

## **PROFILE OF PROSPECTIVE STUDENTS' ACADEMIC POTENTIAL**

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### **ABSTRACT**

The initial ability of prospective students needs to be known as one of the benchmarks to determine predictions of student competence after being accepted at a tertiary institution with a particular major or study program. For this purpose an academic potential test is carried out. Academic potential tests are usually only carried out on prospective students who have registered at a tertiary institution. This study aims to determine the profile of the academic potential of prospective students who will be accepted at one of the tertiary institutions throughout Indonesia. The academic potential of prospective students is seen in terms of verbal ability, numerical ability, logical ability, and spatial ability. The research sample was 450 class XII students of public senior high schools in Kendari City. Data collection used the Academic Potential Test (TPA) instrument with four subtests, namely a verbal ability test, a numerical ability test, a logical ability test, and a spatial ability test. Data were analyzed with descriptive statistics and inferential statistics. The results of this study indicate that class XII students of SMA Negeri in Kendari City as prospective students (1) have good verbal skills as much as 85.7%; (2) have good numerical ability as much as 83.3%; (3) have good logic skills as much as 81.1%; (4) having good spatial ability as much as 82.7%; (5) There is no significant difference between verbal and numerical abilities between class XII students of SMA Negeri in Kendari City. (6) The academic potential of class XII students of SMA Negeri in Kendari City is classified as good at 84% with an average score of 85.42 , a standard deviation of 1,254 with a minimum value of 70.57 and a maximum of 90.23.

**Keywords:** verbal ability; numerical ability; academic potential

### **1.INTRODUCTION**

The Academic Potential Test or TPA is a form of psychological test that is widely used in the job recruitment process, both in government agencies and private companies. selection. The reason is, this one psychological test is considered important to see a person's thought process. TPA consists of four sub-tests, namely verbal ability, numerical ability, logical ability, and spatial ability.

The verbal ability test in the TPA subtest is divided into 4 areas of language, namely: (1) Opposite words (antonyms) test, namely test takers are asked to find one word that is the opposite of the word in the provided questions. Synonyms test, namely test takers asked to find one word that is the equivalent word in the questions provided. (2) Word grouping test, where participants are

asked to find a word that does not belong to a similar category. (3) Word equivalent test, where participants are asked to find a word that matches their partner in the questions provided.

The numerical ability test is divided into 5 numerical fields, namely: (1) Number test on the story, in which participants are asked to read the story questions available in the questions and answer the questions according to the wishes of the questions in the answer column quickly. (2) Numeral logic test, namely participants are asked to reason logically with the number equations available in the answer column. (3) Letter series test, in which participants are asked to answer the next letter that has gaps in the letter series and usually this section has a certain pattern. In this section the number sequence has a certain pattern as well. (5) Count test (arithmetic), in which participants are asked to count by adding, dividing, multiplying or dividing the numbers available in the questions and usually the questions in this section trap participants' calculations even though they look easy (Aristo, 2012).

Logic ability tests are useful for testing logical and reasoning problem solving. This subtest is divided into 4 areas of logic, namely: (1) Logic diagram test, in which participants are asked to interpret a diagram provided in the questions and the answers are usually in the form of statements that are appropriate to the question diagrams. (2) The story logic test, that is, participants are asked to read a story that is available in the questions and answer questions related to the story in the questions, but usually the questions and answers to the questions do not directly contain the answers to the story. (3) Syllogism test (analysis of a statement and conclusion), namely participants are asked to analyze whether the statements and conclusions drawn in the questions or answers are correct or not. (4) General logic tests, namely participants are asked to quickly reason a logical statement (Irawan & Kencanawati, 2016).

The spatial ability test is divided into 4 spatial areas, namely: (1) Image matching test where participants are asked to match the pictures that match the questions with the answers. (2) Image image test, in which participants are asked to reason about how an image will be reflected in an image and the results of the image give an image as in the provided answer column. (3) Group image test, in which participants are asked to group images according to conditions or one the same category with a different category on the answers. (4) Image identification test, namely participants are asked to identify what images are listed in the questions and answers provided (Masni, 2016).

These four abilities are the initial abilities that must be possessed by a prospective student. These four abilities can be used as a basis for predicting the academic achievement of prospective students after being accepted into one of the majors or study programs. Therefore, it is very important to know how the results of this test for prospective students.

So far, the TPA test has only been given after participants have registered at one of the universities which has been used as a selection tool. So that the results are solely used as one of the prerequisites for graduating prospective students. Even though the TPA test is very good to be used as a detection tool to improve the learning process in class, especially students who are already in class XII high school as well as prospective students. The improvement effort in question includes the four subtests in the TPA, namely: verbal ability, numerical ability, logical ability, and spatial ability. This ability directs and shapes students' higher order thinking skills. This higher-order thinking ability is an ability that students are expected to have as a result of the learning activities carried out by the teacher. According to Zamsir, et al (2022) one of the indicators for higher order thinking ability is students' ability to answer questions at the HOTS level.

TPA as one of the student ability tests personally, can also be used as a means of mapping student abilities based on school level. The results of interviews with the Head of the Kendari City Education Office when the research was carried out, it was found that several schools needed to map the academic potential of each student as a prospective student. . This mapping is used as a

basis for making decisions in which class each student is eligible for efforts to improve the learning process in order to improve the quality of graduates. Peng, P., & Fuchs (2016) stated that it is often found that there are students who are unable to compete while studying at university. This is where the importance of mapping the profile of prospective students' academic potential lies.

The mapping of students based on their academic potential is one of the determining factors for the success of learning for class XII students of SMA Negeri in the future (Syamsul Bachri Thalib and Herlina, 2021). Academic potential is the ability of each student to carry out normal academic activities. The academic potential that is most needed by students to support their activities, such as verbal ability, numerical ability, logical ability, and spatial ability.

Verbal ability is the ability of students related to words, sentences, the essence of information and other things related to speech. The numerical potential is the ability of students to do mathematical tasks that require analysis and critical thinking with numbers. These two potentials support student learning activities because almost all subjects studied by students in elementary schools to tertiary institutions use verbal and numerical aspects.

Students who are unable to do verbal and numerical tasks will certainly experience difficulties in the learning process. In this regard, Kumara (2001) suggests that verbal ability plays a very significant role in the quality of students' reading and writing expressions, especially the ability to absorb information. Writing skills help improve students' skills in logical thinking and making problem-solving strategies. Therefore, students who do not have normal verbal potential will have difficulty absorbing information so that it affects the process of logical thinking, problem solving and behavior.

Students who do not have normal numerical abilities will also experience difficulties in their learning process (Malenda, Kadir & Suhar, 2019). This numerical potential will affect the ability to think, organize information to solve problems related to numbers. According to Irawan & Kencanawaty (2016) numerical abilities include the ability to count in terms of addition, the ability to calculate in terms of subtraction, the ability to calculate in terms of multiplication, and the ability to calculate in terms of division.

Based on the explanation stated above, the researcher considers it important to carry out a search related to the profile of the academic potential of State High School students in Kendari City as prospective students who will be accepted at one of the tertiary institutions throughout Indonesia. The information obtained from the results of this TPA will be very useful for knowing the academic potential of prospective students, as well as valuable input for schools to make improvements to the learning process if it is known that students still lack TPA scores.

## **2.METHOD**

This research is a type of descriptive research with a quantitative approach using survey techniques. The population in this study were all class XII students of SMA Negeri in Kendari City. The research sample was 450 students selected from 8 public high schools in Kendari City. Each public high school was selected as many as 2 classes of class XII students. Data collection used the Academic Potential Test instrument with 4 subtests, namely verbal ability tests, numerical ability tests, logical ability tests and spatial ability tests. The verbal ability test consists of an understanding of word similarities, opposites and word analogies. While the numerical ability test consists of number series, algebra, arithmetic and geometry. Data were analyzed with descriptive statistics and inferential statistics. All calculations were performed using the SPSS for Windows version 21.0.

### 3.RESULTS AND DISCUSSION

The data analyzed in this study were data from the results of the Academic Potential Test for class XII students at SMA Negeri in Kendari City, totaling 450 people. Presentation of the results of this study include: verbal ability, numerical ability, logical ability, spatial ability, and the academic potential of prospective students. Student Verbal Ability The results of the verbal ability test for Class XII students as prospective students were obtained by students who had good verbal skills with a score of 75 or more (85.7%) and those who were not good with a score of 60 or less were 65 people (14.3%). ). The level of students' verbal ability can be seen in Figure 1.

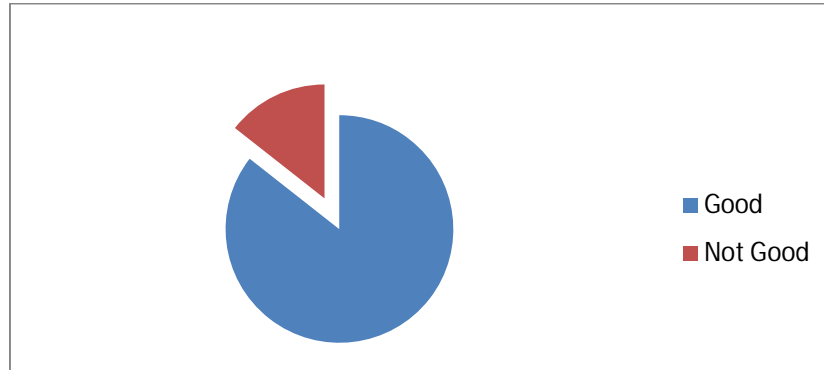


Figure 1. Level of Prospective Student's Verbal Ability

#### Student Numerical Ability

The results of the numerical ability test for class XII students as prospective students obtained students who had good numerical ability with a score of 80 or more as many as 375 people (83.3%) and those who were not good with a score of 55 or less were 75 people (16.7%) ). The level of students' numerical abilities can be seen in Figure 2.

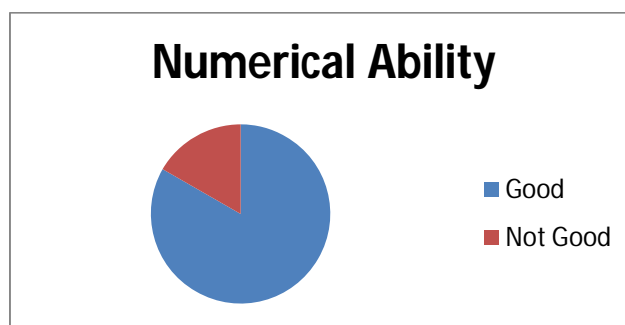


Figure 2. Numerical Ability Level of Prospective Students

#### Student Logic Ability

The results of the logical ability test for class XII students as prospective students were obtained by students who had good logical abilities with a score of 80 or more (81.1%) and those who were not good with a score of 57 or less were 85 people (18.9%) ). The level of students' logical abilities can be seen in Figure 3.

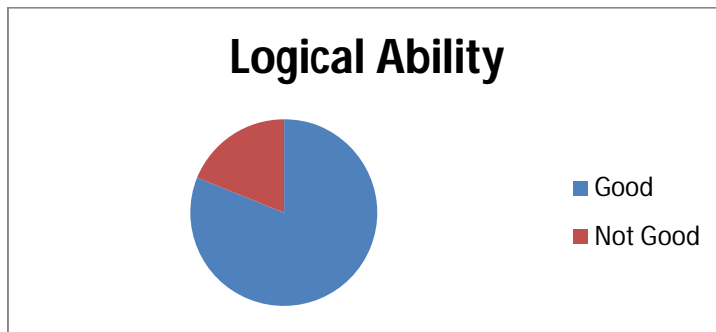


Figure 3. Logic Ability Level of Prospective Students

### Spatial Ability

The results of the spatial ability test for class XII students as prospective students obtained students who had good spatial abilities with a score of 83 or more as many as 372 people (82.7%) and those who were not good with a score of 56 or less were 78 people (17.3%) . The level of students' spatial abilities can be seen in Figure 4.

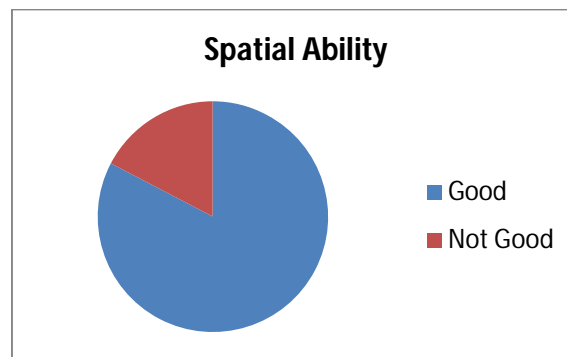


Figure 4. Level of Spatial Ability of Prospective Students

Based on the results of achieving a good level of student ability for each subtest, it can be seen that the highest ability was achieved by students in verbal ability (85.7%) then numerical ability (83.3%) followed by spatial ability (82.7%) and finally logic ability (81.1%). It seems that the difference in the percentage of students' abilities between sub-tests is not too far away or is still relatively the same. Furthermore, if the students' abilities in each subtest are disaggregated by gender, the results obtained are that female students have an average verbal subtest score of 82.26, while male students have an average score of 80.45. Female students in the numerical subtest have an average value of 80.75 while male students have an average value of 82.65. Female students in the logic subtest had an average score of 80.17 while male students had an average score of 83.12. Finally, in the spatial subtest female students had an average score of 80.26 while male students had an average score of 81.74.

Based on these results, it appears that if students' abilities are sorted based on subtests, male students are superior to female students. Although the difference is only in terms of empirical facts, it is not based on statistical test results. In other words, the difference is not significant or not significant.

### **Student Academic Potential**

Based on the total TPA scores for the four abilities tested, the average score for the Academic Potential Test for class XII students as prospective students was 85.42, the standard deviation value was 1.254, the variance value was 0.352 with a minimum value, 70.51 and a maximum value. 90,23. As many as 378 people (84%) had TPA scores in the good (high) category and only 72 people (16%) had TPA scores in the poor (low) category. This means that the class XII students as prospective students mostly have good TPA scores. Furthermore, based on the results of the TPA difference test between schools, it was found that there was no significant difference in students' TPA scores between schools.

### **4. CONCLUSION**

The verbal ability of class XII students of SMA Negeri Kendari City as prospective students is in the good category, namely 85.7%. The students' numerical ability is also in the good category, namely 83.3%. The students' logical abilities are in the good category, namely 81.1% and the spatial abilities are in the good category, namely 82.7%. There is no significant difference in TPA scores between schools. The average value of the Academic Potential Test for class XII students as prospective students is 85.42, the standard deviation value is 1.254, the variance value is 0.352 with a minimum score of 70.51 and a maximum score of 90.23. As many as 378 people (84%) had TPA scores in the good (high) category and only 72 people (16%) had TPA scores in the poor (low) category. This means that most of the class XII students as prospective students have good TPA scores.

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