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The influence of online-based hypnoteaching methods on the biology learning outcomes of students in class XI

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Abstract: This study aims to improve student learning outcomes by applying Online-Based Hypnoteaching Learning Methods. The method used is quasi-experimental. The sample consisted of 69 students selected randomly. Data collection uses pretest and post-test with learning outcomes test instruments. The experimental class n-gain test has an index score of 59.1%, which means relatively effective, while the control class has an index score of 31.0%, which means ineffective. The result of learning outcomes proves significant differences between the two categories. Student responses using the models strongly agree between 49.12% and 43.00%. The assumption test shows that the data were normally distributed and homogeneous. The hypothesis test is obtained T_{count} (4.46) > T_{table} (1.99), indicating the influence of the application online-based hypnoteaching learning model in improving the learning outcomes of student classes in 11^{th}-grade science classes.

Keywords: Biology, Hypnoteaching, Learning Methods, Learning Outcomes, Online.

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PENDAHULUAN

The learning development in the 21st century is indicated by the emergence of technology, information, and communication. The story of the digital world makes it easier for users. The internet has become a basic necessity in meeting knowledge and information (Baroya, 2018). One of the uses of the internet in education is to use e-learning. E-learning has a significant role in 21st-century learning through the use of digital technology (Malik, 2019; Hlynka & Jacobsen, 2010)

According to the Association of Education and Communication Technology (AECT), the term educational technology starts from the process of study and practice, which eventually becomes a technology system. So, it can be interpreted that 21st-century learning is agreed to use a technology system. Online learning is a teaching and learning activity that relies on communication and information technology in the form of computers equipped with the internet and multimedia as the primary media in the interaction between educators and students. Another source stated that online learning media is the same as learning that occurs without being fixated on the location of teaching and learning and by using the internet to communicate (Putranti, 2013). The 21st-century education paradigm has some basic principles, philosophical foundations for education and teaching, formal and non-formal. It is hoped that this will serve as a guide for organizing education at various levels that meet essential education principles (Muhali, 2019).

21st-century learning requires students to have 4C abilities, namely: (1) critical thinking in the form of the ability to analyze, reason, and solve a problem; (2) communication is a habit of students in improving communication skills by expressing or reviewing what has been learned; (3) collaboration which is a form of cooperation that synergizes with various parties; and (4) creativity as the ability to produce something (Richardo, 2016). On the other hand, there are several main principles of 21st-century learning which consist of: (1) student-centered learning; (2) collaborative education; (3) having context in learning; and (4) schools must blend in with the community (Zubaidah, 2017). Partnership For 21st Century Skills proposes six keys to 21st-century learning by emphasizing: (1) core learning; (2) learning skills; (3) Development of learning skills; (4) teaching and learning in the context of the

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21st century; (5) study the content of the 21st century; and (6) 21st-century learning assessment measured through 21st-century skills (Baroya, 2018).

Education is a process of experience in life as a form of growth for every human being. The quality of education in Indonesia can be seen in the results of the Trends in International Mathematics and Science Study (TIMSS), which shows that the achievement rating of Indonesian students is still low, especially in biology, which is ranked 38 out of 40 (Mulis, Martin, Foy, & Hopper, 2015). The lack of mastery of the material is due to students' difficulty in remembering Latin, quite a lot of memorization, boring learning methods, and media (Prasetyana, 2015).

Natural science education (IPA) is learning by understanding the nature of science in the form of products and processes and developing scientific attitudes in students (Pamungkas, Subali, & Lunuwih, 2017). More specifically, we often encounter biology as part of science, mainly in everyday life. After studying biology material, students are expected to develop a scientific mindset by including an attitude of honesty and objectivity to facts, as well as having a high attitude of curiosity. However, in reality, learning science, especially biology, is not taught according to its nature but rather on how to transfer knowledge. Thus, the expected results are not as expected (Marjan, Arnyana, & Setiawan, 2014).

Online-based learning requires the preparation of devices that use many costs. Online learning uses a device system specifically for distance learning. Currently, the use of social media is also included in online learning, such as Whatsapp, Facebook, Youtube, and other social media applications (Lubis, Yusri, & Gusman, 2020). The advantages of online learning are that it makes learning interactions easier and has a broader range. While the drawback is that the learning process is less effective because not all students can use the internet well (Adhi & Hardyanto, 2005).

Student learning outcomes can be used as a reference for learning activities' success. This activity is in the form of a person's activeness in making changes in himself. Learning activities are characterized by the interaction of each individual with their environment (Pane & Dasopang, 2017). While learning outcomes is one of the benchmarks for students to achieve success or failure in the learning process (Rosyida, 2016). Things that can affect learning outcomes include: (1) the factors contained in the students themselves; (2) factors that occur from outside the students themselves; and (3) factors related to learning tools or also called instrument factors, in the form of curriculum, learning structures, learning facilities and infrastructure (Aritonang, 2008).

The observations showed that the average student test scores were still low; they had not yet reached the predetermined KKM of 73. This finding was also in line with previous studies, which stated that students' ability in biology subjects was still relatively low. (Juniati & Widiana, 2017). A report from Tambunan (2018), who observed class XI students majoring in science at public and private high schools, showed that the average student score in biology was 73.8 and had not yet reached the specified KKM. In addition, the findings of Noviar & Hastuti (2015) clarify that teachers, through interviews, have not used a variety of learning methods that focus on students and do not relate the material to real life.

The observations in one school in the Jakarta area found that the use of learning methods was still classified as teacher-centered. So that students are less active in learning activities in class. The interviews made it clear that there were students who thought biology was boring because there was too much material or memorization, making it difficult to remember. Document analysis shows that the average value of the biology test has not reached the KKM target of 75.

Implementing science learning is using learning methods to make students more active and improve their learning outcomes. The learning method can improve student learning outcomes is the hypnoteaching learning method. Hypnoteaching comes from the words hypnosis and teaching. Hypnosis is the use of communication techniques to influence someone and change their level of consciousness. While teaching is teaching (Pebriana, 2018). The hypnoteaching method delivers the material using communication techniques that make it easy for students to understand the material being taught (Tabrani et al., 2018). Communication in this method uses excellent and appropriate language and vocabulary so that students are more comfortable in learning, including learning biology at school (Asteria et al., 2017).

The hypnoteaching method has six implementation steps: (1) The teacher has the intention and motivation. The intention is the willingness of the teacher to provide quality learning in the teacher's process of preparing learning materials or methods used in learning; (2) Pacing, an activity that balances position, language, motion, and brain waves intending to make students feel close to the teacher; (3)

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Leading, in this leading stage the teacher can foster students to participate in the teaching and learning process in a fun way; (4) positive words, the use of positive words will be following the workings of the subconscious mind; (5) Praise, is a process in forming one's self-concept. Praise is given when students succeed in achieving achievements, and (6) modeling the process of giving examples through speech and behavior—is one of the keys to the hypnoteaching method (Hasbullah. & Rahmawati, 2015). The benefits of hypnoteaching include: (1) The learning process is enjoyable; (2) teachers can increase students' enthusiasm for learning; (3) learning is more fun for teachers and students; and (4) the teacher participates in helping students to grow new habits (Setiadi, 2018). The advantages of hypnoteaching are: (1) more active learning, (2) the material presented is focused on students, (3) good interaction is created, and (4) the atmosphere in learning is comfortable. While the shortcomings are: (1) the learning method is still relatively new and has not been widely used, (2) the lack of facilities and infrastructure in schools, and (3) teachers need to practice applying this learning method. (Rowin, 2015). This study is needed to determine the effect of online-based hypnoteaching methods on the biology learning outcomes of class XI students.

METHOD

This research was conducted in the even semester of the 2020/2021 academic year. The subject matter for SMA class XI in the 2013 curriculum used in this study is the reproductive system material. This research is quasi-experimental. Experimental research is to determine the impact of treatment using a hypnoteaching learning model based on online learning. As a reference, the measurement of biology learning outcomes is used as an indicator to analyze learning success. The design used in this study was one experimental class group and one control class group, as shown in Table 1. The research sample was taken using the cluster random sampling technique. The data collection technique used consisted of tests and student response questionnaires. Data analysis techniques include descriptive statistics and inferential statistics consisting of normality test, homogeneity test of pretest and post-test scores. Hypothesis testing was used to prove the effect in the application of the hypnoteaching learning method and the n-gain test to determine the increase in student biology learning outcomes. The instrument was used in the form of 20 multiple-choice questions. This question will be used as a pretest and a post-test.

Table 1. Research Design

Class	Pre-test	Treatment	Post-test
Eksperiment	T^1	X_1	T^2
Control	T^3	X_2	T^4

Where X_1 is the treatment given to the experimental class using an online-based hypnoteaching learning model; X_2 is the treatment given to the experimental class using a conventional learning model; T^1 is the pretest in the experimental class; T^2 is the final test (post-test) in the experimental class; T^3 is the pretest (pretest) in the control class, and T^4 is the final test (post-test) in the control class.

RESULTS AND DISCUSSIONS

Results

The results of this study were analyzed descriptively and using inferential statistics. Descriptive analysis was used to analyze student responses, as shown in Figure 1. Furthermore, inferential statistical tests were used to analyze differences in student abilities in experimental and control classes.

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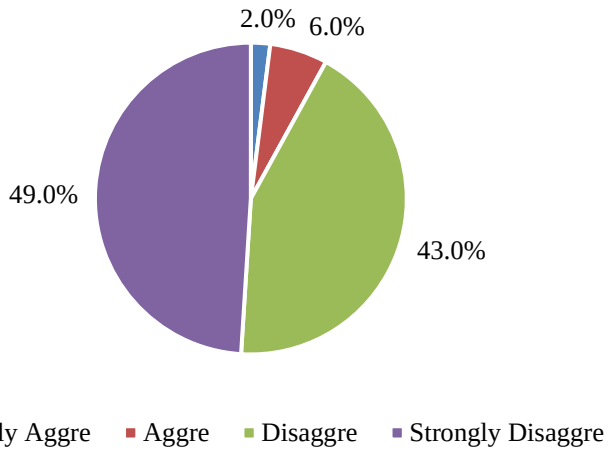

Figure 1. Percentage of Student Responses

Figure 1 is the result of an analysis of student responses to online learning-based hypnoteaching methods. The statement consists of 26 items which are divided into six indicators, namely: 1) indicators of student interest (biology material and hypnoteaching videos); 2) indicators of the benefits of using the method; 3) video display indicator; 4) indicators of student responses (to the method, LKPD); 5) language indicator (use of language in the video); and 6) display indicator (image on video).

Based on the analysis of the questionnaire given to 35 students. The category strongly agrees of 49.12%, agree of 43.00%, disagree of 6.15%, and strongly disagree of 2.00%. Thus, it can be concluded that the student's response to the hypnoteaching learning method based on online learning is good acceptance. Based on the analysis of student learning outcomes in class XI science, a summary is obtained, as shown in Table 1.

Table 1. Learning Outcomes of Experiment Class and Control Class

Kelas	N	N_{MAX}	N_{MIN}	SD	Rerata
Eksperimen	35	95	20	11,54	29,14
Kontrol	34	80	20	11,43	17,35

Table 1 is a combination of student scores, both pretest and post-test. Table 1 indicates that experimental class students have a maximum score of 95, a minimum score of 20, an average of 29.14, and a standard deviation of 11.54. While in the control class, the maximum value is 80 with a minimum value of 20, and the average value is 17.35 with a standard deviation of 11.43. The difference in the resulting mean indicates that the experimental class is superior to the control class. Visually, these results are shown in Figure 2.

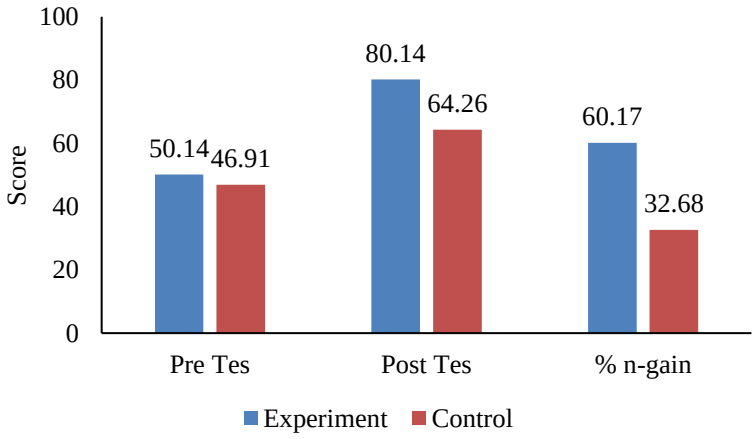

Figure 2. Differences in the Average Student Learning Outcomes

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Based on Figure 2, the average student learning outcomes in the experimental and control classes have significant differences. The average of the experimental class in the initial test (pretest) was 50.14 and in the final test (post-test) was 80.14. Meanwhile, the control class average in the pretest was 46.91, and the post-test was 64.26. The next stage is the statistical test. The statistical test was a different test with two prerequisite tests: normality and homogeneity. The results of the normality test are in Table 2.

Table 2. Normality Test

Class	N	Dk	X_{count}	$X_{0,05}$	Decision
Experiment	35	5	3,2	11,07	Normal Distributed
Control	34	5	8,0	11,07	Normal Distributed

The results of the normality test for the experimental class obtained the Xcount value of 3.2 with a significance level of = 0.05 and DK = 5 of 11.07. Then the experimental class has a conclusion $X_{count} < X_{0.05}$, which means that the class is normally distributed. In contrast, the control class obtained the X_{count} value of 8.0 with a significance level of 0.05 and DK = 5 of 11.07. Then the control class has a conclusion $X_{count} < X_{0.05}$, which means that the control class is normally distributed. The following prerequisite test is the homogeneity test contained in Table 3.

Tabel 3. Uji Homogenitas

Class	SD	F_{count}	$F_{0,05(34/35)}$	Decision
Experiment	11,54	1,02	1,78	Homogeneous
Control	11,43			

The results of the homogeneity test in the experimental class and control class using the F_{test} obtained the value of $F_{count} < F_{0.05(34//35)}$, 1.02 < 1.78, which means that the variance in the two classes is homogeneous. Finally, the results of the t-test in the experimental and control classes can be seen in table 4. Table 4 shows the value of $T_{count} > T_{table}$. The value of $T_{count,}$ which is in the rejection area of H_0, means that there is an increase in the biology learning outcomes of experimental class students significantly higher than the control class biology learning outcomes. Thus, the hypnoteaching learning method. It can be interpreted that it has a significant effect on improving learning outcomes

Table 4. T-test result

Class	N	SD	*X*	T_{count}	T_{table}	Decision
Experiment	35	11,54	29,14	4,46	1,99	Significant
Control	34	11,43	17,35			

Discussion

One of the subjects of science subjects in SMA class XI 2013 Curriculum is the material on the reproductive system. The material of the reproductive system has several essential competencies. This study discusses the reproductive system with sub-chapters: organs of the human reproductive system, gametogenesis (Spermatogenesis and Oogenesis), fertilization, gestation, lactation, and disorders/diseases in the human reproductive system.

Steps for implementing treatment in the experimental class: Researchers prepare learning media in the form of learning videos with the subject matter that has been determined and using the hypnoteaching learning method. Before the learning video was given to students, the researcher gave pretest questions before the hypnoteaching learning method. Then start applying the online-based hypnoteaching learning method by giving suggestions and positive sentences that motivate students to be more enthusiastic about learning in class. Provide learning materials by using learning videos that have been prepared. Return to suggest positive sentences after learning. Then the post-test questions were given to determine whether or not there was an increase in student learning outcomes.

The steps for implementing the treatment in the control class are researchers preparing learning media in the form of a Zoom meeting. Before starting to enter zoom, students are given time to work on the pretest questions that have been provided. After finishing, students are welcome to enter the zoom

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room, then the learning begins. After learning is complete, students are asked to work on post-test questions to find out the differences in students learning abilities.

In today's development, where the world of education is more developed in terms of technology and information, it is time to change students' perception that learning is fun. Because they can explore their abilities and can collaborate. Learning is a complex process that happens to everyone and lasts a lifetime. In other words, learning is a change that occurs in each individual based on experience and interactions in their environment. From learning, it is expected that students can develop their learning achievements because achievement is a benchmark in achieving cognitive, affective, and psychomotor aspects.(Eva & Siagian, 2015). Learning is a process that occurs continuously throughout human life. Modernly it can be said that learning is a structured activity to change behavior (Cleopatra, 2015).

Online learning is an activity in any learning process using the internet. Online learning is the future of education because it has interactive, engaging, and entertaining ways of learning. Online learning can also increase learning effectiveness and improve student learning outcomes (Prasetya & Harjanto, 2020). The hypnoteaching learning method combines the science of hypnosis with the concept of teaching and learning. Learning has a figurative meaning and feels fun, calm, and relaxed in the classroom. When learning hypnoteaching, students quickly catch the material because students are in alpha or theta brain waves (Masdudi, 2018).

Online-based hypnoteaching learning methods can increase student learning activities and creativity, affecting student learning outcomes. Learning outcomes are used as a benchmark for student success during the teaching and learning process in the classroom. This is because the online-based hypnoteaching learning method is a unique, imaginative, and creative teaching method and can be readily accepted by students. Learning outcomes are the final results in each implementation of learning activities in schools. Efforts to improve learning outcomes can be carried out systematically and lead to more positive changes (Astari, 2018).

Learning using online-based hypnoteaching methods can improve student biology learning outcomes. This is based on the results obtained. Namely, the experimental class is superior to the control class. The experimental class got 29.14, while the control class was only 17.35. This shows a significant increase in the class using the hypnoteaching learning method, namely the experimental class, compared to the control class using conventional learning methods. This is due to the hypoteaching steps in the video by starting with motivating students, equating the teacher's position with students, leading students to do something, always using positive words, and giving praise in the form of appreciation. According to other studies, positive suggestions are given during the learning process and not only at the beginning so that children do not lose their way and can solve the problems they face at that time (Edistria, 2016)

This hypnoteaching learning method is a supporting factor in improving learning outcomes, where students in the experimental class are classified as active while in the control class, students are less active. The advantage factor of the online learning process is that it has a broader range and makes it easier to store and refine learning materials. While the weakness is that the distance between students and teachers is separated from the interaction with educators is less than optimal, learning is less effective, lack of cooperation between teachers and students, and the state of the zoom room where noise may occur. Another factor that may occur is a less stable internet connection. This is relevant to research (Marjuni & Harun, 2019).

Both classes experienced an increase in the same medium category. This shows that student learning outcomes increased even though they were in the moderate category, but the n-gain value in the experimental class was higher than in the control class. The experimental class uses online-based hypnoteaching learning methods, while the control class uses conventional learning methods.

The average biology learning outcomes of students in the control class are low because the teacher does not use the hypnoteaching method that can motivate students to the subconscious threshold to increase students' enthusiasm for learning. In addition, in the control class, students are accustomed to receiving material presented by the lecture method and do not involve students' consciences to be motivated with deep curiosity, such as hypnoteaching given to the experimental class. So that students lack the opportunity to express their opinions, and it is more difficult to understand the material that has been presented. The hypnotizing method can improve learning outcomes because students understand more easily. After all, learning is more meaningful, with motivation always being given through the relaxation process of anchor visualization and affirmations (Kasmaja, 2016; Roswendi et al, 2020; Lismalinda & Moriyanti, 2019). If the given model is not attractive, it makes students bored, and

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hypnoteaching affects improving learning outcomes (Jayawardana & Djukri, 2015; Simorangkir, 2018; Sidqi & Jaya, 2018)

Meanwhile, the increase in biology learning outcomes in the experimental class allows students to feel happy and comfortable because the learning takes place using the hypnoteaching method, which can hypnotize, which is brought in externally so that students are more concentrated on learning. One study states that external factors: factors that come from outside students, for example, family factors, school factors, and environmental factors, can affect student learning outcomes (Saputra & Ismet, 2018; Surya, 2019; Schneider et al, 2018).

Based on the analysis results on the indicators of student interest in online-based hypnoteaching learning, 53,33% strongly agree, and in the 31.42% with agree category, it means that the use of hypnoteaching methods makes students interested in learning biology in class. Moreover, the analysis of indicators of the benefits of hypnoteaching in classroom learning strongly agrees with 43.57% and the agrre category with 52.85%, which means that the positive category benefits from using hypnoteaching learning methods the harmful category of 3.57%. Indicates that there are still those who do not benefit from hypnoteaching. Furthermore, on the indicators of learning materials, students who gave a statement strongly agreed with 47.85%, and the category agreed was 50.71%. Shows that students' responses to the indicators of learning materials produce a positive response. This means that the selection of the material used in this hypnoteaching method is correct. The results of the analysis of language and display indicators during the learning process using the hypnoteaching method showed that students Strongly Agreed, with 59.04% agree 40.95%. This indicates that language and display during the learning process using hypnoteaching can be well received by students. Thus, the student's response to the online-based hypnoteaching learning method is interpreted as positive. The influence on the application of the online-based hypnoteaching learning method is said to be quite effective in improving learning outcomes, especially in biology subjects.

CONCLUSION

It can be concluded that there is a significant difference between the biology learning outcomes of students in the experimental class and the control class. The hypothesis test that was carried out resulted in Tcount > Ttable, 4.46 > 1.99. That hypothesis H0 is rejected at a significance level of 5%, which means that there is an influence of online-based hypnoteaching learning methods in improving biology learning outcomes for class XI students. The teacher's implementation of the learning process can be seen through the steps of the hypnoteaching method in learning. The application of online-based hypnoteaching learning methods is said to be quite effective in improving student learning outcomes and can affect student activity during the learning process that takes place in class. Based on the results of the research, the suggestions put forward by the researchers include the following: (1) Teachers should teach using student-centered learning methods such as the hypnoteaching learning method so that students get used to it. So that students are active in the learning process in class. (2) This research has many shortcomings and limitations in various aspects. For further researchers who want to conduct research using online-based hypnoteaching learning methods, it is hoped that they understand as well as possible the learning concepts that will be applied in the classroom. The limitations in the study are the factor of bad connections and limited quotas, causing difficulties in the data collection process carried out in online learning.

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