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The Effect of Using Online Learning Platform on Academic Performance of Plant Morphology Course

Ely Djulia[1*], Veronika Turnip[2]**

[1]Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Negeri Medan, Jalan Willem Iskandar Pasar V Medan Estate 20221, North Sumatera, Indonesia
[2]Undergraduate Student of Biology Department, Faculty of Mathematics and Natural Sciences, Universitas Negeri Medan, Indonesia
**djulia247@gmail.com*
***veronikaturnip99@gmail.com*

Abstract

This study aims to find out the effect of using online learning platform on academic performance of plant morphology course. The subjects in this study students majoring in Biology at Universitas Negeri Medan. This research is a study using is descriptive with a quantitative approach. The results showed that Students are declared capable of using online learning platforms indicated by the average results of internet searching 88% hypertext navigation 87%, content Evaluation 85% and Knowledge Assembly 81%. (2) Biology student understanding on the final test score is said to be in the very high category with an average of 89.9% and the mid-term grades are categorized as moderate with an average of 85.17%. (3) There is a correlation between student learning literacy and maser the concept through the online learning platform with a correlation of recount = 0.71297. So students have been able to take advantage of use the online learning platform well in plant morphology course.

Keywords: *The Effect, Digital literacy, Platform, SIPDA,WhatsApp,Master the Concept*

Abstrak

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan online learning platform terhadap penguasaan konsep pada matakuliah morphologi tumbuhan. Subjek dalam penelitian ini adalah mahasiswa jurusan Biologi di Universitas Negeri Medan. Penelitian ini merupakan penelitian deskriptif mendekati kuantitatif. Hasil penelitian menunjukkan bahwa (1) Mahasiswa dinyatakan mampu menggunakan *online learning platform* yang ditunjukkan dengan rata-rata hasil *internet searching* 88%, *hypertext navigation* 87%, *Content Evaluation* 85%, dan *Knowledge Assembly* 81%. (2) Pemahaman Mahasiswa biologi pada nilai ujian akhir dikatakan dalam kategori sangat tinggi dengan rata-rata 89,9% dan nilai tengah semester dikategorikan sedang dengan rata-rata 85,17%. (3) Terdapat korelasi antara literasi belajar siswa dengan penguasaan konsep melalui platform pembelajaran online dengan korelasi recount = 0,71297 Sehingga dapat disimpulkan bahwa mahasiswa sudah dapat memanfaatkan penggunaan platform online learning (SIPDA dan WhatsApp) terhadap pemahaman konsep dengan baik pada mata kuliah morfologi tumbuhan.

Kata-kata kunci: Pengaruh; Literasi Digital; Platform; SIPDA; WhatsApp; Penguasaan konsep

Introduction

The development of Information Technology (IT) today is growing so rapidly. Along with the development of information technology, every organization or company must follow the development of information technology in order to compete, especially in the current era of globalization. Including libraries as information institutions that provide information to the public must follow the development of information technology so that the existence of libraries as information institutions that provide credible information is no less competitive with the internet, whose information cannot be filtered due to the explosion of information. In the development of information technology, the Information Explosions is irresistible.

Lee et al (2013) explained that industry 4.0 is marked by an increase in manufacturing digitization driven by four factors: 1) an increase in data volume, computing power, and connectivity; 2) the emergence of business analysis, skills and intelligence; 3) the occurrence of new forms of interaction between humans and machines; and 4) improved digital transfer instructions to the physical world, such as robotics and 3D printing. Lifter and Tschiener (2013) added that the basic principle of industry 4.0 is the combination of machines, workflows and systems, by implementing an intelligent network along the chain and production processes to control each other independently.

The digital revolution and the era of technology disruption are other terms for the 4.0 industrial revolution. It is called the digital revolution because of the proliferation of computers and automation of records in all fields (Ghufron, 2018). With the increase in convergent boundaries between humans, machines, information and communication technology, of course it will also impact various lines of human life, including the world of education.

Derived from 4.0 where the proliferation of computers and automation of recording in all fields to face the era of evolution 4.0 requires education that can form a creative, innovative and competitive generation. What is meant by digital literacy is the ability to understand and use technological information from various digital sources, so this literacy expands new understanding of literacy that is rooted in computer literacy. So the connection with social media, where this social media comes from the source of communication science literacy. One of these can be achieved by optimizing the use of technology as an educational aid.

For biology students, online learning is quite a challenge, because the material taken is quite complex, and it is not enough to explain learning through text alone but also requires

practicum both in the laboratory and in the field. Some materials that should be done with practicum, such as Growth Morphology material, are forced to be carried out only by studying literature because of limited tools and materials. The lack of internet access for students who come from villages is also an obstacle in receiving material distributed by lecturers. As a result, students cannot receive the material well. This is in accordance with the research results of Haryanti et al., (2020) that biological material requires practice related to material. Less clear instructions, limited tools and practical materials at home resulted in the highest obstacle category with a percentage of 37.1% among the sub indicators of barriers from lecturers (educators). Based on the interviews that have been conducted, the obstacle for students in carrying out practicum at home is the difficulty in finding practical tools and materials as well as books or references in preparing reports.

Based on the experience of researchers as students, students still often use digital information, one of them without clear sources such as blogspot or wordpress. Students also expressed their difficulties in accessing valid digital information as academic reference materials. Many internet sites on the internet present invalid information so that students must be really selective in sorting out the information. This is also based on the World Summit on The Information Society (WSIS) states that "everyone can create, access, use and share information and knowledge, enabling individuals, communities or communities to reach their full potential to improve their quality of life" (WSIS Declaratioin, 2003).

The digital platform is a program that can support the success of online learning. There are several platforms that can be used in online learning, including Sipda (Mirzon Daheri, Juliana, Deriwanto, 2020). Apart from these platforms, there are other digital platforms that can be used during learning, including the Whatsapp Group (WAG), (Rachmawati et al., 2020). E-learning systems and applications, e-learning systems and applications that are often referred to as Learning Management Systems (LMS), which are software systems that virtualize conventional teaching and learning processes for administration, documentation, reports on training programs, classrooms and online events , e-learning programs, and training content, for example, all features related to the management of the teaching and learning process such as classroom management, material or content creation, discussion forums, scoring systems, and an online exam system, all of which are accessible to the internet.

Whatsapp is one of the most influential social media and is widely used by people in Indonesia. Students in Indonesia in the digital era are currently using gadgets in their daily activities both at school and outside of school. However, most of these students use social

media applications, in particular. There are benefits that can improve digital literacy skills. UNIMED or Medan State University has built an internet-based learning system or e-learning which is useful for optimizing information technology in supporting learning activities through the Online Learning System (SIPDA). Previously, UNIMED used SIPOEL (Electronic Learning Portal System) which was then updated to adapt to the latest technological developments. This online system learning process is carried out through a Learning Management System (LMS) based on open source CMS applicable on mobile devices. The application of flexibility makes it easier for students to learn to process and get material without having to meet face to face in class. The use of SIPDA is used to share material, send assignments, and work on questions when the lecturer cannot attend class. One of them is in the Financial Accounting course, a compulsory subject in the Accounting Education Study Program that students must complete, which is useful as a basis for prospective accounting teacher's knowledge. We conducted an observation on the use of SIPDA in terms of ease of use and flexibility in generating course material.

Morphological studies explain that a group of plant morphological characters can be seen from 5 main parts, namely roots, stems, leaves, flowers and fruit. Of the five parts of this plant, it is able to provide a sufficiently in-depth study to study the structure of the plant body as a whole. Care is needed in studying them, in order to understand the study of plant morphology and to study the benefits and properties of treating certain diseases.

The morphology of a plant species is one of the easily observable characteristics (Jones and Luchsinger, 1987). Reed et al. (2004) stated that morphological characterization of plants is very important for detecting specific traits desired, identifying duplicated accessions, and structuring populations for conservation purposes. Morphological variations that occur due to environmental conditions indicate that a plant carries out an adaptation process. A plant population that is adaptive to a certain environmental condition is called an ecotype. Different ecotypes of a plant population will form patterns based on changes in environmental conditions in the geographic distribution area of these species (Jones and Luchsinger, 1987). The use of morphological data to characterize genetic diversity has limitations because morphological characteristics are influenced by environmental factors, therefore molecular genetic identification is required to complement these limitations . Genetic diversity based on molecular markers, among others, is seen from the protein banding pattern, because protein is the expression of genes. Therefore the results of total protein electrophoresis can be a good technique for identification of genetic diversity.

Information about social media for the study of plant morphology where students are very helpful for online learning during and to help find other information.

With the many learning achievements in the Plant Morphology course, it requires students to seek more information related to the subject matter. Supported by technological developments and the use of social media will make it easier to access the information needed. the use of Platform has a significant relationship because digital literacy competencies play a major role in determining the quality of Platform media. Based on this description, researchers are interested in examining how.

Method

This research was conducted at the Department of Biology, Universitas Negeri Medan at Jl. William Iskandar Pasar V Medan Estate, Medan, North Sumatra, 20221 from April until September 2021. Type of research is a quantitative approach. According to Sugiyono (2018) descriptive is a method that functions to describe or provide an overview of the object under study through data or samples that have been collected in normal circumstances without analyzing and making general conclusions. The quantitative method is defined as a research method used to research specific populations and samples, data collection using research instruments, quantitative / statistical data analysis with the aim of testing the hypotheses that have been used (Sugiyono, 2018).

The population in this study were all students of the biology education study program class of 2020 at Medan State University, totaling 158 people . With details of the number of students as shown in Table 3.1 below:

Table 3.1. Number of Biology Education Students Class of 2020

Num.	Class	Total
1.	Program Studi Pendidikan Biologi (PSPB) A	27
2.	Program Studi Pendidikan Biologi (PSPB) B	30
3.	Program Studi Pendidikan Biologi (PSPB) C	31
4.	Program Studi Pendidikan Biologi (PSPB) D	28
5.	Program Studi Pendidikan Biologi (PSPB) E	26
6.	Program Studi Pendidikan Biologi Bilingual (PSPBB)	17
	Total	158

The sample in this study was taken by random sampling. Random Sampling is taking members of the sample from a population that is done randomly without paying attention to the strata in that population. According to (Sugiyono, 2017). From the six classes of Biology Education Study, three classes are taken randomly to be the sample in the study. In this study 104 students were taken randomly with a sample of 158 students based on the creative table for the 0.05 significance level, so the sample obtained had a confidence level of 95 % of the population.

Collection techniques have a very important role in a study, especially as a tool or technique that can be used to obtain data in research (Arikunto, 2013). Data collection techniques in this study used a digital literacy competency questionnaire, where participants / respondents filled out questions or statements given by the researcher. The data obtained were then measured using a questionnaire with a *Likert* scale measurement type. The questionnaire will be distributed to respondents using *Google form*.

The research instrument was a questionnaire adapted from Gilster (1997) about digital literacy competencies. Where the digital literacy competency has four components, among others: search on the internet, guide hypertext direction, evaluation of information content, and compilation of knowledge. This digital literacy competency questionnaire consists of 40 statements using a Likert scale with four alternative answers, namely SS = strongly agree, S = agree, KS = disagree, and TS = disagree. There are four alternative answers to reduce the tendency of the respondents to hesitate answers. On positive statements given a score of 4 = strongly agree, 3 = agree, 2 = disagree, and 1 = disagree. Meanwhile, negative statements are scored by reversing the scoring procedure from positive statements (Sugiyono, 2010). The grid for the digital literacy competency questionnaire can be seen in Table 3.2 as follows:

Table 3.2. Grid of Instruments Aspects of Digital Literacy Ability for Use of Platform

Num.	Aspects of Digital Literacy Ability	Indicator	Question number	Total
1	Pencarian di Internet (*Internet Searching)*	The ability to search for information on *Platform* using *search engines*.	1, 2, 3, 4, 5, 6, 7, 8	8
		Ability to do various activities in it.	9,10	2
2	Pandu Arah *Hypertext (Hypertextual Navigation)*	Knowledge of *hypertext* and *hyperlinks* and how they work.	11,12	2
		Knowledge of the difference between reading a textbook and *browsing Platform*.	13	`1
		Knowledge of how the *Platform* works.	14, 15, 16, 17, 18	5

		The ability to understand *Platform* characteristics	19, 20	2
3	Evaluasi Konten Informasi (*Content Evaluation)*	The ability to distinguish between views and information content	21	1
		The ability to analyze the setting behind the information that is on the internet.	22, 23, 24	3
		The ability to evaluate a *Platform* address by the way understand the kinds of domains for each institution or certain country.	25, 26	2
		The ability to analyze a *Platform*	27, 28	2
		Knowledge of the FAQ in a newsgroup / discussion group.	29, 30	2
4	Penyusunan Pengetahuan (*Knowledge Assembly)*	Ability to *personal newsfeed or* notification of the latest news that will be obtained by joining or subscribing to *a newsgroup, mailing list* or discussion group (*WhatsAap)* And *SIPDA*	31, 32	2
		Ability to do a crosscheck or double check against information obtained.	33, 34	2
		Ability to use all types of media to prove the truth of information.	35, 36, 37	3
		Ability to compiling sources of information obtained on the internet with real life.	37,38,39, 40	4

Before carrying out the research, the researcher prepared a research instrument in the form of a questionnaire. Before being used in the research, the instrument was validated by an expert validator in order to measure the quality of the content and the suitability of the category. Then the instrument is feasible to be used in research. Before being distributed, the questionnaire used was previously validated by expert lecturers at Biology Education Study Program Universitas Negeri Medan, namely Sir Dr. Ashar Hasairin, M.Si, Mam Wina Dyah Puspita Sari, S.M.Si and Sir Dr. Hasruddin, M.Pd who validator the questionnaire on the use of platforms and the questionnaire on student's perceptions of the use of online learning platforms. For the second research, namely obtaining the results of the midterm exams and the results of the final semester scores to determine the ability to evaluate learning outcomes on the online use learning platform for students of biology education 2020.

In order to achieve the stated research objectives, it is necessary to develop a systematic procedure. The stages carried out are as follows:

a. Preparation phase

1. Identifiying course be investigated in of Biology Education 2. Determine the research population, namely students of the biology education study program batch 2020 FMIPA, State University of Medan.3. Determine the research sample, namely

students of the Bilingual biology education,class,A class B,and class C using randomly *sampling technique.* 4. Developing research instruments used to determine the level of digital literacy competence in the use of student *Platform* (SIPDA and WhatsAap). 5. Validating test and instrument reliability test.

b. Data Collection Stage

1. Perform validity test and instrument reliability test.2. Taking midterm and Final exam of plant morfology.

c. Data Processing Stage

1. Perform data analysis.2. Compile the discussion.3. Draw conclusions on the results

Data obtained in this research are result of Instrument and result of mid term and final test. After that the data collected, the data are analyzed to know student answer who have beeb selected as research objected.

Data analysis is usually done after all the respondent's data or other data sources have been collected. Data analysis aims to answer the problem formulation and to test the proposed hypothesis by calculating the data that has been collected. Total questionnaires from each student were converted into values using a formula (Sugiyono, 2016):

$$P = \frac{F}{N} x\ 100$$

Information:

P: Total percentage

F: The frequency or number of s cores obtained by respondents

N: Total total score.

Then the results of the overall calculation of the number sub variables used are categorized by indicators of *Use Platfom*. The interpretation used is shown in Table 3.4 below: the following conditions:

Table 3.3. Percentage of Use Platform

Num.	Score	Category
1.	4,2 – 5,0	Very high
2.	3,4 – 4,2	High
3.	2,6 – 3,4	Moderate
4.	1,8 – 2,6	Low
5.	1,0 – 1,8	Very low

From the results of midterm and final semester exams for students, students' learning completeness is determined using a formula:

$$\text{Average value} = \frac{\text{Midterm value} + \text{Final test Value}}{2}$$

$$\text{Student' learning completed} = \frac{\textit{obtained score by the student}}{\textit{maximum score}} x\ 100$$

Regression test was used to determine the relationship between two or more variables. In this study, the data analysis used was simple regression analysis. There is one dependent variable, namely Master the concept, while the independent variable is Digital Literasi. The simple linear regression equation is:

$$\hat{Y} = a + b(X)$$

Information:

Ŷ: Prediction (Master the Concepts)

X: Predictor (Digital Literasi)

a: intercept (regression constant)

b: regression coefficient

The test criteria is if Sig < 0.05, then the simple regression line equation means that the dependent variable has a significant effect on the independent variable.

Result and Discussion

The results of this study were obtained from the distribution of questionnaires, the results of the midterm exams, the results of the final semester exams biology students in the plant morphology course. Mid Term scores are obtained after 8 online meetings with the SIPDA and WhatsApp applications. After that, students were administered Final Test at the end of the meeting. Furthermore, a questionnaire was given to students in the form of a digital literacy questionnaire, namely about online learning platforms.

This study aims to determine the effect of using the platform on student's mid-term and Final-test scores in plant morphology courses. The questionnaire on the use of the online learning platform was administered to the student biology education class 2020, where to find out the student's response to the questionnaire, the researchers gave a questionnaire to students in the 2020 biology education class, totaling 104 people to provide their opinions through questions in the questionnaire.

The questionnaire consists of 4 assessment indicators, namely: 1) Search on the

Internet which consists of 10 statements. 2) The Hypertext Guide consists of 10 statements. 3) Evaluation of Information Content consists of 10 statements. 4.) Knowledge Assembly consisting of 10 statements and language consisting of 2 statements. The assessment of the questionnaire is based on a Likert scale with responses in the form of strongly agree (ss), agree (s), disagree (ks), disagree (ts). Likewise with the value of the mid-semester exam and the end of the semester. In essence, the evaluation of student learning outcomes is carried out at least twice, namely the Mid-term and the Final-test, as well as other evaluations that do not conflict with applicable regulations.

The total score obtained from student responses to 40 statement items where the score is based on the value if you answer "strongly agree" then the score is 4 and if you answer "agree" the score is 3, and if you answer "less agree" then the score 2 and the last one who answered "disagree" then the score was 1. Based on the results of the research that has been carried out, the value of the Student response of Online Learning Platform on Morphology Course is obtained as shown in Figure 4.1.the following:

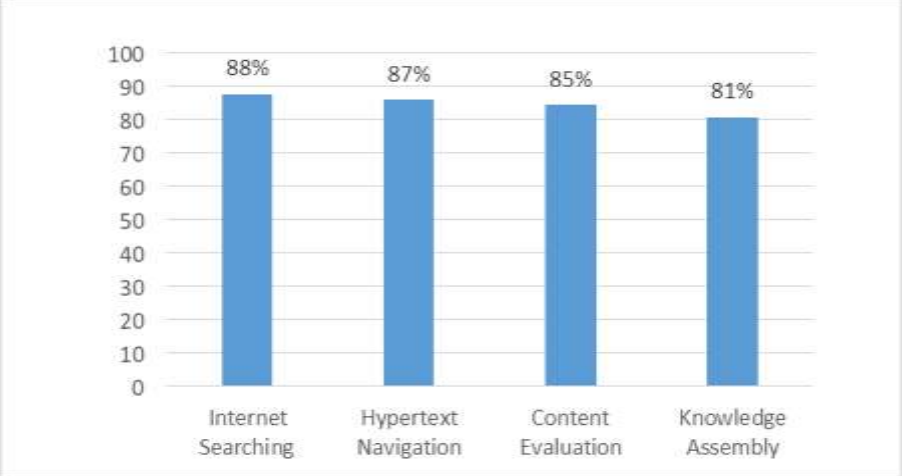

Figure 4.1. Diagram Student response of Online Learning Platform on Morphology Course.

Based on the diagram presented above, it shows that digital literacy competence based on the aspect of searching on the internet (internet searching) there are 89 students who use internet searching with a percentage of 88%. Based on the hypertext navigation aspect (hyper textual navigation) there are 88 students who use the direction guide aspect with a percentage of 87%. Based on the content evaluation aspect, there were 85 students who used the content evaluation with a percentage (85%), and based on the knowledge assembly aspect, there were 81 students using the preparation aspect with a percentage of 81%.

This shows that the level of digital literacy competence in the use of e-resources for students of biology education study programs in plant morphology courses based on aspects

of searching on the internet, hypertext directions, knowledge assembly aspects and knowledge compilation, including high enough use in using online learning platforms (SIPDA and WhatsApp). The data of midterm and final test result of plant morphology course can be seen in table 4.1 below:

Table 4.1. Data Mid-term and Final-test Result of Plant Morphology Course

Data	Statistic	Score
Mid Term	Minimum value Maximum value Average	78 92 85,17
Final Test	Minimum value Maximum value Average	82,5 94 89,90

Based on Table 4.1 the data can be depicted on the Mid Term and Final Test results of Plant Morphology Course through Figure 4.2

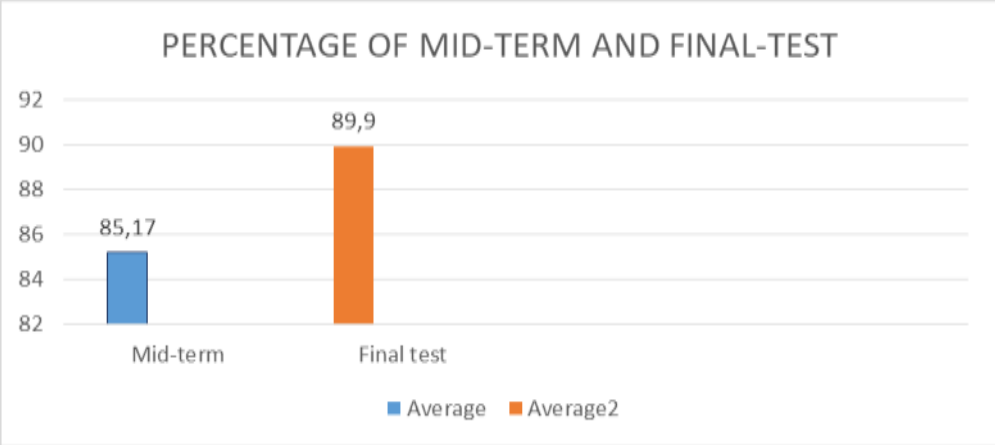

Figure 4.2. Diagram of Mid-Term and Final-Test Result of plant Morphology Course.

Based on Figure 4.2 above, can determined that the Biology education students who are taught using the platform can have an effect on the Midterm and Final test results for students. Where the average Midterm is 85.17, and the average Final test is 89.90.

The data normality test was conducted to determine whether the data used were normally distributed or not, the samples came from the same population. The normality test of the data was carried out using the Kolmogorov-Smirnov approach on the SPSS 25.0 for windows program with a significant level of 0.05. This normality test was carried out as a condition for the One-Sample Kolmogorov-Smirnov Test. Data on the results of the

Unstandardized Residual normality between use of online learning platform and master of concept test for Biology education students 2020. can be seen in Table 4.2.

Table 4.2. Normality Test of Unstandardized Residual

	Kolmogorov-Smirnov		
	Statistic	Df	Sig
Unstandardized Residual	.058	.053	0.200

In the One-Sample Kolmogorov-Smirnov Test, which is used to determine whether there is a significant difference between the effects of the master the concept and the results of the questionnaire, the normality test is required. Normality testing can be done on the Unstandardized Residual score obtained. From Table 4.3 it can be seen that the value of Sig. experiment is 0.200 where the value of Sig. the experimental class is greater than 0.05 (significance level), so it can be concluded that the data from the above research are normally distributed.

The homogeneity test aims to determine whether the distribution of the data has a homogeneous variance or not so that the research sample from the beginning is stated in the same state. The homogeneity test was carried out with the ANOVA Test approach using the SPSS 25.0 for windows program, with a significance level of 0.05. The data from the homogeneity test can be seen in Table 4.3.

Table 4.3. Test of Homogeneity of Variances

ANOVA						
		Sum of Squares	Df	Mean Square	F	Sig.
UTS (Mid Term)	Between Groups	1651028.504	24	68792.854	1.297	.195
	Within Groups	4191140.881	79	53052.416		
	Total	5842169.385	103			
UAS (Final Test)	Between Groups	62009.840	24	2583.743	.431	.989
	Within Groups	473500.006	79	5993.671		
	Total	535509.846	103			

Data in Table 4.3. Shows that the Midterm and Final Test results data for Biology education students obtained a Sig value. of 0.195 and 0.989. Because the value of Sig.

obtained > 0.05, it can be concluded that the research data identified the same variance, so the homogeneity of the data variance fulfilled.

Based on the result to see the effect of the correlation test between two variables, namely between the use of online learning platforms on concept understanding.

Table 4.4. Correlation Test Results between the use of online learning Platforms to understanding the concept on Biology Education students 2020.

Data	r_{count}	r_{table}	Information
N = 104 **∑X = 9103,6** **∑Y = 8803,125** **∑XY = 771458,7813** **$\sum X^2$ =** **$\sum Y^2$ =**	0,705	0,193	Ha accepted

Based on the correlation test above, it is used to measure how closely the relationship between two variables is. The strength of the relationship between variables X and Y is measured by a value called the correlation coefficient (r), where in this study the independent variable is the student's response to the student SIPDA and WhatsApp platforms while the dependent variable is the value of learning outcomes. Both variables have been tested for normality and are normally distributed. To determine the correlation between student questionnaire responses and the student's master of concept, it is done by calculating the correlation coefficient with the Product Moment formula. This test is to determine whether the hypothesis in this study is accepted or rejected. Testing criteria r count > r table then Ha is accepted and Ho is rejected. It can be seen that the graph of the correlation test between platforms on Master the Concepts is presented in Figure 4.3 as follows:

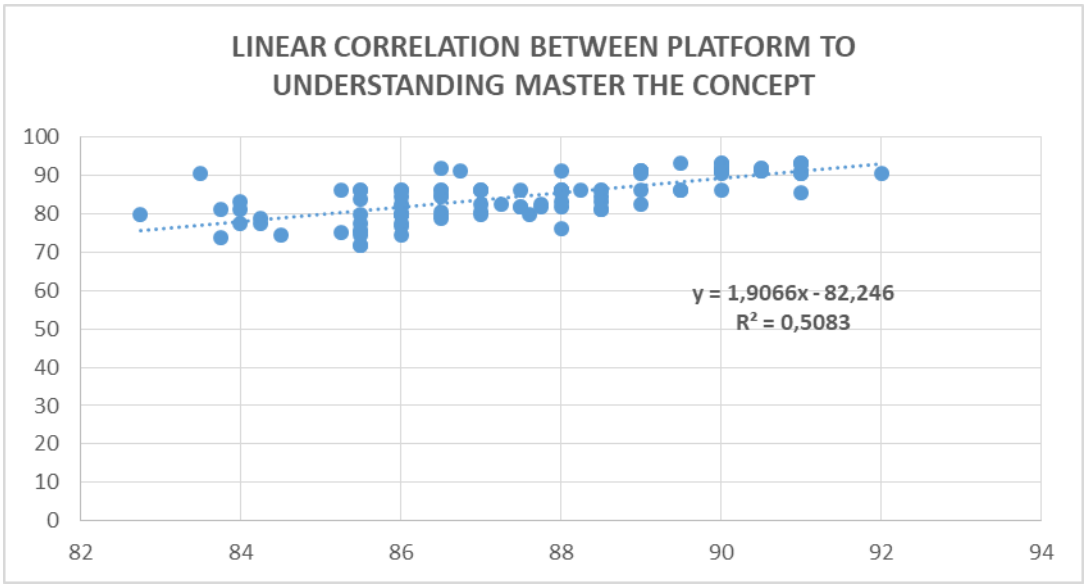

Figure 4.3. Diagram of correlation test between use of platform on Master the Concept of Plant Morphology Course

Based on the formulation of the hypothesis that has been determined, the alternative hypothesis (Ha) to be tested is: There is an influence between the uses of online learning platforms on understanding the concepts of biology education students in 2020 in the plant morphology course. To answer the hypothesis, the statistical tests described in Table 4.8 were carried out. From the table, it can be seen that hypothesis III has an rxy platform-master of concept value = 0.713 > r_{table} = 0.193, then H0 is rejected and Ha is accepted, which means that there is a positive correlation between the effect of using online learning platforms on understanding the concepts of biology education students in plant morphology. From the results of these hypothesis, it can be concluded that the third hypothesis is accepted.

The results showed that the effect of using the platform on the mastery the concepts in biology education student class, Bilingual, A B and C was obtained high with an average score of 79-90 as much as 85% of 104 students. This shows that Bilingual, A B and C class biology education students have utilized technology effectively for using platforms (SIPDA and WhatsApp). In line with Alfina's opinion (2020), besides being effective, it is also a new experience for students of 2020 biology education study program 2020 in understanding features, especially on the SIPDA and WhatsApp platforms. In addition, it also adds insight in readiness to face learning. In order to use technology effectively for learning, one needs to have a certain level of digital literacy. Digital literacy is not just knowing how to use the technology, but also having the right information management and critical thinking skills in order to have the right online behavior. The high results of using the platform for students

biology education study program 2020 the class Bilingual, A, B and C of shows that students are accustomed to using technology both to fulfill assignments and other needs, most of which information is obtained from digital media. The results of the questionnaire analysis obtained responses from almost all students stating that the implementation of this lecture could help master the concepts of plant porphology while studying biology independently at home. This is in line with research conducted by Retno (2017) that Moodle-based learning is able to assist students in interpreting abstract concepts. Students also responded that after attending lectures with this online system, they also increased their digital literacy. He also explained that learning from home is an effort to develop students' psychological skills in concentrating, following orders, organizing lecture materials, solving problems and working independently. Moreover, if the independence is achieved by the effort of one's own will and on one's own consciousness (independently) it will be a very meaningful experience.

Based on the processing of the data obtained from the statistical results of the mid-semester examination and the results of the final semester examination, students have known the influence and usefulness of the platform and often use it for plant morphology lessons where the average mid-semester exam is 85.17 and the average final semester test score is 89.90. Then it can be seen that the Biology education students who are taught using the platform can have a high influence on the results of the midterm and final test results on the learning process of students of the biology education. In accordance with Arikunto (2006), it can be said that students can master concepts if they are able to define concepts, identify and give examples or non-examples of concepts, so that with this ability they can bring a concept in another form that is not the same as in a textbook.

Based on data processing from the normality test with the One-Sample Kolmogorov-Smirnov Test on the effect of using the platform on students, as well as learning outcomes data, both are normally distributed. This is shown through the normality test. Normality test was performed as a condition used in parametric statistical analysis. Normality test is also used to find out whether the data we get comes from a normally distributed population. It can be said that data that is normally distributed is data that is neither too large nor too small.

From the normality test research with the one-sample test, it was obtained for the class of students of the biology education study program 2020 of 0.200 where the value of Sig. The class of students of the biology education study program 2020 is greater than 0.05 (significance level), so it can be concluded that the data from the research results above are normally distributed. This is in line with research conducted by Ghozali (2013: 160) that the normality test aims to test whether the confounding or residual variable regression model has

a normal distribution. As it is known that the t and F tests assume that the residual value follows a normal distribution.Based on the results of the research, the homogeneity test was carried out with the ANOVA Test approach using the SPSS 25.0 for windows program, with a significance level of 0.05. Then the results of the homogeneity test can be seen with the Test of Homogeneity of Variances ANOVA test showing that the data on the results of the midterm and final exams for students of the biology education was obtained a Sig value. of 0.195 and 0.989. Because the value of Sig. obtained > 0.05, it can be concluded that the research data identified the same variance, so that the homogeneity of the data variance was met. The homogeneity test was carried out to find out that the 2 groups of data came from a homogeneous population by comparing the variance values of the two data.

Based on the results of the correlation test between the use of online learning platforms and understanding of concepts in the study, it shows that the rxy platform-master of concept value = 0.713 > r table = 0.193, then H0 is rejected and Ha is accepted, it can be concluded that there is a positive relationship between the effect of using the platform online learning on understanding the concept of biology education students on plant morphology course independently. So, based on the results of research conducted by researchers in the search for the use of online learning platforms for biology education students, it is concluded that the use of platforms is closely related to the daily lives of students. In this study it was found that 90 percent of students surveyed knew about the internet and 80 percent of them were internet users. The attractiveness of the internet and platforms then plays an important role in building one's communication skills. Students are very sensitive to changes that occur in social technology, they follow these developments and master them (Rasmita Kalasi, 2014).

Conclusion

Students are declared capable of using online learning platforms indicated by the average results of internet searching 88% hypertext navigation 87%, content Evaluation 85% and Knowledge Assembly 81%. Biology student understanding on the final test score is said to be in the very high category with an average of 89.9% and the mid-term grades are categorized as moderate with an average of 85.17%. There is a correlation between student learning literacy and maser the concept through the online learning platform with a correlation of recount = 0.71297. So students have been able to take advantage of use the online learning platform well in plant morphology course.

Closing

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