4) taraf kesukaran butir menunjukkan 25% soal tergolong kategori sukar dan 75% tergolong sedang, (5) analisis data kemampuan pemecahan masalah siswa kelas IX.4 SMP Laboratorium Undiksha menunjukkan 50% siswa memiliki kemampuan pemecahan masalah kategori tinggi, 25% siswa memiliki kemampuan pemecahan masalah kategori cukup, 15% siswa memiliki kemampuan pemecahan masalah kategori rendah dan 10% siswa memiliki kemampuan pemecahan masalah kategori sangat rendah, dan (6) analisis korelasi soal matematika model PISA yang dikembangkan memiliki koefisien korelasi *pearson* sebesar 0,524. Sehingga instrumen yang telah dikembangkan relevan digunakan untuk mengukur kemampuan pemecahan masalah siswa.

Kata kunci : PISA, Kemampuan Pemecahan Masalah, Pengembangan Tes

ABSTRACT

This development research aims to develop a PISA model mathematical problem to measure the problem solving ability of junior high school students. The questions developed consisted of 12 items, which were adjusted to the characteristics of the PISA model questions. In this study, the development model used was a model *formative research* consisting of *preliminary, self-evaluation, prototyping* and *field tests* . The data analysis technique used in this study included content validity tests conducted by 5 expert experts, item validity tests, reliability tests, analysis of differences and the difficulty index of test items, and correlation analysis of the PISA model questions that had been developed. Based on the results of the instrument trial, it is known that: (1) 8 of the 12 questions developed were declared valid with a correlation coefficient ranging from 0.7048 to 0.9054, (2) the item reliability coefficient had a value of 0.92 which means that the reliability of the questions was very high, (2) 3) the index of difference in all items ≥ 0.40 so that it can be interpreted that each valid question has a very good difference in power, (4) the difficulty level of the items shows 25% of the questions are classified as difficult and 75% are classified as moderate, (5) data analysis ability problem solving of grade IX.4 students at Undiksha Laboratory Middle School showed 50% of students had high category problem solving abilities, 25% of students had sufficient category problem solving abilities, 15% of students had low category problem solving abilities and 10% of students had very high category problem solving abilities. low, and (6) the correlation analysis of mathematical problems, the PISA model developed has a correlation coefficient *Pearson* of 0.524. So that instruments that have been developed are relevant used to measure students' problem solving abilities.

Keywords: PISA, Problem Solving Ability, Test Development