

## ABSTRAK

Hasil perolehan PISA matematika Negara Indonesia selalu berada di peringkat sepuluh terbawah. Berdasarkan penelitian sebelumnya diperoleh hasil persentase konten *quantity* menempati posisi terendah kedua. Analisis kesalahan PISA konten *quantity* oleh peneliti terdahulu diperoleh beberapa kesalahan yang dilakukan siswa yaitu kesalahan pemahaman, kesalahan transformasi, kesalahan keterampilan memproses, dan kesalahan menuliskan jawaban akhir. Berdasarkan hal tersebut dilakukanlah penelitian mengenai analisis kesalahan pengerjaan siswa pada soal PISA konten *quantity* di Kota Semarang. Penelitian dilakukan untuk mengetahui kesalahan apa saja yang dilakukan siswa dalam menyelesaikan soal PISA konten *quantity* dan apa penyebabnya. Metode yang digunakan adalah deskriptif kualitatif. Subyek pada penelitian ini adalah siswa kelas X dari SMA Muhammadiyah 1 Semarang, SMA Negeri 15 Semarang, dan SMA Negeri 2 Semarang. Teknik pengumpulan data menggunakan observasi, tes, wawancara, dan dokumentasi. Teknik analisis data menggunakan teknik Miles-Huberman yaitu reduksi data, penyajian data, dan penarikan kesimpulan. Berdasarkan hasil pengerjaan siswa pada soal PISA konten *quantity* didapatkan skor PISA siswa dan skor kecerdasan logis matematis siswa. Skor kecerdasan logis matematis siswa digunakan untuk mengkategorikan siswa kedalam kategori rendah, sedang, dan tinggi. Analisis kesalahan pengerjaan siswa menggunakan prosedur kesalahan Watson dikarenakan prosedur kesalahan Watson memiliki delapan jenis kesalahan. Berdasarkan penelitian yang telah dilakukan diperoleh hasil: 1) Kesalahan yang paling banyak dilakukan siswa kategori rendah adalah kesimpulan tidak disebutkan, selain tujuh kategori diatas, dan kesalahan data tidak disebutkan. Siswa kategori sedang paling banyak melakukan kesalahan prosedur tidak tepat, kesimpulan tidak disebutkan, data tidak disebutkan, dan selain tujuh kategori diatas. Siswa kategori tinggi paling banyak melakukan kesalahan prosedur tidak tepat, kesimpulan tidak disebutkan, dan data tidak disebutkan. 2) Faktor penyebab siswa melakukan kesalahan adalah siswa kurang paham dan mengerti terhadap maksud soal; siswa kesulitan dalam menyelesaikan soal PISA konten *quantity*; siswa belum familiar terhadap soal yang diujikan sehingga siswa tidak tahu bagaimana rumus untuk mengerjakannya, dan waktu pengerjaan yang dirasa kurang oleh siswa. 4) Terdapat hubungan antara kecerdasan logis matematis dengan pekerjaan siswa pada soal PISA konten *quantity*, tetapi kecerdasan logis matematis tidak sepenuhnya berpengaruh terhadap hasil pekerjaan siswa pada soal PISA konten *quantity*. Berdasarkan hasil penelitian tersebut saran yang dapat diajukan peneliti adalah: guru matematika diharapkan lebih sering memberikan soal serupa dengan soal PISA pada siswa; bagi peneliti selanjutnya yang akan melakukan penelitian serupa dengan penelitian ini diharapkan dapat menggunakan tinjauan seperti kemampuan literasi matematis, kemampuan pemecahan masalah, dan sebagainya.

Kata Kunci: Quantity, PISA, Watson, Kecerdasan Logis Matematis.

## ABSTRACT

*The results of the Indonesian State Mathematics PISA are always ranked in the bottom ten. Based on previous research, the results of the percentage content quantity occupy the second lowest position. Analysis of quantity content PISA errors by previous researchers obtained several errors made by students, namely understanding errors, transformation errors, processing skills errors, and writing errors in the final answer. Based on this, a research was conducted on the analysis of student errors in PISA quantity content questions in the city of Semarang. The study was conducted to find out what errors were made by students in solving the quantity content PISA questions and what caused them. The method used is descriptive qualitative. The subjects in this study were grade X students from SMA Muhammadiyah 1 Semarang, SMA Negeri 15 Semarang, and SMA Negeri 2 Semarang. Data collection techniques using observation, tests, interviews, and documentation. The data analysis technique uses the Miles-Huberman technique, namely data reduction, data presentation, and drawing conclusions. Based on the results of students' work on the quantity content PISA questions, students' PISA scores and students' logical mathematical intelligence scores were obtained. Students' mathematical logical intelligence scores were used to categorize students into low, medium, and high categories. Analysis of student working errors using the Watson error procedure because the Watson error procedure has eight types of errors. Based on the research that has been done, the results obtained are: 1) The most common mistakes made by low category students are conclusions that are not stated, in addition to the seven categories above, and data errors are not mentioned. The students in the moderate category made the most procedural errors, the conclusions were not stated, the data was not mentioned, and in addition to the seven categories above. The high category students made the most of incorrect procedural errors, the conclusion was not stated, and the data was not mentioned. 2) The factors that cause students to make mistakes are students who do not understand and understand the meaning of the question; students have difficulty in solving quantity content PISA questions; students are not familiar with the questions being tested so that students do not know how the formula is to do it, and the processing time is felt to be lacking by students. 4) There is a relationship between logical mathematical intelligence and student work on quantity content PISA questions, but mathematical logical intelligence does not fully affect student work results on quantity content PISA questions. Based on the results of the study, suggestions that can be put forward by researchers are: mathematics teachers are expected to give students questions similar to PISA questions more often; for future researchers who will conduct research similar to this study are expected to use reviews such as mathematical literacy skills, problem solving abilities, and so on.*

*Keywords: Quantity, PISA, Watson, Mathematical Logical Intelligence.*