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The Relationship between Reading Skills for Story Count Problems and Social Arithmetic

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ABSTRACT
This research aims to describe: 1) language aspects of story count reading skills; 2) mathematics aspects of mastering social arithmetic; 3) the influence of language aspects of story counting reading skills on mathematics aspects of mastery of social meaning. This type of research is quantitative research. The population of this study were 5th grade students at SD Negeri 5 Ende who took: a) a language test on the story count reading skill aspect; b) mathematics test on aspects of social arithmetic mastery. There are 38 students divided into 20 class 5A students and 18 class 5B students. The sample members were determined to be 36 students out of 35 if referring to the Slavin formula. The number of samples per group was 19 students in class 5A and 17 students in class 5B at SD Negeri 5 Ende. Each type of data was collected using performance test instruments, namely: a) language test on aspects of story count reading skills; b) mathematics test on aspects of social arithmetic mastery. Check lists are used to validate each test item and validate each scoring result for each sample member's answer sheet. Data were analyzed using parametric inferential statistical procedures, namely one sample t test and independent sample t test. Research results: 1) language aspect of reading skills, story count is in the high category; 2) mathematics aspects of social arithmetic mastery are in the medium category; 3) there is a significant influence of the language aspect of story counting reading skills on the mathematics aspect of social arithmetic mastery.

Key words: reading skills, story counting, mastery of social meaning

Hubungan antara Keterampilan Membaca Soal Hitungan Cerita terhadap Aritmatika Sosial

ABSTRAK
Penelitian ini betujuan mendeskripsikan: 1) bahasa aspek keterampilan membaca soal hitungan cerita; 2) matematika aspek penguasaan artimatika sosial; 3) pengaruh bahasa aspek keterampilan membaca soal hitungan cerita terhadap matematika aspek penguasaan artimatika sosial. Jenis penelitian ini adalah penelitian kuantitatif. Populasi penelitian ini adalah para siswa kelas 5 SD Negeri 5 Ende yang mengikuti: a) tes bahasa aspek keterampilan membaca hitungan cerita; b) tes matematika aspek penguasaan artimatika sosial. Mereka berjumlah 38 siswa yang terbagi dari 20 siswa kelas 5A dan 18 siswa kelas 5B. Anggota sampel ditetapkan sebanyak 36 siswa dari 35 jika mengacu kepada formula Slavin. Jumlah sampel per kelompok masingmasing 19 siswa kelas 5A dan 17 siswa kelas 5B SD Negeri 5 Ende. Setiap jenis data dikumpulkan menggunakan instrumen tes unjuk kerja yakni: a) tes bahasa aspek keterampilan membaca soal hitungan cerita; b) tes matematika aspek penguasaan artimatika sosial. Daftar cek-ricek dipakai untuk memvalidasi setiap butir tes dan memvalidasi setiap hasil penskoran setiap lembar jawaban anggota sampel. Data dianalisis menggunakan prosedur statistik inferensial parametrik yakni uji t satu sampel dan uji t sampel indpenden. Hasil penelitian: 1) bahasa aspek keterampilan membaca soal hitungan cerita berkategori tinggi; 2) matematika aspek penguasaan artimatika sosial berkategori sedang; 3) terdapat pengaruh signifikan bahasa aspek keterampilan membaca soal hitungan cerita terhadap matematika aspek penguasaan artimatika sosial.

Kata kunci: keterampilan membaca, hitungan cerita, penguasaan artimatika sosial

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INTRODUCTION

Language (Indonesian) is a tool for interpersonal communication. Through language, the message from the speaker or writer, as the communicator, can be received by the listener or reader, as the recipient. In other words, language is a crucial medium of communication.

Indonesian serves not only as a medium of communication but also as a science. As such, Indonesian is a mandatory subject to study.

In the national education system, Indonesia places Indonesian as a subject. This subject is called "Bahasa Indonesia" (Indonesian Language), and is taught from elementary school through high school. In universities, it is designated as a compulsory general course.

Indonesian at the elementary school level is divided into two parts. The first part, taught in the lower grades, is the language of knowledge. For reading, Indonesian language material focuses on students' ability to pronounce the sound symbols of the language, whether as single words or as combinations of words. For writing, Indonesian language material focuses on the skills of producing good and correct writing, including letter order, syllables, basic words, and/or word combinations.

The second part is taught in the upper grades (grades 4, 5, and 6). For reading, Indonesian language material focuses on the skill of interpreting information presented in writing. This interpretation is also distinguished between explicit interpretation, which is the ability to identify the 5W+H of a reading passage. Another interpretation is implicit interpretation, which is the ability to identify the main sentence and supporting sentences in a paragraph, followed by abstract relative learning, which is the ability to identify the main idea and supporting ideas. This includes learning to understand conclusions and/or comprehend messages or instructions contained in written texts.

Readings that focus on instructions, namely explicit messages on the topic of calculations, are referred to as reading story calculation problems (Razak, 2018). The topic of the reading is not the primary goal of reading, but rather to understand the linguistic aspects themselves. The two illustrations of reading story calculation problems below can clarify the above description. Reading-A is essentially a group of reading materials for mathematics lessons on the social arithmetic aspect. The goal is to measure student competency according to their level, such as 5th grade. Reading-B is essentially an Indonesian language lesson for instructional reading, specifically reading story problems. The goal is to measure students' reading competency according to their level, not mathematics.

Reading-A (Purnomosidi, 2018):

1) Siti has a 3/4 meter ribbon, while Beni has a 7/8 meter ribbon. If their ribbons are joined, the maximum length of the resulting ribbon is ... meters.
2) Ani is a tailor. To make trousers, she needs 1 1/8 meters of fabric, while to make a short-sleeved shirt, she needs 1 1/2 meters of fabric. How many meters of fabric are needed to make 2 trousers and 2 short-sleeved shirts?

Reading-B (Razak, 2018):

1) Siti has 3 meters of ribbon, while Beni has 7 meters of ribbon. If their ribbons are joined, how many meters will the maximum length of the resulting ribbon be?
2) Ani is a tailor. To make trousers, she needs 1.1 meters of fabric, while to make a short-sleeved shirt, she needs 1.5 meters of fabric. How many meters of fabric are needed to make 2 trousers and 2 short-sleeved shirts?

This research contains three problem statements. The research questions are as follows:

1) What are the reading skills of fifth-grade students at SD Negeri 5 Ende?
2) What is the mastery of social arithmetic of fifth-grade students at SD Negeri 5 Ende?
3) How does the reading skills of fifth-grade students at SD Negeri 5 Ende influence the

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mastery of social arithmetic of fifth-grade students at SD Negeri 5 Ende?

These are the three research objectives contained in this article. First, to describe the reading skills of fifth-grade students at SD Negeri 5 Ende. Second, to explain the social arithmetic of fifth-grade students at SD Negeri 5 Ende. Third, to describe the influence of the reading skills of fifth-grade students at SD Negeri 5 Ende on the social arithmetic of fifth-grade students at SD Negeri 5 Ende.

This article has several benefits. Several benefits are described from specific perspectives below:

1) From a supervisory perspective, this article is useful because it can be used as supervision material for supervisors, such as principals and/or school supervisors at the district/city level;
2) From the perspective of elementary school teachers, this article is useful because it provides important information on story reading and social arithmetic skills;
3) From the perspective of prospective elementary school teachers, this article is also useful because it provides information on Indonesian language competency in story reading and social arithmetic in mathematics.

The reading story calculation referred to in this article is the score obtained by fifth-grade students of SD Negeri 5 Ende in a written test on reading paragraphs on the topic of basic mathematical calculations. The goal was to determine reading comprehension, which contained six direct instructions and four indirect instructions (Razak, 2021).

Reading story calculations is also called instructional reading. This is because the purpose of this type of reading is to respond to both direct and indirect instructions on the topic of calculations (Razak, 2021). The following are five examples of reading story calculation texts (Razak, 2021):

1) Abdul Hafiz can reach 15 meters if he takes 20 steps. The distance between Abdul Hafiz's house and the mosque is 150 meters. How many steps does Abdul Hafiz need?
2) Each participant in the Qurban (sacrifice) at the Raudhah Mosque pays two million rupiah. Seven participants are required to sacrifice a fat cow. What is the value of the fat cow?
3) Daniel Faturrahman memorizes more Juz Amma than Said Muhammad Zubaid Alyami. However, he memorized less than Jelita Khairiah. Which of the three of them memorized the most of the Koran?
4) Each Qurban participant at the Raudhah Mosque pays two million rupiah. To sacrifice a fat cow, 7 participants are required. Therefore, the value of a fat cow is fourteen million rupiah. If this statement is true, what is 5 + 3? If false, what is 5 - 3?
5) Usually if the month of Syakban is 30 days then Ramadan is only 29 days and vice versa. At that time, in 1426. Muslims fasted for 29. How old is the month of Shakban?

This is the answer key for each story count text above. Text-1 answers 200 steps. Text-2 answered 14 million rupiah. Text-3 answered Jelita Khairiah. Text 4 has 2 answers. Text 5 has 30 days.

The social arithmetic referred to in this article is the score obtained by fifth-grade students of SD Negeri 5 Ende in a written test on social arithmetic knowledge, namely several types of numerical calculations in various socio-economic situations. The test contains 10 items divided into economic and natural science aspects. The following are five examples of texts on mastery of social arithmetic (Purnomosidi et al., 2018):

1) Siti has a 3/4 meter ribbon, while Beni has a 7/8 meter ribbon. If their ribbons are connected, the maximum length of the connected ribbon is ... meters.

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2) There are 5 1/2 tons of grain reserves in the warehouse, and another 3 1/2 tons are brought in. How many tons of grain must be added to make a total of 10 tons?
3) Mr. Made's yard is 200 m2, with 84 1/2 m2 planted with peanuts, 68 1/4 m2 planted with vegetables, and the rest planted with flowers. How many m2 of the land is planted with flowers?
4) Ani is a tailor. To make a pair of trousers, she needs 1 1/8 meters of fabric, while to make a short-sleeved shirt, she needs 1 1/2 meters of fabric. How many meters of fabric will she need to make 2 pairs of trousers and 2 short-sleeved shirts?
5) Mr. Harjo wants to replace his house's gutters. He needs 5 1/4 meters of gutter for the front of the house, and 3 3/8 meters for the kitchen. He has 4 1/2 meters of gutter available. How many meters of gutter should he purchase to replace all of his house's gutters?

METHOD

This research was conducted at SD Negeri 5 Ende. The school is located on Jalan Dewi Sartika, Potulando Village, Ende Tengah District, Ende Regency, East Nusa Tenggara Province. This school has 13 study groups with a total of 279 students.

The research took place at the beginning of the even semester of the 2023/2024 academic year. This period encompassed three types of activities. First, planning activities involved developing a story-based reading and arithmetic test and a social arithmetic test. A checklist was also developed to validate the tests and process the results internally. This included conducting test validation using the checklist. Second, research implementation activities involved collecting data using the test instruments mentioned above. Third, reporting activities involved analyzing and validating the data, and writing a report in the form of an online journal article.

The study population was fifth-grade students at SD Negeri 5 Ende who took the Indonesian language test for story-based reading and the mathematics test for social arithmetic. There were 38 students, divided into 20 students in class 5A and 18 students in class 5B. In other words, this article has two population groups: the class 5A population group and the class 5B population group.

The sample size was determined at 36 students out of 35, referring to Slavin's formula (in Razak, 2017. The sample size per group was 19 students in class 5A and 17 students in class 5B, respectively, at SD Negeri 5 Ende. The sample size was increased by one to facilitate the determination of sample members for each group. In other words, only one person was excluded from each population group.

Table 1
Population and Sample Size

No.	Classes	Population	Sample
1	5A	20	19
2	5B	18	17
	Sum	38	36

Data for variable X, namely the Indonesian language aspect of reading story counting questions, was collected using a written test. The test was in the form of a short answer type. Azwar (2012), Hatch & Farhady (1982), stated that accurate data must come from a valid instrument.

The Indonesian language test for reading story counting questions must meet content validity requirements. Azwar (2012; Razak, 2020) stated that content validity is a rational study that does not involve statistical procedures. This rational study involves a test development procedure that produces test specifications as the basis for developing each test item. The following presents the procedure for developing the Indonesian language test for reading story counting questions.

First, determine the type of test. The chosen type of test is a written test.

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Second, determine the test format. Test formats are divided into essay tests, such as short answer questions, and objective tests, such as multiple choice questions. This article uses a short answer question.

Third, determine the test topic for reading story counting questions. The chosen topic is economics, with six items, and natural sciences, with four items. Fourth, determine the type of instruction in reading story calculations. This article uses all types of instructions, namely direct and indirect instructions.

Fifth, determine the level of complexity of the mathematical topic in reading story calculation problems. This article uses integers for addition and subtraction operations (including multiplication and division).

Sixth, compile the test specifications in a table. The table in question is shown below.

Table 2
Specifications for Reading Story Calculation Problems for 5th-Grade Students at SD Negeri 5 Ende

No.	Indicators	Items		Sum
		Addition	Subtraction	
1	Econmics	1, 2, 3	4, 5, 6	6
2	Bank	7, 8, 9	10, 11, 12	6
	Sum	6	6	12

Seventh, write the test items. Each test item refers to the test specifications above. The result of this step is the formation of the following short-answer test items.

1) Tono buys a pen for three thousand rupiah. How much is his refund when he pays with a five thousand rupiah bill?
2) Dea brings 20 loaves of bread to sell in the school cafeteria. When she returns home, she has one loaf of bread left. How many loaves were sold?
3) Tono buys a pen for three thousand rupiah. His refund when he pays with a five thousand rupiah bill is two thousand rupiah. If this statement is true, what is 2 x 3? If not true, what is 2 + 3?
4) Dea brought 20 loaves of bread to sell in the school canteen. When he came home there was only one piece of bread left. How many loaves of bread were sold? If it is true that 19 loaves of bread were sold, which day has the letter J on it? If not true, what day has the letter L on it?
5) My sister brought 2 boxes of chocolates to school. Each box contains 12 pieces. During the break, each of the 19 classmates each got a piece of chocolate. My little brother just took a piece. The remainder is given to the class teacher. How many pieces does the class teacher get from Little Brother's chocolate?
6) Tina's pocket money is 10 thousand rupiah. Then donate 7 thousand rupiah to friends. How much money does Tina have left?
7) My sister brought 2 boxes of chocolates to school. Each box contains 12 pieces. During the break, each of the 19 classmates each got a piece of chocolate. My little brother just took a piece. The remainder is given to the class teacher. If the homeroom teacher received 3 pieces of chocolate, how much is 1 + 1? If the homeroom teacher received 4 pieces, how much is 1 + 4?
8) Tina's pocket money was 10,000 rupiah. She then gave 7,000 rupiah to her friends. How much money did Tina have left? If the remaining 3,000 rupiah was true, how much was 4 + 4? If not true, how much was 5 + 2?
9) Goats have four legs. Is this statement true?
10) Two plus eight equals nine. Is this statement true?
11) Goats have four legs. Is this statement true? If true, how much is 10 + 1? If not true, how much is 10 - 1?

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12) Two plus eight equals nine. Is this statement true? If true, how much is 4 + 1? If not true, how much is 5 + 2?

Sixth, write the answer key. Here is the answer key: 1) 2 ribu rupiah; 2) 19; 3) 6; 4) Friday; 5) 4 pcs; 6) 3; 7) 5; 8) 8; 9) true; 10) false; 11) 1 1 ; 12) 7.

Data for variable Y, namely mathematics in the social arithmetic aspect, was also collected using a test. The test was in the form of a written short-answer test. The following describes the procedure for developing a mathematics test for the social arithmetic aspect.

First, determine the type of test. The chosen type of test is a written test.

Second, determine the format of the test. Test formats are divided into essay tests, such as short answers, and objective tests, such as multiple-choice tests. This article uses a short-answer test.

Third, determine the indicators of social arithmetic, both mathematics and social indicators. Mathematics indicators are addition and subtraction operations, including multiplication and division. Social indicators are economics and banking.

Fourth, determine the level of complexity of the mathematics topic. This article uses integers.

Fifth, compile the specifications for the mathematics test for the social arithmetic aspect in a table. The table is shown below.

Table 3
Specifications for the Mathematics Test for the Social Arithmetic Aspect of Fifth-Grade Students of SD Negeri 5 Ende

No.	Indicators	Items		Sum
		Addition	Subtraction	
1	Econmics	1, 2	3, 4	4
2	Social	5, 6	7, 8	4
3	Sciences	9, 10	11, 12	4
	Sum	6	6	12

Sixth, write test items based on the test specifications above. The test writing results are listed below.

1) Tono bought a pen for six thousand rupiah. How much money was he refunded if he paid with a ten thousand rupiah bill?
2) How much money would he have to pay for two pencils at two thousand rupiah and two pens at three thousand rupiah?
3) The daily wage is one hundred thousand rupiah. How much would the worker receive if he only worked for two days?
4) Tono had fifty thousand rupiah. He spent twenty-five thousand rupiah of that money. How much money did Tono have left?
5) Hari's money was two hundred thousand rupiah. He bought two pencils at two thousand rupiah and two pens at three thousand rupiah. How much money did Hari have left?
6) Usmanto received one hundred thousand rupiah in wages. He bought sugar and coffee worth forty thousand rupiah. How much money did Usmanto have left?
7) My younger sibling's savings account is 100,000 rupiah. A day later, she adds 150,000 rupiah to her savings account. How much does she have left?
8) A and B each have 100,000 rupiah in their savings account. C has 150,000 rupiah in their savings account. How much do they have left?
9) My younger sibling's savings account is 100,000 rupiah. My older sibling's savings account is 150,000 rupiah. How much do they have left?
10) My younger sibling's savings account is 100,000 rupiah. My older sibling's savings account is 150,000 rupiah. What is the difference between their savings?
11) My younger sibling's savings account is 500,000 rupiah. She then withdraws 400,000 rupiah. How much does she have left?
12) My older sibling's savings account is 505,000 rupiah. She then withdraws 500,000 rupiah. How much does she have left?

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Seventh, write the answer key for the math test on the social arithmetic mastery aspect. Here is the answer key: 1) 4,000 rupiah; 2) 1 0 , 0 0 0 rupiah; 3) 200,000 rupiah; 4) 25,000 rupiah; 5) 10,000 rupiah; 6) 60,000 rupiah; 7) 250,000 rupiah; 8) 350,000 rupiah; 9) 250,000 rupiah; 10) 50,000 rupiah; 11) 100,000 rupiah; 12) 5,000 rupiah.

Scoring of the Indonesian language test results for the reading aspect of story calculation questions is based on a scoring rubric. This rubric has the potential to produce a minimum score of 0 if not a single question can be answered according to the key. Sample members have the potential to earn a score of 18 if they can answer all questions correctly. Details per question number:

1) Score 1 if correct, score 0 if incorrect
2) Score 1 if correct, score 0 if incorrect
3) Score 1 if correct, score 0 if incorrect
4) Score 2 if correct, score 0 if incorrect
5) Score 2 if correct, score 0 if incorrect
6) Score 2 if correct, score 0 if incorrect
7) Score 1 if correct, score 0 if incorrect
8) Score 1 if correct, score 0 if incorrect
9) Score 1 if correct, score 0 if incorrect
10) Score 2 if correct, score 0 if incorrect
11) Score 2 if correct, score 0 if incorrect
12) Score 2 if correct, score 0 if incorrect

The scoring of the mathematics test results for the social arithmetic mastery aspect is based on to the scoring rubric. This rubric has the potential to yield a minimum score of 0 if none of the questions can be answered according to the key and a maximum score of 12 if all questions can be answered. This is because each question is scored 1 if it matches the answer key.

The research data were analyzed using parametric inferential statistics. Specifically for problem formulation-1 and problem formulation-2, a one-sample t-test was used. The use of this procedure aligns with the explanations (Abubakar, 2021; Razak, 2018).

The first component of the divisor is the mean. The second component is the mean of the comparison variable; 13 for the X variable and 8 for the Y variable. The first component of the numerator is the standard deviation, and the second component is the size n. That explains the one-sample t-test formula.

Establishing a statistical hypothesis for a one-sample t-test. This article applies a two-tailed hypothesis, namely:

Ho: $\mu 1 = \mu 2$
Ho: $\mu 1 \neq \mu 2$

Ho is accepted if the -t-table value at the 0.95 confidence level is < the calculated t-value < +t-table value at the 0.95 confidence level. Otherwise, Ho is rejected.

For problem formulation 3, the Pearson product-moment correlation test is used. This procedure assumes that the data meets the requirements for linear regression. The formula for this simple correlation test using the direct method is (Razak, 2018; Malik & Hamied, 2014):

$$r_{xy} = \frac{n\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{\{n\Sigma X^2 - (\Sigma X)^2\}\{n\Sigma Y^2 - (\Sigma Y)^2\}}}$$

The checklist is a supporting instrument in this study. The checklist is used to internally validate the type of test instrument, scoring results, and data analysis results.

The standard score for each variable is determined by its category. The categories referred to (Razak, 2021):

1) <55.00 : very low category
2) 55.00-65.00: low category
3) 65.00-80.00: medium category
4) 80.00-90.00: high category
5) >90.00 : very high category

FINDINGS

1. Reading Story Arithmetic Problems

Below is the raw data from reading story arithmetic problems for fifth-grade students at SD Negeri 5 Ende. The data is presented in a single distribution table.

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Table 4
Single Frequency Distribution of Data from Reading Story Arithmetic Problems for Fifth-Grade Students at SD Negeri 5 Ende

X	f	fX	Sum
10	2	20	
11	3	33	
12	6	72	
13	16	208	
14	6	84	
15	2	30	
16	1	16	
Sum	36	463	
Mean			12,86
Percent			71,45
Std. Deviation			1,291
n			36
Comparison Mean			13

This is the manual calculation process for a one-sample t-test. The calculation requires four steps based on the table above.

First, substitute the one-sample t-test formula as described in the method structure. The substitution is:

(12.86 - 13) : (1.291/sqrt 36) = 0.651

Second, determine the t-table value at 35 degrees of freedom and a 0.95 confidence level. The value shown in the table is 1.684.

Third, enter the results of the first and second steps into a Ho equation. The equation is:

-0.004 < 0.651 < + 0.004

Fourth, interpret the Ho equation. This equation is a requirement for accepting Ho. In other words, Ho is accepted. This means that the mean of the Indonesian language observations for the reading aspect of story arithmetic problems is equal to the mean of the comparison.

The mean of the observations and the comparison mean equal a standard score of 72.22. This standard score is in the high category. This means that the Indonesian language reading aspect of story arithmetic problems for fifth-grade students at SD Negeri 5 Ende is in the moderate category.

2. Social Arithmetic Mastery

Below is the raw data for fifth-grade students at SD Negeri 5 Ende on social arithmetic mastery. The data is presented in the following single distribution table.

Table 5
Single Frequency Distribution of Data on Social Arithmetic Mastery for Fifth-Grade Students at SD Negeri 5 Ende

Y	f	fX	Sum
5	2	10	
6	4	24	
7	4	28	
8	13	104	
9	6	54	
10	4	40	
11	3	33	
Sum	36	293	
Mean			8,139
Percent			67,82
Std. Deviation			1,571
n			36
Comparison Mean			8,25

This is also the manual calculation process for the one-sample t-test for mathematics data on the social arithmetic aspect. The calculation requires four procedures based on the table above.

First, substitute the one-sample t-test formula as described in the method structure for variable X. The substitution is:

(8.139 - 8.25) : (1.571/square root 36) = 0.424

Second, determine the t-table value at 35 degrees of freedom and a confidence level of 0.95. The value shown in the table is 1.684.

Third, enter the results of the first and second steps into an Ho equation; similar to the previous calculation for variable X. The equation is:

-0.004 < 0.684 < + 0.004

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Fourth, interpret the Ho equation. Equality is a requirement for accepting Ho. In other words, Ho is accepted. This means that the mean of the mathematical observations in the social arithmetic mastery aspect is equal to the mean of the comparison.

The mean of the observations and the mean of the comparison, or expected mean, equals a standard score of 67.82. The standard score for this social arithmetic mastery variable is in the moderate category. This means that the mastery of mathematics in the social arithmetic aspect for grade 5 students of SD Negeri 5 Ende is in the moderate category.

3. The Effect of Reading Story Arithmetic Problems on Social Arithmetic

This is a manual calculation to determine the effect of reading story arithmetic problems on social arithmetic mastery using Pearson's simple correlation procedure. The calculation method used in this article is the direct method, which does not calculate the average for each variable. The following table presents the preparation for the calculation in question, which was carried out by fifth-grade students at SD Negeri 5 Ende: column 1 is variable X, column 2 is variable Y, column 3 is the square of X, column 4 is the square of Y, and column 5 is XY.

Table 6
Preparation for Calculating a Simple Correlation between Reading Story Arithmetic Problems and Social Arithmetic for Fifth-Grade Students at SD Negeri 5 Ende

X	Y	X2	Y2	XY
10	5	100	25	50
10	7	100	49	70
11	8	121	64	88
11	6	121	36	66
11	6	121	36	66
12	8	144	64	96
12	7	144	49	84
12	7	144	49	84
12	5	144	25	60
12	8	144	64	96
12	8	144	64	96
13	8	169	64	104
13	6	169	36	78
13	8	169	64	104
13	6	169	36	78
13	7	169	49	91
13	8	169	64	104
13	8	169	64	104
13	8	169	64	104
13	9	169	81	117
13	11	169	121	143
13	10	169	100	130
13	8	169	64	104
13	11	169	121	143
13	9	169	81	117
13	9	169	81	117
13	9	169	81	117
14	9	196	81	126
14	8	196	64	112
14	10	196	100	140
14	10	196	100	140
14	10	196	100	140
14	8	196	64	112
15	8	225	64	120
15	9	225	81	135
16	11	256	121	176
463	293	6013	2471	3812

The preparation table above produces all the components necessary for calculating a simple correlation using the direct method. The components in question are:

1) $\Sigma n = 36$
2) $\Sigma X = 463$
3) $\Sigma Y = 293$
4) $\Sigma X2 = 6013$
5) $\Sigma Y2 = 2471$
6) $\Sigma XY = 3812$

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The above values were substituted into the simple correlation formula as contained in the method structure, resulting in an rxy value of 0.616. This value falls into the moderate correlation category because it is in the range of 0.41-0.70. Furthermore, this value is significant because it produces an r table value at 34 degrees of freedom and a 0.95 confidence level of 0.325 (two-tailed test); -0.325 < 0.616 < +0.325. This means that the variable of reading story arithmetic problems significantly influences the dependent variable of mastery of social arithmetic.

The coefficient of determination for the calculation above is 0.616 x 0.616 = 37.95 percent. This means that this percentage of the social arithmetic variable can be explained by the reading of story problems variable. The remaining 62.05 percent, or the coefficient of allegiance, is influenced by other variables not examined in this article.

DISCUSSION

The relatively low social arithmetic mastery scores are believed to be due to several obstacles. These obstacles are:

1) suboptimal reading skills among fifth-grade students at SD Negeri 5 Ende; this is a language barrier;
2) suboptimal fraction calculation skills among fifth-grade students at SD Negeri 5 Ende; this is a mathematical barrier, such as determining the common denominator of several different denominators;
3) the first obstacle can potentially be overcome through intensive learning involving numerous practice activities.

The more practice, the greater the potential for mastery. Several scientific articles conclude that extensive practice in language aspects such as reading and/or writing has the potential to achieve language skills, namely reading and/or writing itself (Niswanti et al., 2023; Yamin & Faridah, 2023; Rohaeni & Sugiharti, 202).

The second obstacle can potentially be overcome by intensive learning of least common multiples (LCM). For example: 1 2/3 + 2 3/4 = 5/3 + 11/4. The value 5/3 is derived from the denominator 3 multiplied by the integer 1 and then added to the numerator 2. The value 1 1/4 is derived from the denominator 4 multiplied by the integer 2 and then added to the numerator 3.

The denominator of the above number is 12, which is the result of multiplying 3 in 5/3 by 4 in 1 1/4. Thus, 5/3 becomes 20/12; derived from 12 divided by 4 and then multiplied again by 5. The number 1 1/4 becomes 33/12; derived from 12 divided by 4 and then multiplied again by 11. The sum, 53/12, is simplified to 4 5/12.

In the context of mathematics learning, the two paragraphs above explaining the addition of mixed numbers are believed to be easier for students to understand if they incorporate language learning techniques. The technique in question is the copying task technique in the Student Worksheet . In other words, in addition to using the BSE mathematics, teachers should also prepare a special Student Worksheet. The two procedural paragraphs above contain a blank space where students individually copy. Below are the details of a simple worksheet:

For example: 1 2/3 + 2 3/4 = 5/3 + 1 1/4. The value of 5/3 is obtained by multiplying the denominator 3 by the integer 1 and then adding the numerator 2. The value of 1 1/4 is obtained by multiplying the denominator 4 by the integer 2 and then adding the numerator 3.

COPYING ASSIGNMENT-1

Copy the paragraph above in its entirety. Copy using a pencil in the blank space below.

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The denominator of the number above is 12, which is the result of multiplying 3 by 5/3 by 4 by 1 1/4. Therefore, 5/3 becomes 20/12; it is obtained by dividing 12 by 4 and then multiplying again by 5. The number 1 1/4 becomes 33/12; comes from 12 divided by 4 then multiplied again by 11. The total is 53/12 simplified to 4 5/12.

COPYING ASSIGNMENT-2

Copy the paragraph above in its entirety. Copy using a pencil in the blank space below.

The analysis for the problem formulation in this article does not categorize the sample groups. In fact, the sample group structure is divided into two groups. This is one of the weaknesses of this article.

All parametric inferential statistical data analysis procedures in this article use manual calculations. The one-sample t-test and simple product-moment correlation tests are performed manually. Manual calculations have advantages from the author's perspective because they can improve intelligence compared to using SPSS (Statistical Package for Social Science). This is one of the strengths of this article.

Not all BSE (Student's Books) contain social arithmetic material, including the addition operation indicator for mixed fractions. In other words, not all BSE materials provide exercises in the form of solutions to mathematical problems according to the indicators. The BSE in question include (Sumarni, & Kamsiati, 2009; Fitrianawati et al., 2022).

CONCLUSION

The conclusion at the end of this article is presented. This conclusion aligns with the research problem formulation, namely:

1) the reading skills of story arithmetic problems of fifth-grade students at SD Negeri 5 Ende are in the moderate category;
2) the mastery of social arithmetic of fifth-grade students at SD Negeri 5 Ende is in the moderate category;
3) the reading skills of story arithmetic problems have a significant effect on the mastery of social arithmetic of fifth-grade students at SD Negeri 5 Ende, with a moderate degree of correlation.

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