



The correlation between self-efficacy, self-confidence, and metacognitive skills on biology learning outcomes of student's high school

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ABSTRACT

This research aims to describe the self-efficacy, self-confidence, metacognitive skills and learning outcomes of class . This research is an ex-post facto type of quantitative research with data collection carried out using self-efficacy, self-confidence and metacognitive skills questionnaires, as well as first semester Biology cognitive learning scores. The sample determination method used is the Area Proportional Random Sampling technique, so the research sample a total of 301 students and the research population was all class XI students of SMAN Polewali Mandar Regency for the 2023/2024 academic year. The data was analyzed descriptively and inferentially. The results of the research show that the self-efficacy, metacognitive skills and learning outcomes of students are in the medium category, and the self-confidence of students is in the high category, and there is a fairly strong relationship between self-efficacy and student learning outcomes, a very strong relationship between self-confidence and learning outcomes, a strong relationship between metacognitive skills and learning outcomes, and a very strong relationship between self-efficacy, self-confidence, and metacognitive skills and student learning outcomes. As for future researchers, it is hoped that they will use more variables and the results of this study are not in accordance with Bandura's theory that self-efficacy is always directly proportional to self-confidence, so it is necessary to study further the factors that influence students' self-confidence.

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INTRODUCTION

In the 21st century, education in Indonesia is faced with several challenges and opportunities that are different from previous educational eras. One indicator of the success of the educational process can be seen from the learning outcomes obtained by students. Cognitive learning outcomes are learning outcomes related to changes obtained in the form of knowledge at the end of the learning process (Elitasari; Yunita & Mandasari, 2022). The student's learning outcomes are influenced by several factors, namely external and internal factors. External factors that influence students in learning include family, school and society. Meanwhile, internal factors include physical factors and psychological factors related to intelligence, interests, motivation, attitudes, physical condition, mental health, self-efficacy, self-confidence, metacognitive skills and other internal factors.

Self-efficacy is believed to influence cognitive learning outcomes. Self-efficacy is a student's belief that a person can successfully achieve academic tasks or achieve learning goals at a predetermined level (Basith, Syahputra, & Ichwanto, 2020; Mawaddah; Puspitasari, Lasan, & Setiyowati, 2021). Self-efficacy encourages students to act, determine direction, and select their actions to get good learning results. If someone has the belief to succeed, then he will try to complete the task. According to Bandura, self-efficacy is one aspect of knowledge about oneself or self-knowledge that is most influential in everyday human life because the self-efficacy that is possessed influences individuals in determining the actions they will take to achieve a goal (Suciono, 2021).

Self-confidence is an internal factor related to a greater awareness of one's own abilities and self-worth. Students who have high self-confidence also have a high optimistic attitude. If someone's self-confidence is low, it will make them doubt and fear their abilities (Fitri, Zola, & Ildil, 2018; Alfy, A'ini, & Baihaqie, 2023). Someone who has strong self-confidence will be able to get good learning results. Feelings of lack of self-confidence and lack of confidence in one's abilities can have a negative impact on a person's learning achievement. Therefore, high self-confidence is very important for students to have. Lauster (2015), also believes that self-confidence is an aspect of personality in the form of belief in one's abilities, not being dependent on other people because you believe in yourself, not being too selfish, and believing that your dreams and aspirations can be achieved.

Metacognitive skills also make a good contribution to students' cognitive learning outcomes. Metacognition is an important element, not only of our capacity to know ourselves, but also to make more sensible decisions. Metacognition regulates study time and contributes to the development of general intelligence, so that students will be better able to analyze solutions or answers to existing problems (Heyes, et al., Setiawan, Zubaidah, & Mahanal, 2020). Metacognition is knowledge about how to learn yourself. Metacognition refers to higher-order thinking patterns that involve active monitoring of cognitive processes in learning. Through metacognitive activities, students can understand the thinking processes they have carried out. This will help students to better understand all the steps they have taken in learning, so that learning becomes meaningful (Bahri & Corebima, 2019; Saputri, & Corebima, 2020). Someone who has metacognitive skills means they can realize how much they understand learning and the factors that influence their understanding of the learning material. One of the problems in biology lessons is the low student learning outcomes.

This is also reinforced by the results of the Program for International Student Assessment (PISA) report regarding the mastery of skills and knowledge possessed by students. PISA reports that although students' abilities in the fields of reading, science and mathematics in Indonesia have increased, when compared with other countries, Indonesia is still in the low category and still needs to be further improved in the future. For reading literacy, Indonesia's ranking in PISA 2022 rose 5 positions compared to before. For mathematical literacy, Indonesia's ranking in PISA 2022 also rose 5 positions, while for scientific literacy it rose 6. Indonesia is ranked 68th out of 81 countries that took the PISA test (OECD, 2023).

Self-efficacy, self-confidence, and metacognitive skills are critical in biology lessons because students enter learning topics with varying levels of anxiety. Lestari & Zakiah (2019), said the biology learning process is not only understanding and memorizing facts, concepts and theories, but also involves active learning activities to find solutions to problem-solving. Thus, self-efficacy, self-confidence and metacognitive skills need to be empowered in learning, so that learning outcomes can be better.

The results of the observations that have been carried out are in the form of interviews with teachers at the Polewali Mandar State High School, represented by the biology subject teacher at

SMAN 1 Polewali, SMAN 1 Wonomulyo, SMAN 1 Campalagian, and SMAN 1 Tinambung, shows that the absorption capacity of each student is different, they think that biology lessons only rely on memory, but students' understanding and thought processes should be needed in understanding biology material. Several research results reveal that students' self-efficacy, self-confidence and metacognitive skills are still in the low category, especially in biology learning in high school, as revealed by the research results of Palennari and Daud (2021), Students' self-efficacy in learning basic biology needs to be improved. Research on self-confidence in students is revealed by research results Fitri, Zola, & Ildil (2018), Adolescents' self-confidence still needs to be improved. Afni (2020), The metacognitive skills of class XI State High School in Mamajang sub-district, Makassar city, on the subject of the digestive system is in the not very developed category. In this research, the selected variables are still rarely used to measure the success of students in the learning process in Polewali Mandar Regency, as well as covering a wider research area to provide an overview of the factors that influence student learning outcomes, so that they can be used as a reference. to increase educational success in Polewali Mandar Regency.

METHOD

Research design

This research is quantitative research with an ex post facto research design that is correlational (Creswell, 2014). The variables in this research consist of two, namely the independent variable, namely self-efficacy (X1), self-confidence (X2), and metacognitive skills (X3), as well as the dependent variable, namely the results studying biology (Y).

Population and Sample

The population in this study were all class It was found that the number of public high schools in Polewali Mandar Regency was 13 schools with a total of 1,266 students. The sampling technique used was proportional random sampling. This technique is a combination of two types of sampling techniques, namely random sampling and proportional sampling. Four schools were sampled based on regional divisions in Polewali Mandar Regency, which consists of two areas, namely Polewali Mandar 1 Regency and Polewali Mandar 2 Regency with two schools in each group using the Slovin formula, so that a sample of 301 people was obtained, then taken proportionally from the four schools for group representation. This research was conducted in January of the 2023/2024 academic year.

Instrument

Self-efficacy was measured using a self-efficacy questionnaire adapted from indicators developed by Bandura (1997), namely the dimensions of level (level), strength (strength), and generally (breadth). Self-confidence, namely self-confidence in students as measured by a self-confidence questionnaire adapted based on indicators developed by Lauster (1992), namely self-confidence, optimism, objective, responsibility, and rational and realistic. Metacognitive skills were measured using a metacognitive skills questionnaire adapted based on indicators Schraw & Dennison (1994), namely planning, monitoring and assessment. Cognitive learning outcomes are measured based on students' report cards in semester 1 of the 2023/2024 academic year obtained from biology subject teachers. This questionnaire is in the form of a closed statement consisting of 20 statements with four alternative answers provided, namely SS (very suitable), S (suitable), TS (not suitable), and STS (very unsuitable), and consists of positive statements (favorable) dan negative statement (unfavorable). The results of the logical validity test show that the self-efficacy questionnaire is in the very valid category with a value of 4.62, the self-confidence questionnaire is in the very valid category with a value of 4.50, and the metacognitive skills questionnaire is in the very valid category with a value of 4.56.

Procedure

The preparation stage starts with making observations at the school and asking permission from the school, then preparing a research proposal and research instrument until it is suitable for seminars and validating the instrument with expert validators. The implementation stage is distributing research questionnaires and asking for student report cards. The evaluation stage, namely processing and analyzing data, drawing conclusions, and compiling research results reports.

Data analysis technique

Data analysis was carried out using descriptive and inferential statistical analysis. Inferential statistical analysis is carried out using prerequisite tests and hypothesis tests, both partially and simultaneously.

RESULTS AND DISCUSSION

Description of self-efficacy, self-confidence, metacognitive skills and learning outcomes of class XI students at State High Schools in Polewali Mandar Regency, Indonesia.

Table 1

Distribution of Self-Efficacy Levels of Class XI State High School Students in Polewali Mandar Regency, Indonesia.

Category	Interval	Frequency	Percentage (%)
Very low	$X < 75.10$	27.00	9.00
Low	$75.10 < X \leq 80.60$	58.00	19.00
Currently	$80.60 < X \leq 86.00$	113.00	38.00
High	$86.00 < X \leq 91.50$	85.00	28.00
Very High	$X > 91.50$	18.00	6.00
Total		301.00	100.00

Table 1 showed that the highest self-efficacy was at a score between 80,60-86,00 with a frequency of 113 people, so it can be concluded that the self-efficacy of class XI students at State High Schools in Polewali Mandar Regency, Indonesia are in the medium category with a percentage of 38%. This is in line with the research results of Palullu (2023), showing that the self-efficacy of class XI students of State Senior High Schools in Makassar City is also in the moderate category because students are still less confident in overcoming obstacles and using the experience they have, especially in completing difficult biology assignments or when getting bad biology grades.

Table 2

Distribution of Self-Confidence Levels of Class XI State High School Students in Polewali Mandar Regency.

Category	Interval	Frequency	Percentage (%)
Very low	$X < 77.10$	11.00	4.00
Low	$77.10 < X \leq 81.90$	58.00	19.00
Currently	$81.90 < X \leq 86.70$	99.00	33.00
High	$86.70 < X \leq 91.50$	118.00	39.00
Very High	$X > 91.50$	15.00	5.00
Total		301.00	100.00

Table 2 shows that the most self-confidence is at a score between 86,70-91,500 with a frequency of 118 people, so it can be concluded that the self-confidence of class XI students of SMA Negeri in Polewali Mandar Regency is in the high category with a percentage of 39%. This is in line with research conducted by Marlina, Fatimah, & Siddik (2022), the self-confidence of class XI students is on average high, students are confident in what they do, always consider themselves accepted by their environment, and can behave well.

Table 3

Distribution of Metacognitive Skill Levels of Class XI State High School Students in Polewali Mandar Regency.

Category	Interval	Frequency	Percentage (%)
Very low	$X < 75.40$	21.00	7.00
Low	$75.40 < X \leq 80.50$	75.00	25.00
Currently	$80.50 < X \leq 85.70$	104.00	35.00
High	$85.70 < X \leq 90.80$	89.00	30.00
Very High	$X > 90.80$	12.00	4.00
Total		301.00	100.00

Table 3 shows that the most metacognitive skills are at a score between 80,50-85,70 with a frequency of 104 people, so it can be concluded that the metacognitive skills of class XI students at

SMA Negeri Polewali Mandar Regency, Indonesia are in the moderate category with a percentage of 35%. In line with the results of research conducted by Ismarani & Artayasa (2023), students in the moderate category do not yet have optimal metacognitive skills because students are not fully aware of the thinking process abilities that exist within themselves.

Table 4

Distribution of Cognitive Learning Results of Class XI State High School Students in Polewali Mandar Regency, Indonesia.

Category	Interval	Frequency	Percentage (%)
Very low	$X < 79,30$	19.00	6.00
Low	$79,30 < X \leq 83,80$	69.00	23.00
Currently	$83,80 < X \leq 88,20$	125.00	42.00
High	$88,20 < X \leq 92.70$	66.00	22.00
Very High	$X > 92.70$	22.00	7.00
Total		301.00	100.00

Table 4 shows that the most learning outcomes are in the score between 83,80-88,20 with a frequency of 125 people, so it can be concluded that the self-confidence of class XI students of SMA Negeri in Polewali Mandar Regency is in the moderate category with a percentage of 42%. This is supported by the results of Alam's research (2022), the cognitive learning outcomes of biology students at SMA Negeri 5 Soppeng are in the moderate category, teachers have tried to create a comfortable learning atmosphere so that student concentration is maintained, although not yet fully maximized.

A homogeneity test was not conducted because this research is correlational research, where the researcher does not control the independent and dependent variables. Therefore, the focus is on relationships between variables, not comparisons between groups that require the assumption of homogeneity of variance. Analyzing variance can be less meaningful because of the large number of uncontrolled variables, so the strength and direction of the relationship between variables is more concerned than the difference in variance (Cohen, Cohen, Aiken 2003; Creswell, 2014).

Table 5

Kolmogorov Smirnov Test Normality Results.

Kolmogorov Smirnov	N	Sig. (2-tailed)	Information
Unstandardized Residual	301.00	0.200	Normally Distributed

The basis for making decisions on the Kolmogorov-Smirnov normality test is: if the significance value > 0.05 then the data is normally distributed, if the significance value < 0.05 then the data is not normally distributed. Based on Table 5, the data on students is normally distributed because the Sig. value > 0.05 .

Table 6

Multicollinearity Test.

Variable	Collinearity Statistic		Information
Self-efficacy	0.495	2.020	Multicollinearity does not occur
Self-confidence	0.384	2.607	Multicollinearity does not occur
Metacognitive skills	0.339	2.947	Multicollinearity does not occur

The basis for decision-making, namely there is no symptom of multicollinearity, if the tolerance value is > 0.100 and the VIF value is < 10.00 . Based on Table 6, it can be seen that the tolerance value is > 0.100 and the VIF value is < 10.00 for all variables, so there is no deviation in the relationship between the independent variables and the correlation model, or there is no symptom of multicollinearity.

Table 7

Glejser Test Results.

Variabel	Sig.	Information
Self-efficacy	0,783	Heteroscedasticity does not occur
Self-confidence	0,393	Heteroscedasticity does not occur
Metacognitive skills	0,457	Heteroscedasticity does not occur

The basis for decision-making for the Glejser test is if (Sig) between the independent variable and the absolute residual is greater than 0.05. Based on Table 7, the Sig value > 0.05 so that there is no heteroscedasticity.

Table 8

The relationship between self-efficacy and student learning outcomes.

Model	R	R Square	Adjusted R Square	Sig.
Self-efficacy	0.473	0.224	0.221	0.000

Table 8 shows the correlation coefficient (r) value for students of 0.473 with a contribution of the determination coefficient (R²) value of 22.4%, so the relationship between self-efficacy and student learning outcomes is in a strong category.

Table 9

The relationship between self-confidence and student learning outcomes.

Model	R	R Square	Adjusted R Square	Sig.
Self-confidence	0.866	0.749	0.749	0.000

Table 9 shows the correlation coefficient (r) value for students of 0.866 with a contribution of the determination coefficient (R²) value of 74.9%, so the relationship between self-confidence and student learning outcomes is in the very strong category.

Table 10

The relationship between metacognitive skills and student learning outcomes.

Model	R	R Square	Adjusted R Square	Sig.
Metacognitive skills	0,649	0,422	0,420	0,000

Table 10 shows the correlation coefficient (r) value for students of 0.649 with a contribution of the determination coefficient (R²) value of 42.2%, so the relationship between metacognitive skills and student learning outcomes is in the strong category.

Table 11

The Relationship between Self-efficacy, Self-confidence, and Metacognitive skills with Student Learning Outcomes.

Model	R	R Square	Adjusted R Square	Sig.
Self-efficacy, Self-confidence, and Metacognitive skills	0.872	0.761	0.758	0.000

Table 11 shows the correlation coefficient (r) value for students of 0.872 with a contribution of the determination coefficient (R²) value of 76.1%, so the relationship between metacognitive skills and student learning outcomes is in a strong category.

The self-efficacy of class this proves that most students have been able to organize learning strategies and complete the learning they have undertaken well, but students' self-efficacy still needs to be improved. This can be caused by several factors, according to Bandura (1997), the experience of mastering something can be one of the causes. Bandura (1997), says that if in the past, an individual has been successful in doing something, then this will increase his expectations regarding his own abilities. On the other hand, if past experiences include failure in doing something, then this can also lower expectations regarding one's own abilities (Graham, 2022). In line with the research results Asih & Hasruddin (2021), that one of the influencing factors is the role of the teacher. Teachers can utilize the skills that students have during the learning process so that they feel comfortable, thereby

producing students who can develop and reflect on their own weaknesses in the learning process so far (Mukti & Tentama, 2020). This is also supported by research Prihastyanti & Sawitri (2020), Nur (2021), that to achieve optimal learning goals, teachers should pay attention to students' levels of self-efficacy, encourage them to increase their self-efficacy, and adapt learning models or methods that can encourage students' self-efficacy, as in research results Ummul (2023), the application of the PBL model assisted by Liveworksheets has a 70% effect on self-efficacy.

The self-confidence of class Similar research results were obtained from research conducted by Marlina, Fatimah, & Siddik (2022), The average self-confidence of students is relatively high, but there are still those who have low and medium self-confidence. This means that most students have very good self-confidence. According to Alam (2022), that most students are confident in their own abilities. The cause of this is influenced by feelings of being firm in one's stance, being steadfast when facing problems, and being creative in finding a way out. Teachers must always try to pay attention to students, and condition that these students are important to grow self-confidence, always appreciate all the efforts made by students, direct students to complete tasks or problems based on their abilities as an effort to guide students towards have an attitude of self-responsibility, so that you will be built to believe in yourself, be able to overcome difficulties with your own abilities, be full of initiative, be creative and think critically, and always be optimistic about everything you do and believe you will get the best results (Blanco, et al., 2020).

The metacognitive skills of class In line with the results of research conducted by Ismarani & Artayasa (2023), that students in the medium category do not yet have optimal metacognitive skills because students are not yet fully aware of the thinking process abilities that exist within themselves. Awareness in students' thinking processes is important for students themselves to know. Therefore, it is important to optimize metacognitive skills in students (Abdelrahman, 2020).

Teachers must provide knowledge about the importance of metacognitive skills and direct students to be aware of their strengths and weaknesses, determine appropriate and useful strategies in the learning process, regulate their own thinking processes, understand the knowledge that exists within themselves and reflect in every process. learning that has been implemented (Hayat, et al., 2020). Teachers can also apply various learning models and media that can improve students' metacognitive skills, such as the reflective learning model using animation media which has been proven to influence students' metacognitive skills (Afdalia, Bahri, & Muis, 2023). In addition, research results Oktavianingsih & Arwita (2020), shows that the use of flipbook media can improve students' metacognitive skills.

The cognitive learning outcomes of class the average value of students' biology learning outcomes tends to be good, but still needs to be improved. If the learning outcome scores are compared with the school's Minimum Completeness Criteria (KKM), namely 75, then all students have been able to pass these criteria. The differences in student learning outcome scores can be influenced by several factors, namely internal factors and external factors. According to Siswati, Hariyadi, & Corebima (2020), namely internal factors including physiological and psychological factors. Physiological factors are physiological conditions including health and physical conditions that influence the reception of learning material. Psychological factors include intelligence, attention, interests, talents, motives, motivation and reasoning power of students including metacognitive abilities. Therefore, teachers must always pay attention to the condition of students, and approach them so they can find out the problems they are facing, as well as apply various models or use more innovative learning media, such as research results. Annisa, Bahri, & Hasmunarti (2023), stated that the implementation of ICT (Information and Communication Technology) based learning was successful in increasing students' learning achievements, as well as research by Nurfahsyai, Bahri, & Delviany (2023), the application of the word wall-based joyful learning model can improve student learning outcomes in biology material.

The relationship between self-efficacy and learning outcomes shows a fairly strong relationship with a contribution of 22.4%. Other similar studies also show the same results. Study Lisaholit, Loilatu, & Umanailo (2021), Fakhrou & Habib (2022), dan Palullu (2023), shows that there is a significant influence between self-efficacy and student learning outcomes. The role of self-efficacy is very important in determining students' academic success because it is related to their learning outcomes. Having high self-confidence or self-perception to succeed will strengthen motivation to learn, so that students will select actions or make optimal efforts. This also creates resilience in facing

various levels of difficulty and obstacles in learning (Bouih, Nadif, & Benattabou, 2021). Students with high self-efficacy will withstand difficulties at a higher cognitive level and face complex learning material on various subtopics. On the other hand, a low self-assessment for success will reduce enthusiasm and effort, as well as an attitude of giving up easily in the face of obstacles (Hayat, et al., 2020). Low self-efficacy tends to be successful at a low cognitive level and shallow understanding. However, they tend to give up when faced with complicated situations, so their cognitive learning outcomes will be low (Palullu, 2023).

The relationship between self-confidence and learning outcomes shows a very strong relationship with a contribution of 74.9%. Previous research related to the relationship between self-confidence and learning outcomes was carried out by Vandini (2016), Hafizah & Ambiyar (2021) and Amalia, Suharsono, & Ardiansyah (2022), concluded that self-confidence in learning outcomes has a strong and significant influence. Apart from that, there is also research conducted by Alam (2022), shows that the relationship between self-confidence and learning outcomes is quite strong. Therefore, it can be concluded that increasing self-confidence will also be followed by increasing learning outcomes. The self-confidence of students is closely related to determining and improving learning outcomes (Kuloor & Kumar, 2020). The existence of this relationship can be seen in the learning activities of students' tasks that must be completed or problems that must be solved based on the students' own abilities. As an effort to guide students to have a sense of responsibility, so that students will be built to believe in themselves, be able to overcome difficulties with their own abilities, be full of initiative, be creative and think critically (Akbari, & Sahibzada, 2020). Students' self-confidence will make them more active and creative in solving problems (Hafizah & Ambiyar, 2021). Students who have high self-confidence tend to accept lessons more easily and are more active in class compared to students who do not have self-confidence or students with low self-confidence tend to be more passive in class.

The relationship between metacognitive skills and learning outcomes shows a strong relationship with a contribution of 42.2%. Similar research has also been carried out by Tibrani, et al. (2021), shows that the contribution of metacognitive skills to cognitive learning outcomes is significant. This research states that the contribution of metacognitive skills is greater than the contribution of attitudes to cognitive learning outcomes. Research by Palullu (2023), also shows that there is a significant influence between metacognitive skills and learning outcomes. Metacognitive skills in improving cognitive learning outcomes are closely related to the role of planning, monitoring and evaluation aspects. These three aspects make the learning process more focused. The planning aspect includes setting a study schedule and setting goals. Study planning is a good start to focus attention on the learning process. Furthermore, the monitoring process provides information regarding the effectiveness of learning strategies and understanding of the material, including information about subtopics that are difficult to understand. In the end, the evaluation process provides an overview of goal achievement and future improvements (Hayat, et al., 2020).

The relationship between self-efficacy, self-confidence and metacognitive skills together with student learning outcomes is in the very strong category with a correlation coefficient (r) for students of 0.872. The contribution of the relationship between self-efficacy, self-confidence and metacognitive skills with learning outcomes for the research sample in class the large contribution of self-efficacy to learning outcomes was 22.4%, the contribution of self-confidence to learning outcomes was 74.9%, and the large contribution of metacognitive skills to learning outcomes was 42.2%. Self-efficacy at the relationship level is quite strong, self-confidence at the relationship level is very strong, and metacognitive skills at the relationship level are strong. So, it can be concluded that in this study the self-confidence variable has a dominant influence on increasing learning outcomes. This can happen because there are differences in the score intervals produced by each student. Apart from that, there are other influencing factors, namely honesty in filling out the questionnaire, mood and emotions when filling out the questionnaire, students' lack of courage to answer the questionnaire honestly, completeness of learning facilities, personal and family problems, and students' health (Emilda & Muddalipah, 2020).

The relationship between the independent variables together with the dependent variable is stronger than the relationship between each independent variable and the dependent variable. This shows that there is synergy between the variables of self-efficacy, self-confidence and metacognitive skills of students. In this case, self-efficacy, self-confidence, and metacognitive skills support each

other in improving students' biology learning outcomes. So, if in the learning process students have good self-efficacy, good self-confidence, and good metacognitive skills, then these students will get good learning results too.

CONCLUSION

Based on the results of the analysis in this research, there are several conclusions, namely that the self-efficacy of class XI students at State High Schools in Polewali Mandar Regency, Indonesia is in the medium category. The self-confidence of class XI students at State High Schools in Polewali Mandar Regency is in the high category. The metacognitive skills of class XI students at State High Schools in Polewali Mandar Regency are in the medium category. The biology learning results of class XI students at State High School in Polewali Mandar Regency, Indonesia are in the medium category. There is a fairly strong relationship between self-efficacy and the biology learning outcomes of class XI students at State High Schools in Polewali Mandar Regency. There is a very strong relationship between self-confidence and the biology learning outcomes of class XI students at State High Schools in Polewali Mandar Regency. There is a strong relationship between metacognitive skills and the biology learning outcomes of class XI students at State High Schools in Polewali Mandar Regency, Indonesia. There is a very strong relationship between self-efficacy, self-confidence and metacognitive skills together with the biology learning outcomes of class XI students at State High Schools in Polewali Mandar Regency. Therefore, schools should pay attention to the differences of each student because each student is different in various aspects and their ability to receive learning material and teachers in carrying out the learning process, not only focusing on the cognitive or intellectual factors of students alone, but also teachers. You must also know the various internal factors within students that influence learning outcomes. I would like to thank all parties who have been willing to provide guidance, suggestions and criticism in completing this research, and apologize for any shortcomings and errors contained in it.

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