Do Students in Urban and Rural Areas Exhibit Different Spatial Thinking Ability?

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Abstract. This research was conducted in urban and rural areas of Klaten Regency. This study aimed to analyze the spatial thinking skills of junior high school students in urban and rural areas in the Klaten Regency and to determine the differences in the spatial thinking abilities of students in urban and rural areas. The type of research used to achieve the research objectives was descriptive quantitative research. The population used in the study was 4,184 students spread across urban areas (SMP N 1 Klaten, SMP N 2 Klaten, SMP N 3 Klaten) and rural areas (SMP N 3 Bayat, SMP N 2 Cawas, and SMP N 2 Jatinom). Determination of the research sample using the Slovin formula with an error tolerance of 5% and sampling from each school using a simple random sampling technique. Data collection techniques used in the study were questionnaires and observations, in which further data could be analyzed using a comparative test. The results of this study indicate that 1) The average value of the spatial thinking ability test results of students in urban areas is 34.9, including in the medium category, 2) The average value of the results of students' spatial thinking skills in rural areas is 28.9 included in the low category, 3) The comparative significance test value of the independent samples t-test was 0.000, indicating that there was a difference between students' spatial thinking skills in urban areas and rural areas.

Keywords: Spatial thinking · urban · rural

1 Introduction

Equitable access to education in Indonesia at this time must be able to be enjoyed by all citizens without exception. Aspects that need to be considered in equal distribution of education, namely equality of opportunity to obtain education for all people who are still of school age and justice in obtaining the education that can be enjoyed by all ethnic groups, religions, and groups. The condition of education to date still has the same problems in villages and cities, namely costs and infrastructure problems [1]. According to [2], the gap in infrastructure development is an obstacle to improving the quality of human resources in Indonesia, especially in rural areas that cannot enjoy facilities as well as in urban areas. It can be seen through the educational facilities and infrastructure in the urban area, which have been classified as advanced, while in rural

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areas and certain areas, the educational facilities and infrastructure have not been fully fulfilled. The education factor in rural areas is generally still relatively low compared to community education in urban areas. The problems that often arise in the educational environment cause differences in the development of people living in rural and urban areas.

Geography education is one of the basic subjects used to develop the character values of education in Indonesia. The implementation of geography education in elementary and junior high school education units is taught in groups on Social Science subjects, namely Social Sciences (IPS). In contrast to the high school (SMA) level, geography is an independent subject. The different concepts and subjects of geography learning must be adjusted based on the level of experience and mental development of children based on education level [3].

Geography is a subject in which the understanding of spatial thinking skills is applied. This spatial thinking ability is important for students studying geography, so they have an advantage in analyzing and relating spatial information [4]. However, students' spatial thinking skills in learning activities are still relatively low. According to [5] said that spatial literacy is often underestimated and under-taught. This statement also occurs in geography learning at the SMP/MTs and SMA/MA levels that have not fully implemented students' spatial thinking skills [6]. So far, students still have difficulty understanding spatial concepts because the involvement of students in the learning process is still low, so they have not been able to produce learning products that can influence the development of skills students [7]. Students need the spatial ability to develop knowledge, skills, and practice of geography in learning.

The Klaten Regency, based on Regional Regulation Number 11 of 2011 article eight, states that this region is divided into two systems, namely the urban and rural systems [8]. The Klaten urban system, as referred to in Article 8 letter a, consists of three subdistricts: the Subdistricts of South Klaten, Central Klaten, and North Klaten. Regional Regulation Number 11 of 2011 also regulates areas that are included in the rural system of Klaten Regency, which are spread over several sub-districts, such as Bayat, Cawas, Ceper, Delanggu, Gantiwarno, Jatinom, Jogonalan, Juwiring, Kalikotes, Karanganom, Karangdowo, Karangnongko, Kemalang, Manisrenggo, Ngawen, Prambanan, Pedan, Polanharjo, Trucuk, Tulung, Wedi, and Wonosari.

Klaten Regency, Central Java Province, has several levels of education, from PAUD to tertiary institutions. Junior high school is the main goal of researching students' spatial thinking abilities. Junior high schools in the Klaten Regency area are spread out in urban and rural areas, making it easier for the community to obtain equal distribution of education. The distribution of junior high schools in the urban area of Klaten Regency consists of SMP N 1 Klaten, SMP N 4 Klaten, SMP N 6 Klaten, SMP Muhammadiyah Plus, SMP Pangudi Luhur 1 Klaten, SMP Putra Bangsa, SMP Tahfidhul Quran Nurul Akbar, SMP N 3 Klaten, SMP N 5 Klaten, SMP Krista Gracia Klaten, SMP N 2 Klaten, SMP N 7 Klaten, SMP Lazuardi Al Falah Klaten, SMP Muhammadiyah 1 Klaten. In addition to urban areas, which have several levels of junior high school education, areas in rural areas in Klaten Regency also have junior high schools education levels, such as SMP N 2 Bayat, SMP N 3 Bayat, SMP N 2 Cawas, SMP Pangudi Luhurgantiwarno, SMP N 3 Jatinom, SMP N 2 Jatinom, SMP Islam Nurul Musthofa Juwiring, SMP N 2

Kemalang, SMP N 3 Menisrenggo, SMP N 1 Trucuk, SMP IT Insan Cendekia, SMP IT Al Muhsin, and SMP YAPI Tegalgondo.

The spatial thinking ability of each student is different with their respective backgrounds. The differences that are often studied are differences based on genders, such as research conducted by [9], that there are differences in spatial ability between male and female students. In contrast, research by [10] explains that there is no difference in spatial thinking skills between male and female students. Research to analyze the differences in spatial thinking abilities of students in urban and rural areas has not been widely carried out. Therefore, based on the background of the problem, this study aims to analyze further the spatial thinking skills of junior high school students in urban and rural areas in Klaten Regency and to determine the differences in spatial thinking abilities of junior high school students in urban and rural areas in Klaten Regency.

2 Method

This study used quantitative descriptive research with a comparative design to determine the differences between research variables. The research location was determined based on Regional Regulation Number 11 of 2011, where Klaten Regency was divided into two areas: the city and the village. It was simplified again to determine the school's location based on accreditation. Therefore, based on Regional Regulation Number 11 of 2011 and school accreditation, the research locations are in urban areas, namely SMPN 1 Klaten, SMPN 2 Klaten, and SMPN 3 Klaten, while the research locations are in the village area, namely SMPN 2 Cawas, SMPN 2 Jatinom, and SMPN 3 Bayat.

The data was obtained by using observation and questionnaire techniques. A structured observation technique was used to determine the condition of school locations scattered in cities and villages in the Klaten Regency area. The next data collection technique used a questionnaire with a spatial thinking ability test instrument. According to the American Association of Geographers, the indicators used in this instrument are comparison, aura, region, hierarchy, transition, analogy, pattern, and association.

The sample in this study was 1,512 people who were calculated using the Slovin formula with an error tolerance of 5% to represent a population of 4,184 junior high school students spread over several urban and rural areas in Klaten Regency, which can be seen in Fig. 1.

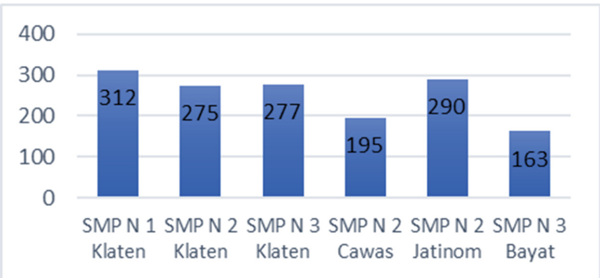

Fig. 1. Distribution of Research Respondents in Klaten Kabupaten Regency

Analysis of the data used to achieve the objectives of this research is a descriptive statistical analysis to determine the spatial thinking ability of junior high school students in urban and rural areas. Then, inferential statistical analysis is used to determine the difference in the spatial thinking ability of junior high school students in urban and rural areas. The prerequisite test analysis used in achieving the objectives of this study is the homogeneity test to compare the large and small variance, the normality test by making a graph of the frequency distribution obtained from the final score calculation, and the t-test analysis to determine the effect of the research variables.

3 Result

This study aims to determine students' spatial thinking skills in urban and rural areas and the differences in spatial thinking skills between urban and rural areas in Klaten Regency. The sample of this study amounted to 1512 students who were calculated using the Slovin formula with an error tolerance of 5% against a population of 4184 students spread over several areas in Klaten Regency. The analysis results were carried out using descriptive statistical techniques and the t-test test of the spatial thinking ability test results. The score for each respondent is the total score obtained by each student in answering the questions.

3.1 Distribution of Research Respondents in Urban Areas in Klaten Regency

Figure 2 shows that of the 864 students in the city area, the highest frequency is respondents who sit in grade 8 (eighth), as many as 309 respondents (36%), students who sit in grade 7 (seven), as many as 278 respondents (32%), and students sitting in grade 9 as many as 277 respondents (32%).

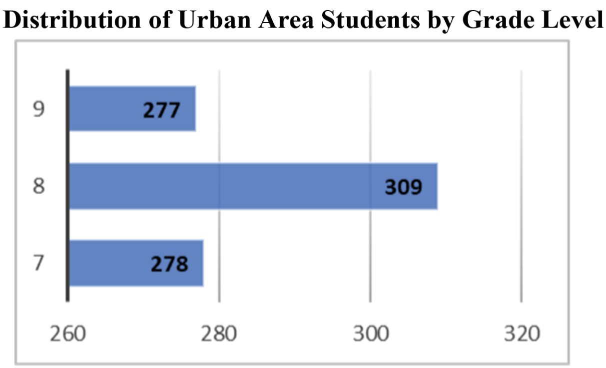

Fig. 2. Distribution of City Area Students Based on Class Levels

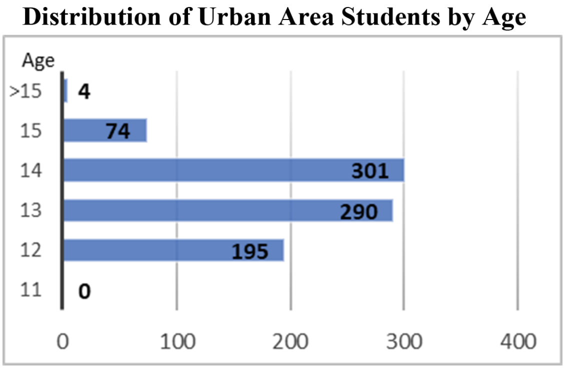

Fig. 3. Distribution of City Area Students by Age

Figure 3 shows that of 864 students in urban areas, the highest frequency is students aged 14 years as many as 301 respondents (35%), students aged 13 years, as many as 290 respondents (33%), students the age of 12 years as many as 195 respondents (22.5%), students with the age of 15 years as many as 74 respondents (9%), and students with age >15 years as many as four respondents (0.5%).

Figure 4 shows that of 864 students in urban areas, the highest frequency based on gender is female students, with a total of 514 respondents (60%), while male students amounted to 350 respondents (40%).

Figure 5 shows that of 864 students in urban areas, the highest frequency is students who have moderate spatial test results criteria with a total of 444 respondents (51%). In contrast, students who have low spatial test results criteria are 420 respondents (49%).

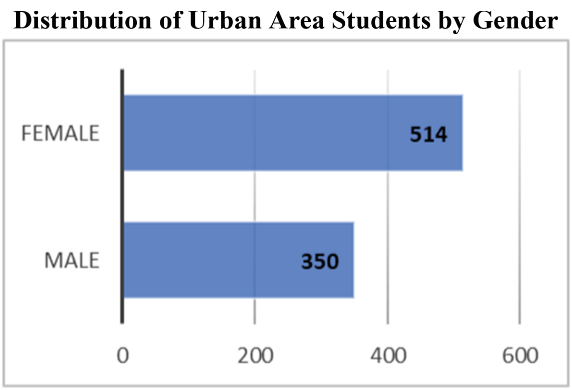

Fig. 4. Distribution of City Area Students by Gender

Distribution of City Area Students Based on Spatial Test Results

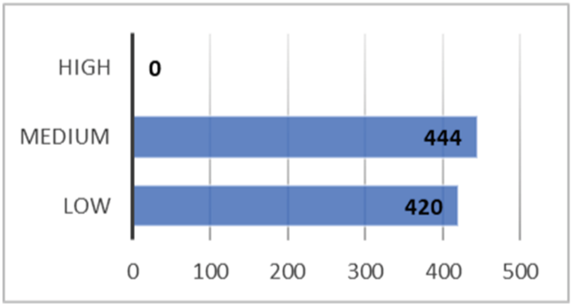

Fig. 5. Distribution of City Area Students Based on Spatial Test Results

3.2 Distribution of Research Respondents in Village Areas in Klaten District

Based on Fig. 6 shows that of the 648 students in the village area, the highest frequency is students who sit in grade 8 (eighth), as many as 224 respondents (35%), students who sit in grade 9 (nine) are 214 respondents (33%), and students in grade 7 (seven) as many as 210 respondents (32%).

Based on Fig. 7 shows that of 648 students spread across several rural areas of Klaten Regency based on age level, the highest frequency is students aged 13 years, as many as 214 respondents (33%), students aged 14 years, as many as 211 respondents (32,6%), students aged 12 years were 154 respondents (23.8%), students aged 15 years were 56 respondents (8.6%), students aged more than 15 years were 11 respondents (1.7%), and students aged 11 years as many as two respondents (0.3%).

Based on Fig. 8, it can be seen that from 648 students spread across several rural areas in Klaten Regency based on gender, the highest frequency is students with female sex as many as 352 respondents (54%), while students with male gender men as many as 296 respondents (46%).

Distribution of Village Area Students by Class

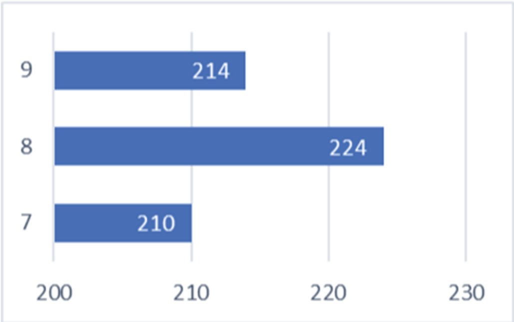

Fig. 6. Distribution of Village Area Students by Class

Distribution of Village Area Students by Age

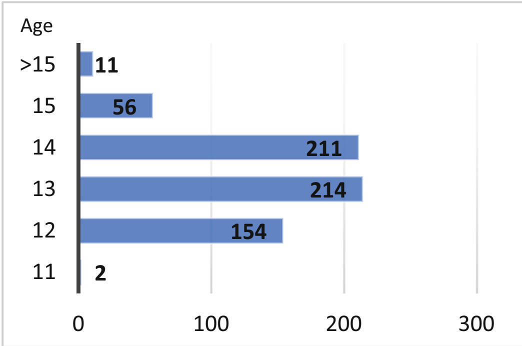

Fig. 7. Distribution of Village Area Students by Age

Figure 9 shows the distribution of students in rural areas in Klaten Regency, which is determined from the value of the results of the spatial thinking test. It can be seen from 648 students that the highest frequency is students with low spatial thinking skills as many as 448 respondents (69%), while students with low spatial thinking skills 200 respondents (31%).

Distribution of Village Area Students by Gender

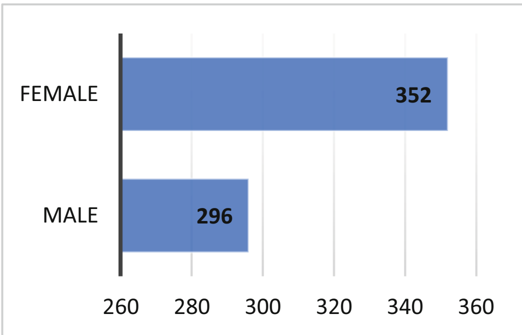

Fig. 8. Distribution of Village Area Students by Gender

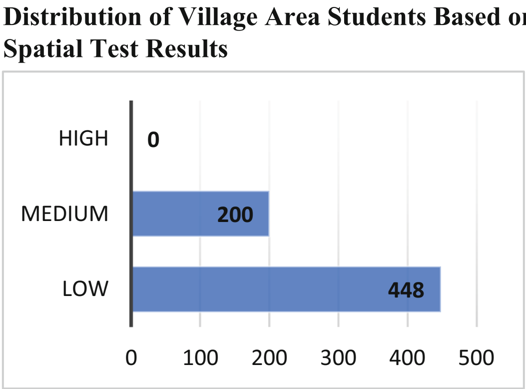

Fig. 9. Distribution of Village Area Students Based on Spatial Test Results

3.3 Level of Students' Spatial Thinking Ability in Urban Areas in Klaten Regency

The results of the descriptive statistical analysis of the spatial thinking ability test of students in urban areas in Klaten Regency can be seen in Table 1.

Based on Table 1 the statistical distribution of the analysis of spatial thinking abilities of junior high school students in urban areas, it can be seen that the average value is 34.9, which is calculated from the total sample value divided by the number of students, namely 864 respondents. The value of 34.9 is a value in the medium category because it is between the values of 33.33 to 66.66. Then the statistical results of the median value from the calculation of the results of the spatial ability test obtained a value of 37.5 with a medium category. The results of statistical calculations from the spatial thinking ability test also show the value that often appears is 31.25 with a low-value category. The standard deviation value of the data distribution in the spatial thinking ability test of students in urban areas in Klaten Regency shows a value of 11.64.

The level of spatial thinking ability of junior high school students in urban areas in Klaten Regency obtained from the results of the spatial thinking ability test can be categorized into three levels, namely low, medium, and high, which can be seen in Table 2. Total scores in the range of 0–33.33 can be categorized as low, values in the range of 33.33–66.66 can be categorized as a medium, and values in the range of 66.66–100 can be categorized as high.

Table 1. Statistical Distribution of Students' Spatial Thinking Ability Test Results in Urban Areas

Distribution Statistic	
Mean	34.9
Median	37.5
Modus	31.25
Standar Deviasi	11.64
Jumlah Sampel	864

Table 2. Level of Students' Spatial Thinking Ability in Urban Areas

Category	Score	Respondent	Percentage
Low	0–33.33	420	49%
Medium	33.33–66.66	444	51%
High	66.66–100	0	
Total		864	100%

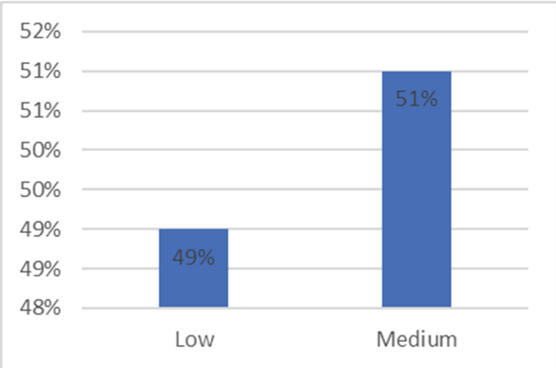

Fig. 10. Percentage of Students' Spatial Thinking Ability Test Results in Urban Areas

The results of the spatial thinking ability test on junior high school students spread across several areas in urban areas in Klaten Regency, it can be seen that the spatial thinking ability in the low category is 420 students with a percentage value of 49% and students who have test results in the medium category are 444 students. Hence, the percentage value is 51%. Based on the results of tests on respondents in urban areas, it can be concluded that the spatial thinking ability test results of junior high school students in urban areas are dominated by students with moderate value categories. The results of the percentage level of students' spatial thinking skills in urban areas in Klaten Regency can be seen in Fig. 10.

3.4 Level of Spatial Thinking Ability of Junior High School Students in Rural Areas in Klaten District

The ability to think spatially in junior high school students in rural areas in Klaten Regency based on the results of descriptive statistical analysis can be seen in Table 3.

Table 3. Statistical Distribution of Students' Spatial Thinking Ability Test Results in Village Areas

Distribution Statistics	
Mean	28.9
Median	25
Mode	25
Standard Deviation	10.9
Sample	648

The statistical distribution analysis of the spatial thinking ability test of junior high school students in rural areas in Klaten Regency showed that the average score obtained from the test results was 28.9 with a low-value category because it was in the range of 0-33.33. The mean value obtained by students from the spatial thinking ability test results is 25, with a low-value category in the range of values 0-33.33. Then the value that often arises from the results of the spatial thinking ability test of 25 with a low-value category. The standard deviation value obtained from the distribution of the spatial thinking ability test of junior high school students in rural areas is 10.9.

The level of students' spatial thinking skills in rural areas spread over several areas of Klaten Regency has two categories, namely the low category, with a value between 0-33.33, and the medium category value, which is in the range of 33.33-66.66. The level of the results of the spatial thinking ability of junior high school students in rural areas in Klaten Regency can be seen in Table 4.

The results of the spatial thinking ability test of junior high school students scattered in several rural areas in Klaten Regency showed that 448 students obtained the category of low spatial thinking ability test results with a percentage of 69%. The medium category on the results of the spatial thinking ability test scores of junior high school students in rural areas resulted from 200 students with a percentage of 31%. Therefore, based on the results of the spatial thinking ability test of students in rural areas, it can be seen that the low-value category dominates the test results. The percentage results of the spatial ability test of junior high school students in rural areas can be seen in Fig. 11.

Table 4. Level of Students' Spatial Thinking Ability in Rural Areas

Category	Score	Respondent	Percentage
Low	0–33.33	448	69%
Medium	33.33–66.66	200	31%
Total		648	100%

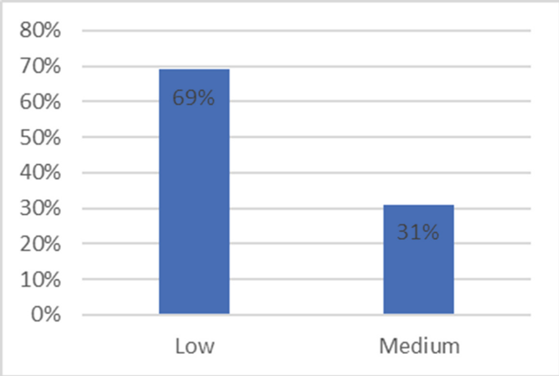

Fig. 11. Percentage of Spatial Thinking Ability Test Results for Middle School Students in Rural Areas

3.5 Differences in the Spatial Thinking Ability of Junior High School Students in Urban Areas with Rural Areas in Klaten Regency

Normality Test

The normality test is used in making a graph of the frequency distribution obtained from the final score to determine the distribution of normal or abnormal data. The normality test can be normally distributed if the significance value is > 0.05, and it is said to be abnormal if the significance value is < 0.05. However, based on the opinion (Dielman, 1961) in [11], the sample distribution is considered normal according to the Central Limit Theorem used for samples more than 30 ($n \geq 30$). The results of the normality test of the data in this study can be seen in Table 5 using the Kolmogorov-Smirnov normality test.

Based on the results of the normality test of the research data, it can be seen that the significance value is 0.000, both in the city area and the village area. Hence, the data is not normally distributed if this is based on the decision-making Ha is accepted if the significance value is > 0.05. Therefore, it can be concluded from the results of testing the normality assumption that some of the data are not normally distributed. Still, this data

Table 5. Normality Test using Kolmogorov-Smirnov

	System	Kolmogorov-Smirnova		
		Statistic	df	Sig.
Spatial Test	Urban	.112	864	.000
	Rural	.146	648	.000

(Data analysis results, 2022)

is considered normal because the research sample is more than 30 ($n \geq 30$) following the Central Limit Theorem.

Homogeneity Test

The homogeneity test on data tests whether the data distribution has homogeneous properties by comparing the two variances. The homogeneity test of research data can be seen in Table 6 using the One-Way Anova test.

The homogeneity test results of spatial thinking ability data showed a significance of 0.058. The significance value is $0.058 > 0.05$, so the spatial thinking ability test data between students in the city and this village can be considered homogeneous.

Independent-Samples T Test

The prerequisite tests used in this different test are the normality test and the homogeneity test. The normality test results for normally distributed data adjusted for the Central Limit Theorem, and the homogeneity test showed that the data was homogeneous, so the test used was the Independent-Samples T Test parametric statistic. The results of the Independent-Samples T-Test can be seen in Fig. 12.

Based on data analysis using SPSS 17.0, a significance value of 0.000 was obtained on the spatial thinking ability test results of students in urban and rural areas. The significant value of $0.000 < 0.05$ indicates a difference in spatial thinking skills between junior high school students in urban and rural areas. Characteristic differences in the spatial thinking of junior high school students in urban areas with rural areas. Based on research [10] explains that students who are in an urban environment have superior spatial problem-solving abilities, although it is not statistically proven. The advantages of students in urban areas can be caused by the mastery of content in spatial concepts [10].

Differences in the spatial thinking ability of junior high school students in urban areas with rural areas can be seen from the results of answering spatial questions. The spatial thinking ability test consists of 8 (eight) aspects divided into 16 (sixteen) questions. The results of the spatial ability test of students in urban and rural areas can be seen in Fig. 13.

Table 6. Homogeneity Test

Homogeneity Test			
Levene Statistic	df1	df2	Sig.
3.606	1	1510	.058

		t-test for Equality of Means			
		df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Spatial test results	Equal variances assumed	1510	.000	6.01370	.58754
	Equal variances not assumed	1440.881	.000	6.01370	.58170

Fig. 12. Independent Samples T-Test

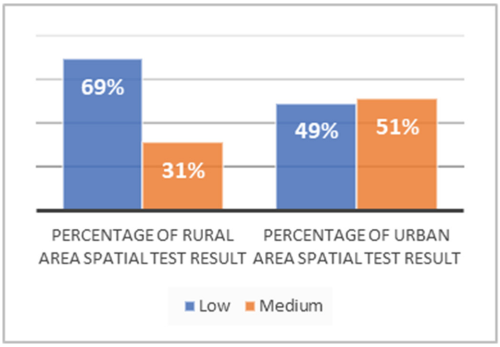

Fig. 13. Results of the Spatial Thinking Ability Test of Students in Urban and Rural Areas

Based on Fig. 13, students' spatial thinking ability in rural areas is dominated by low spatial thinking ability test results with a percentage of 69%. In contrast to the results of the spatial thinking ability test of students in urban areas, which is dominated by the results of the spatial thinking ability test, the percentage is 51%. It shows that there are differences in test results between students in urban areas and test results of students in rural areas. Following Fig. 13, it can be concluded that the spatial thinking ability of students in rural areas is still low compared to the spatial thinking abilities of students in urban areas, which are included in the medium category. The results of right and wrong answers on each indicator can be seen in Table 7.

Spatial thinking skills have eight aspects that are used as a benchmark for assessing spatial thinking skills for students spread out in urban and rural areas in Klaten Regency. Table 7 shows that many students who answered correctly were in aspect 1 (one) with question number 2 (two), as many as 992 students with a percentage level of 65.6%. The second highest correct answer is shown in aspect 7 (seven) of spatial thinking ability number 10 (ten), as many as 959 students with a percentage level of 63.4%, and the third highest correct answer is shown in aspect 1 (one) regarding understanding orientation and direction on the question. Number 1 (one) as many as 936 students with a percentage of 61.9%. Based on research [12] explains that some students think that the number 1 and 2 spatial thinking skills have an easy working category because the instructions given in the questions are simple and easy to understand and other students think that the north direction shows up so that they need to strategize. The spatial thinking ability test results in Table 7 show that the highest errors of students in answering questions are in aspect 8 (eight) in question number 13 (thirteen) as many as 1511 students. The second highest error is in question number 11 (eleven), with as many as 1355 students. In line with research [12], that test questions of spatial thinking skills number 11 and 12 are included in the category of difficult questions.

Field experience is a learning that can be implemented to improve students' spatial thinking skills. It is in line with the opinion [10] that the experience gained from the field provides experience in understanding spatial concepts, using tools for representation, and reasoning in solving problems. Agree with [13] saying that field learning can have a positive impact on student learning outcomes and also has a positive influence on solving problems according to the site aspect (Muffato & Meneghetti, 2020) in [10]. Therefore, it can be concluded that students can learn geography in formal classes and through informal interactions with the environment.

Table 7. Distribution of True and False Answers on Each Spatial Thinking Indicator

Aspects of Spatial Thinking		Question Number	City Area Test Answers		Village Area Test Answers		Percentage of Correct Answers (%)
			Correct	Incorrect	Correct	Incorrect	
Aspect 1	Understanding orientation and direction	1 2	603 648	261 216	333 344	315 304	61.9 65.6
Aspect 2	Analyze patterns on maps to help define graphs	3	429	435	266	382	46
Aspect 3	Selecting appropriate information based on some spatial information	4	156	708	149	499	20.2
Aspect 4	Creating a topographic profile on the lines shown in the contour	5	163	701	104	544	17.7
Aspect 5	Identify spatial relationships between maps and display relationships between graphs	6 7	228 269	636 595	149 180	499 468	24.9 29.7
Aspect 6	Visualizing 3D images based on 2D images	8	101	763	99	549	13.2

(*continued*)

Table 7. (*continued*)

Aspects of Spatial Thinking		Question Number	City Area Test Answers		Village Area Test Answers		Percentage of Correct Answers (%)
			Correct	Incorrect	Correct	Incorrect	
Aspect 7	Verify the map overlay by selecting the map layer according to the engagement	9 10 11 12	257 631 83 127	607 233 781 737	221 328 74 98	427 320 574 550	31.6 63.4 10.4 14.9
Aspect 8	Understanding maps in the form of symbols in the form of points, networks and regions in the form of patterns	13 14 15 16	1 384 549 180	863 480 315 684	0 227 283 150	648 421 365 498	0.07 40.4 55 21.8

4 Discussion

Spatial thinking abilities have been widely studied by previous experts, such as research conducted by [10]. Regarding the spatial thinking abilities of male and female students in urban and rural schools. In addition, research on spatial thinking skills was also carried out [14] regarding the gender perspective on the spatial thinking of secondary students, with the result that there is no relationship between gender and spatial thinking. According to [15], the spatial thinking ability of students at one school is still relatively low. Therefore, there is a need for research on the spatial thinking ability of students in urban and rural areas, which many previous researchers have not done to clarify the effect of spatial thinking skills.

The living environment in both urban and rural areas can affect the students' spatial thinking skills. According to [16], using technology and environmental influences can accelerate students' ability to think spatially. The increasingly complex development of urban areas and increasing population problems can influence the mindset of the local community. In line with research [17], the distribution of the characteristics of people's lives in urban areas is influenced by the diffusion of culture from urban areas to rural areas, resulting in changes in social, cultural, and economic activities of the community. Complex environmental problems require the community, especially in students' age range, to be directly involved in problem-solving, thereby strengthening students' spatial thinking abilities [10]. Urbanization that occurs in urban areas has a significant effect on spatial survival. Therefore, people living in urban areas need good and sustainable knowledge, understanding, and skills to respond to phenomena that exist in living spaces.

In contrast to rural areas, the area's characteristics have simple buildings and proper functions. The limited use of land for development can affect less complex population problems, thus causing the involvement of students in solving life problems is also constrained and has an impact on the low-field experience. In line with research [10], students' lack of experience shows they lack mastery of the material.

Based on the differences in characteristics between urban and rural areas, the study results indicate a significant difference between students' spatial thinking abilities in urban and rural areas. The spatial thinking ability of junior high school students in urban areas is better than that of junior high school students in rural areas. It can be seen through the answers to the results of the spatial thinking ability test, which shows that the spatial thinking skills of junior high school students in urban areas are included in the medium category with a range of values from 33.33 to 66.66. In contrast, the results of the spatial thinking ability test of students in rural areas occupy the category low with a value range of 0-33.33. The results of this study align with research conducted by [10] that there are differences in the spatial thinking abilities of students in urban environments, which are dominated by very good category scores, while value categories dominate students in rural environments. Good. Regional characteristics can influence students' skills in urban areas, which tend to be higher than in rural schools [18]. The importance of spatial abilities for all people in facing life's challenges, according to [19] spatial thinking can be improved through students' learning experience and evaluation of their abilities. It is in line with the opinion (Kolvoord et al., 2011) in research [20]. Regarding spatial thinking skills that can be improved through discovery and exploration learning.

5 Conclusion

Based on the study's results, it can be concluded that the spatial thinking ability of students in urban areas shows higher moderate criteria, with an average of 34.9. In contrast to the results of the analysis of students' spatial thinking skills in rural areas, the test results are in a low category, with an average score of 28.9. The comparative independent samples t-test showed a significance value of 0.000. The value of 0.000 is smaller than 0.05, so there are differences in spatial thinking skills between students in urban areas and students' spatial thinking abilities in rural areas. Following the analysis of spatial thinking skills, the spatial thinking skills of students in urban areas are better than the spatial thinking abilities of students in rural areas.

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