

Analysis of Cellphone Use on Biology Learning Outcomes of Class XI IPA Students of SMA Negeri 1 Aek Natas

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Abstract

The purpose of this study was to analyze the use of mobile phones by students of class XI IPA SMA Negeri 1 Aek Natas on student biology learning outcomes. The population in this study were all students of class XI IPA which contained 5 classes with a total of 149 students and the sample in this study was 45 students. Sampling in this study using random sampling (randomly). Data collection techniques in this study were using a questionnaire on the use of mobile phones and documentation of student biology learning outcomes. From the research conducted by distributing a questionnaire, which obtained the following results: On the indicator of ownership and time of using mobile phones 58%, on indicators of positive use of cellphones 90.67%, on indicators of negative use of cellphones 54.78%, indicators of cellphone use at school 77.08%, indicators of cellphone use at home 74.58%. The results of this study indicate that the use of mobile phones can positively improve student biology learning outcomes.

Keywords

cellphone use; learning outcomes; biology



I. Introduction

Education is a conscious and structured effort to achieve a learning and teaching atmosphere with the aim that students can play an active role in developing their potential and abilities to gain thinking skills in the form of intelligence, religion, noble character, and can control themselves and be useful for themselves. themselves, religion, and nation (Bahi, 2016). This deficiency arises due to the lack of attention of educational personnel printing institutions that pay attention to these skills (Waluyandi, 2020). Pohan (2020) states that at school, from elementary to secondary school or even college, students undergo, practice, and experience the learning process of various knowledge and skills. Learning is essentially a cognitive process that has the support of psychomotor functions (Arsani, 2020).

Good education will form good behavior in students, because education is able to improve human resources so that they can advance the nation and country (Faisal Arif et al., 2019). One of the goals of educated students is to achieve learning outcomes and achieve achievements according to their abilities, but the learning outcomes and achievements that have been achieved can be bad if students are not able to control themselves, especially for students who have entered their teens (Yasin et al., 2020).

Educators and students can find information about science easily and quickly by using mobile phones that have an internet connection. Digital technology is starting to be used in education as a means of supporting learning, both as an information tool and as a learning tool (Sembi, 2012).

Biology lessons are one of the subjects that must be in high school (SMA) in the

science department, Biology is a branch of natural science (IPA) which studies about the natural surroundings and living things in it such as humans, animals, Plants, or other microorganisms, in biology learning contain Latin with complex material that makes students bored and difficult to understand (Mardiana et al., 2020).

Learning outcomes are the results obtained by students in the learning process in each subject that has been carried out involving cognitive, affective, and psychomotor aspects which are expressed in the form of scores or scores.(Nudin et al., 2021). Learning outcomes are influenced by several factors, including internal factors or factors that exist within ourselves such as interest in learning, learning styles, and learning motivation, and external factors, namely factors from outside ourselves that are influenced by the environment or people around us (Sugihartono et al., 2007).

Rapid technological developments include communication tools, and parents, teenagers, and even children are certainly no stranger to sophisticated communication tools that are often used to communicate or convey information both verbally and in writing only with a small square-shaped tool that it's called a cell phone (Sari & Mitsalia, 2016).

According to some experts, mobile phones are sophisticated Linux-based communication tools that are small in size so that they can be carried anywhere and anytime so that they can be used easily to convey information or find information with an internet connection, whether in the form of spoken, written, voice, or video (Hasnadi, 2021).

According to Laka (2020) Mobile phones have several positive impacts, including as a medium of communication, information, entertainment, the business world, and the most common is as a learning medium for students, especially helping students in learning and one of them is in biology subjects that study living things in language. In complicated Latin terms, cellphones also have a negative impact, especially in the field of education, including making students lazy to study, disrupting student learning concentration, making students forget their duties and obligations as students, and disrupting student development.

Parents give cellphones to their children who are still in school with the aim that these children can use cellphones to help them in the teaching and learning process and increase their knowledge by finding out the latest information about the lessons at their school, one of which is biology lessons.(Rozalia, 2017). But in fact, more students use the cellphone to play so that it makes students lazy to study and it will definitely affect the student's learning outcomes(Kristiwati et al., 2019)

Based on the observations that the researchers had previously done at SMA NEGERI 1 AEK NATAS, one of the teachers in the field of study said that the use of cellphones in the school environment was getting higher and even during the learning process students also played their cellphones whether it was for studying or others and this occurs most often in class XI science which ultimately also affects student learning outcomes, especially in biology subjects which are classified as subjects that are quite difficult for these students to understand. And from the problems that the researchers found in the schools mentioned above, the researchers were interested in analyzing "the use of cellphones on the biology learning outcomes of class IX students of SMA Negeri 1 Aek Natas".

II. Research Methods

This research was conducted at SMA Negeri 1 Aek Natas, Aek Natas District, North Labuhanbatu Regency, North Sumatra Province. This research was conducted in December 2021-January 2022. The type of this research is descriptive quantitative. The population of this research is all students of class XI IPA consisting of XI IPA 1, XI IPA 2, XI IPA 3, XI IPA 4, and XI IPA 5 totaling 179 people. The sample of this research is 45 people taken by

random sampling technique (random) with a lottery system. Sources of data needed in this study are:

1. Class XI IPA SMA Negeri 1 Aek Natas
2. Biology subject teacher Class XI IPA SMA Negeri 1 AekNatas
3. Documentation of UAS scores for SMA Negeri 1 Aek Natas students

The research instrument used in this research is a questionnaire, which is a data collection technique by giving a statement that is measured by a closed Likert scale because the answer has been provided and the respondent only chooses one of the options. In this study a questionnaire was given to students to get answers from each student to add to the results of this study. There are categories, namely:

1. Strongly agree
2. Agree
3. Disagree
4. Do not agree

III. Discussion

From the research that has been carried out using a questionnaire instrument and supported by interviews with teachers in the field of study on the use of cellphones, the following results are obtained.

3.1 The Results of the Questionnaire on the Use of Mobile Phones

Table 1. The Percentage Gains from Each Indicator in the Mobile Phone Usage Questionnaire

PERCENTAGE OF HANDPHONE USAGE		
NO	INDICATOR	PERCENTAGE (%)
1	Ownership and time of use of mobile phones	58%
2	Positive use of cell phones	90.67%
3	Negative use of cell phones	54.78%
4	Use of cell phones at school	77.08%
5	Use of cell phones at home	74.58%

From the table above, it can be explained that the results of the research conducted at SMA Negeri 1 Aek Natas by distributing questionnaires obtained the following results: The percentage of ownership and time of use of cellphones was 58%, on the indicator of positive use of cellphones, the percentage was 90.67%. , then on the indicator of negative use of cellphones, the percentage is 54.78%, followed by the indicator of cellphone use at school with a percentage of 77.08%, and the last indicator, namely the indicator of cellphone use at home, the percentage is 74.58%.



Figure 1. Bar Chart of the Acquisition of a Mobile Phone Usage Questionnaire

From the bar chart above, the highest percentage is found in the positive use of cellphone indicators with a total of 90.67%, then the second highest order is the indicator of cellphone use at school with a total of 77.08%, then the third highest order is found in the indicator of cellphone use at home with a percentage of 74.58%, then in fourth place, namely indicators of ownership and time of use of cellphones with a percentage of 58%, and ending with indicators of negative cellphone use with a total acquisition of 54.78%.

a. Ownership and Time of Use of Mobile Phones

Based on the results obtained from the distribution of questionnaires to the students of Class XI IPA SMA Negeri 1 Aek Natas, totaling 45 people, all of them have cellphones and the time they use to play cellphones is also obtained in a fairly reasonable period of time in the sense that it is not excessive so that the percentage of the indicator of ownership and time of use of this cellphone is 58%.

b. Positive Use of Cell Phones

Positive use of cellphones by students obtained the highest percentage with a total of 90.67%. In accordance with the resulting percentage, the use of cellphones is indeed used by students for positive things according to their needs, including helping students in doing school assignments or homework, helping students in communicating with friends to ask questions about subject matter, helping students in finding information around the world of education, and also helps students to communicate with their families if the student is late coming home.

c. Negative Use of Cell Phones

Negative use of cellphones is also quite a lot done by students, namely with a percentage of 54.78% and is used as follows: excessive use of cellphones to play social media so that sometimes these students forget their responsibilities as students, then there are still many male students who are addicted to playing online games that make them lazy to study and do not do the assignments given by the teacher, and male students also still often read or view pornographic sites which can cause students to want to know about bad things like that or it could even be as an example, and not infrequently the students are already dating so that the cellphone is used to contact his girlfriend.

d. Use of Cell Phones at School

The use of mobile phones in schools obtained a percentage of 77.08%. Almost all students bring cellphones to school for various purposes, students also use cellphones to look for material that they don't understand from the teacher's explanation, and students also use cellphones to take pictures or even play tiktok with classmates or friends in other classes too, and they don't students rarely play cellphones when the teacher explains in front of the class.

e. Use of Cell Phones at Home

The percentage of gains obtained on this indicator is 74.58%. In this indicator, most students use cellphones at home to do homework (Homework), students also use cellphones to sell online at home, students also use cellphones to contact peers with the aim of inviting them to play, and students also use cellphones at home to listen to music as a reliever of boredom. .

In line with research conducted by (Sari & Mitsalia, 2016) that the use of cellphones tends to have an effect on positive things because cellphones are used by students to add insight about lessons, and can help students in carrying out their duties and responsibilities as students so that it can improve student learning outcomes.

This statement is also supported by research (MUJIB, 2013). Almost all respondents who use mobile phones in learning activities get satisfactory results.

This statement is also supported by research conducted by (Barakati, 2013). Mobile is a communication tool that can be used anywhere and can be used easily by its users so that it can be used by students to study anytime and anywhere so that it has a positive impact that can improve their learning outcomes.

(Lin et al., 2017) stated that digital learning using mobile phones has a positive influence on student learning motivation so that it can improve student learning outcomes.

In line with the research conducted(Sobon & Mangundap, 2019) 59% of cellphones or cellphones can increase student motivation and learning outcomes.

(Octavian, 2021)Stated that mobile phones have a positive effect of 67% on student learning outcomes at the Jafray School of Philosophy, Makassar.

3.2 Biology Learning Outcomes of Class XI Science Students

Table 2. UAS Scores for Biology Class XI Students

NO	STUDENT'S NAME	UAS VALUE	DESCRIPTION
1	Doni sugarda	85	COMPLETE
2	Aldebaran syahputra	86	COMPLETE
3	Novan pratama	88	COMPLETE
4	Cindy Amalia	86	COMPLETE
5	Cici mirna	85	COMPLETE
6	Aulia Sandy	84	COMPLETE
7	Nur azzahrah	89	COMPLETE
8	Aprina Dewi	90	COMPLETE
9	Nelly Monica	89	COMPLETE
10	Eryono loise damn	88	COMPLETE
11	Dedi mulya son	84	COMPLETE
12	Febi fitriani zebua	85	COMPLETE
13	Anggi Syahputra Naibaho	88	COMPLETE

14	Frans fratama	86	COMPLETE
15	Fadila liana	88	COMPLETE
16	Fani Rafa Ayu	89	COMPLETE
17	Dede Asmawati	90	COMPLETE
18	Anggita Windi	87	COMPLETE
19	Esther Marnita Sinaga	92	COMPLETE
20	Handayani	91	COMPLETE
21	Afriza br harahap	90	COMPLETE
22	Nurul Fadila Rose Dani	88	COMPLETE
23	Gunawan Sinaga	80	COMPLETE
24	Elizabeth nainggolan	80	COMPLETE
25	Melissa simanjuntak	80	COMPLETE
26	Lela	80	COMPLETE
27	Nurma	81	COMPLETE
28	umia design	82	COMPLETE
29	holy fika	82	COMPLETE
30	Siti marsela	82	COMPLETE
31	Beautiful everyday	83	COMPLETE
32	Yesi Hara	81	COMPLETE
33	Reza Juanda	84	COMPLETE
34	Muhammad Baikhakki in	84	COMPLETE
35	Rani mukherzi siregar	84	COMPLETE
36	Umi Sagitta	84	COMPLETE
37	Nazwa de la salsabilla harahap	84	COMPLETE
38	Mery Roito Siregar	87	COMPLETE
39	Naila anggita	89	COMPLETE
40	Holy Hajiyati	90	COMPLETE
41	Dai bakhtiar	90	COMPLETE
42	Naila khairani	90	COMPLETE
43	Fitri ananda	90	COMPLETE
44	Dini andriany	90	COMPLETE
45	Pipin masmuri	86	COMPLETE

From the table above, it can be seen that all students have good learning outcomes good and satisfactory they have scores above the KKM which amount to 80 so that all 45 students have scores above 80 and complete.

3.3 Results of Interviews with Biology Subject Teachers

Based on the interview that the researcher had conducted with the biology teacher in class XI IPA, the teacher said "Almost all students in class XI IPA 1-XI IPA 5 brought cellphones to this school, at first I was angry because I was worried that it would affect their learning outcomes, but apparently after UAS takes place and the calculation of the value to fill out report cards, all their scores are good and have increased. The stress is quite high, so now I allow the students to bring their cellphones to school," said the biology teacher.

IV. Conclusion

From the research that has been conducted in class XI IPA SMA Negeri 1 Aek Natas, Aek Natas District, North Labuhanbatu Regency, North Sumatra Province, the use of cellphones by students is classified as good and leads to positive results, namely the following: On the indicators of ownership and time the use of cellphones is 58%, the indicators of cellphone use are positive 90.67%, the indicators of cellphone use are negative 54.78%, the indicators of cellphone use at school are 77.08%, and the indicators of cellphone use at home are 74.58%. With the highest percentage of gain on the indicator of using mobile phones positively by 90.67%, it has an effect on students' biology learning outcomes which increases and makes students have good and satisfactory learning outcomes in the overall complete category.

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