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The Influence of Project Based Learning Videos On Learning Outcomes of Basic Biomedical Sciences

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Abstract – *Project Based Learning (PjBL) is a learning model that involves students in the learning process both in designing and creating projects that are useful not only to solve problems in everyday life and are innovative but also precise contextual learning, one of the PjBL models used is in video form so that it is hoped that it can help improve students' creative thinking abilities in the learning process thereby improving student learning outcomes. The aim of this research is to determine the effect of Project Based Learning (PjBL) videos on basic biomedical science learning outcomes. The research method used was pre-experimental with a one group pretest posttest research design. The data collection technique used is a test to measure learning outcomes through learning using project based learning (PjBL) videos and activity observation sheets to measure students' creative thinking abilities (pretest-posttest). The subjects in this research were level I students of the Nursing Academy of Kesdam I/BB Padang. Data analyzed using descriptive and inferential analysis techniques. The results of this research showed that the hypothesis test results obtained a significance value of 0.000 ≤ 0.05, indicating students' creative thinking abilities for each indicator in the creative category. So it can be concluded that there is an influence of Project Based Learning based videos on basic biomedical science learning outcomes, so that project based learning (PjBL) videos are suitable for application in basic biomedical science learning.*

Keywords: *Videos, project based learning (PjBL), basic biomedical sciences.*

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1. INTRODUCTION

Entering the 21st century, knowledge has an important role in human civilization. The Ministry of Education and Culture formulated that the 21st century learning paradigm emphasizes students' ability to find solutions from various sources, formulate problems, think analytically and work together and collaborate in solving problems. One of the abilities needed in the 21st century is communicating and collaborating (illahiah A, 2023). Based on Article 3 of Law no. 20 of 2003 describes education as improving and developing students' abilities. IfWithout education, human life will not be regular. Education is very important because life is currently increasingly advanced and increasingly sophisticated, which is the role of education. The devices involved in education such as managers, places, organizers, educators or educators, facilities and infrastructure, media and students are potential successors to the nation that occupies this world (Sinta et.al, 2022).

One of the national developments in an effort to make the nation's life more intelligent and improve the quality of Human Resources is education. According to Minister of Education and Culture Regulation No. 22 of 2016, it is stated that the educational process, namely learning, must be carried out in an interactive, challenging, inspiring, fun way, motivating students to participate actively and providing opportunities to develop students' creativity. Science learning, which is often considered difficult by some students, in this case students, can actually be overcome by a student learning atmosphere and can stimulate students to think creatively, so that learning is more interesting and students are able to solve problems or cases with creative abilities, so that they have the ability. every student thinks in understanding and solving problems or cases in the learning process. One way to solve this problem is by utilizing the development of science and technology (IPTEK).

The application of science and technology (IPTEK) in the education sector has experienced several innovations in learning, one of which is using learning media. Learning media is anything that can be used to store learning information for students and can stimulate the mind (Putra, I et.al, 2023). Therefore, learning media is very important in learning activities, one of which is using videos. Video is one of the advances in science and technology that has greatly influenced the progress of human resources, especially in the field of education. Video is one of the technological advances that has provided many positive impacts and progress for humans today.The use of videos in learning aims to develop students' thinking skills through joint problem solving (collaboration) (Firdaus, S., & Hamdu, G., 2020).Therefore, the video-based project based learning (PjBL) model needs to be implemented in order to help students develop their creative thinking skills.

Based on previous research conducted by Sinta et.al 2022, there is the ability to think creatively in students with the application of the PjBL model with a 2-tailed significant value of 0.00 < 0.05. This shows that the application of the PjBL model in learning can improve students' creative thinking abilities educate. In other research conducted by Illahiah A (2023), it was found that the application of the project-based learning model had an effect on communication in Biology learning on environmental pollution material. Achievement of cognitive completeness, attitudes and skills has

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almost reached 95%. The application of the video-based PjBL model has also been applied to research conducted by Rismawati, L., & Al-Pansori, MJ (2023) who have implemented video-based PjBL which shows that the average percentage of student activity is in the positive activity category after implementing the video-based PjBL model.

Based on the researcher's observations, it shows that the reality in the field that teaching staff in delivering material in basic biomedical science learning generally still use conventional learning models, namely through the lecture method, and have not fully maximized students' creative thinking skills and abilities. Where learning is still centered on teaching staff which causes students tend to be passive. The learning model implemented does not fully involve students actively and the problems in the course material provided do not allow them to work in various ways and systematically, as a result some students feel less interested in the learning material and students have difficulty understanding the learning material. This condition results in a passive teaching and learning atmosphere and students become easily bored, even sleepy, and are not interested in participating in the learning process. Problems like this also result in not achieving good learning outcomes, learning values and student interest and learning motivation in basic biomedical science courses are still low. As a result, students' creative thinking abilities are lacking and the learning outcomes obtained are low.

Knowledge of basic biomedical science is the principles of basic knowledge and science which consists of many concepts so that it requires tools to make it easy to understand the material being taught. Apart from that, students are also required to interpret various concepts and principles of basic biomedical science within their own knowledge. straightforwardly and precisely. Basic biomedical science is the science that studies the human body system, namely the anatomy or structure of the human body and the relationship between one part and another, describes the structure of the human body, explains physiology which is the science that studies the function of the human body described in function. of each system in the human body in normal conditions, and regarding chemistry and physics which include living phenomena. Therefore, the project based learning (PjBL) model using stone tools in the form of videos needs to be implemented in order to help students develop their creative thinking skills so that students feel and think that basic biomedical science courses are less abstract and easier to understand.

Lack of communication skills in the learning process will have an impact on students not being used to communicating, especially in front of the class. In this case, students usually only focus on textbooks which do not stimulate students' communication and collaboration skills and in the learning process educators who still use conventional methods will make students bored in following the learning process. Therefore, contextual learning can be applied to improve problem solving abilities (metacognitive aspects) and students' communication skills (Jannah, W. N, 2014). To overcome these problems, educators need to apply a creative and innovative learning model, namely Project Based Learning (PjBL) using video media which can stimulate students' creative thinking, this will be able to improve students' communication skills

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and creativity so that it is hoped that students will be more enthusiastic and active in participating in the learning process.

Until now, it is hoped that the use of video media for educators will soon see the benefits for the world of education. Educational videos have now developed rapidly in developed countries. Video as a technological advancement has had a lot of positive influence and progress on humans and their culture. Therefore, based on the reasons and background of previous research above, researchers want to research the effect of Project Based Learning (PjBL) videos on student learning outcomes in basic biomedical science learning.

2. METHODOLOGY

The research method used in this research was quasi-experimental. There were two research variables, namely the dependent variable and the independent variable. The design used was a one group pretest posttest design, namely an experiment involving one group as research subjects so there was no control group. The design began with a pretest before being given treatment and giving a posttest after being given treatment. This research focused on Project Based Learning (PjBL) videos on learning outcomes in basic biomedical science learning. The population in this study were all students of the Kesdam I/BB Padang Nursing Academy, while the research sample was 44 level I students with the assumption that all level I students were homogeneous. The data collection techniques used in this research were pretest and posttest with instruments that have been developed by researchers. The research instruments used in this research were observation and performance assessment sheets. Design This one group pretest-posttest design consisted of one predetermined group. In this design, the test was carried out twice, namely before treatment was called pre-test and after treatment was called post-test. The research pattern for the one group pretest-posttest design method according to Sugiyono (2016) was as follows:

Pretest	Treatment	Posttest
O1	X	O2

(Source: Sugiono, 2016)

Information :

O1 = Pretest score before treatment is given (before using project based learning (PjBL) learning videos)

X = Treatment (treatmeant), application of project based learning (PjBL) learning videos

O2 = Posttest score after being given treatment (after using project based learning (PjBL) learning videos)

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In this design, the test was carried out twice, namely before and after being given experimental treatment. The test carried out before receiving treatment was called a pretest. The pretest was given to the experimental class (O1). After carrying out the pretest, the author provides treatment in the form of applying PjBL-based videos to learning basic biomedical sciences (X), in the final stage the author provided a posttest (O2). Data collection techniques used in research were tests, observation, documentation. Next, the researcher used data analysis techniques using descriptive statistics and inferential statistics. Inferential statistical techniques were used to test the pre-requisites for analysis first, namely by using the data normality test. After that, a hypothesis test was carried out using a paired sample test to find out whether there was a significant difference between the pretest and posttest results. Homogeneity. All data obtained was processed using SPSS.

The description of the data analysis steps is: 1) data collection, the data collected is in the form of a process during research through interviews and observations; 2) Processing data, whatever data is processed, namely data obtained during the research process and theories from various sources; 3) Presentation of data, this presentation is carried out through the process of assembling data to present the data in this research; and 4) Drawing conclusions, the conclusions in this research were obtained from analysis of field data and various theories that have been presented (Thobroni in(Anggraini & Wulandari, 2020).

Selection of learning videos

The learning model chosen and the learning steps carried out are as follows:

a. The learning model chosen is a video based on Project Based Learning (PjBL)
b. Steps:

1) Image: Showing a video of basic scientific theoretical concepts, terms in the field of human anatomy as a basis for knowledge of basic biomedical science.

The first step taken by educators was to show the video and provide basic concepts based on the video. The video shown provides contextual problems and challenges students to overcome problems in basic biomedical science, then the video presented provides impressions about terms in the anatomy and physiology of the human body which play a very important role in the application of nursing science. Therefor, the video shown can refer to basic concept instruction which will be used as a guide for students' critical thinking in solving problems in the field of basic biomedicine regarding health problems that occur related to the human body. Then the teaching staff first provides material about the basic concepts of human anatomy terms. Educators also assesed students' activeness by asking leading questions about what should be done to avoid health problems according to the topic given.

2) Designing Project Planning
3) Prepare a Project Schedule
4) Monitoring students and project progress
5) Test the results and present the Project results
6) Evaluate experience

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Based on the implementation of learning using project based learning (PjBL) videos above, the implementation of PJBL project based learning videos which are implemented to improve communication has characteristics, when the learning process of students becomes active and communicative and thinks critically because they seek information from various sources and discuss it with their group friends, when showing the video the teaching staff gives directions to students on each learning topic that is shown, and discusses the concept of the material being studied which will be made into groups by appointing one person in charge in each group so that the tasks are divided in understanding the material when showing the video more focused and in line with the target deadlines given by teaching staff.

Communication runs in a directed manner and students begin to give their opinions. After the preparation of the schedule is complete, students fill in the worksheet provided by the teaching staff as monitoring to monitor the learning process being carried out and to find out whether there are any obstacles during the learning process. Then the teaching staff provide peer assessments to students to assess their group friends as monitoring to strengthen teaching staff in understanding the learning material. At the stage of testing learning outcomes where students present the material studied that they understand according to learning competencies, then students produce projects by explaining the material they understand through videos with target deadlines determined by teaching staff and asking for opinions from other groups to be used as evaluations for improvement and provide solutions to the obstacles encountered.

Next, carry out an assessment evaluation that includes: 1) Assessment of attitudes during discussions, the aspects assessed are working together, critical thinking and creative thinking. Attitude assessments during discussions are measured using an assessment rubric. 2) Assessment of skills during presentations (communication). The aspects assessed during presentations are completeness of material, communication and information. Presentation assessment is measured using an assessment rubric. 3) Cognitive assessment by giving pretest and posttest questions with descriptions of creative thinking. 4) Reflecting on learning by students (Illahiah A, 2023).

3. RESULTS

The application of Project Based Learning (PjBL) based learning videos in this research obtained pretest and posttest data. The research results obtained are shown in the following table:

Table 1. Level of Mastery of Pretest Material

No.	Intervals	Frequency	Percentage	Learning outcome categories
1	<20	0	0	Very low
2	21-41	16	36.4	Low

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3	42-64	15	34.1	Currently
4	65-81	4	9.1	Tall
5	82-100	0	0	Very high
	Amount	44	100	

Source: Research data

From table 1, it is found that the respondents' learning results at the pretest stage using the test instrument were categorized as very low at 0%, low at 36.4%, medium at 34.1%, high at 9.1% and very high at a percentage of 0%. Looking at the existing percentage results, it can be said that the level of respondents' ability to understand and master basic biomedical science material before using project based learning (PjBL) learning videos is relatively low.

Table 2. Posttest Material Mastery Level

No.	Intervals	Frequency	Percentage	Learning outcome categories
1	<20	0	0	Very low
2	21-41	2	4.5	Low
3	42-64	6	13.6	Currently
4	65-81	29	66	Tall
5	82-100	7	15.9	Very high
	Amount	44	100	

Source: Research data

From table 2, it was found that the respondents' learning results at the posttest stage using the test instrument were categorized as very low at 0%, low at 4.5%, medium at 13.6%, high at 66% and very high at a percentage of 15.9%. Looking at the existing percentage results, it can be said that the level of respondents' ability to understand and master basic biomedical science material after using project based learning (PjBL) learning videos is in the high category.

Table 3. Statistical description of the results of Pretest and Posttest learning scores for implementing project based learning (PjBL) videos

Criteria	n	Minimum	Maximum	Mean	Std. Deviation
Pretest	44	45	78	64.2	7,760

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Posttest	44	70	98	86.5	9,531

Source: Research data

From table 3, it is found that the average posttest score for implementing video based on project based learning (PjBL) is higher, namely 86.5, compared to the pretest score, which is only 64.2.

Table 4. Frequency distribution and percentage of pretest and posttest scores for students' creative thinking abilities using the video-based PjBL model

Score interval	Learning Outcome Category	Frequency		Percentage	
		Pretest	Posttest	Pretest	Posttest
<20	Very less creative	0	0	0	0
21-41	Less Creative	8	0	18.2	0
42-64	Quite creative	25	7	56.8	15.9
65-81	Creative	11	20	25	45.5
82-100	Very creative	0	17	0	38.6
Amount		44	44	100	100

Source: Research data

From table 4, it was found that in the pretest there were 8 people (18.2%) who got a score in the less creative category, 25 people (56.8%) who got a score in the quite creative category, 11 people (25%) who got a score in the creative category and none (0%) for the very creative category. Meanwhile, for the posttest, there were 7 people (15.9%) who got a score in the quite creative category, 20 people (45.5%) who got a score in the creative category, and as many as 17 people (38.6%) who got a score with the very creative category. Hypothesis testing using the SPSS 24.0 program with the Paired Sample Test, obtained a significance value of 0.000 ≤ 0.05.

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The following are the achievements of the students' cognitive assessment indicators in the pretest and posttest treatment:

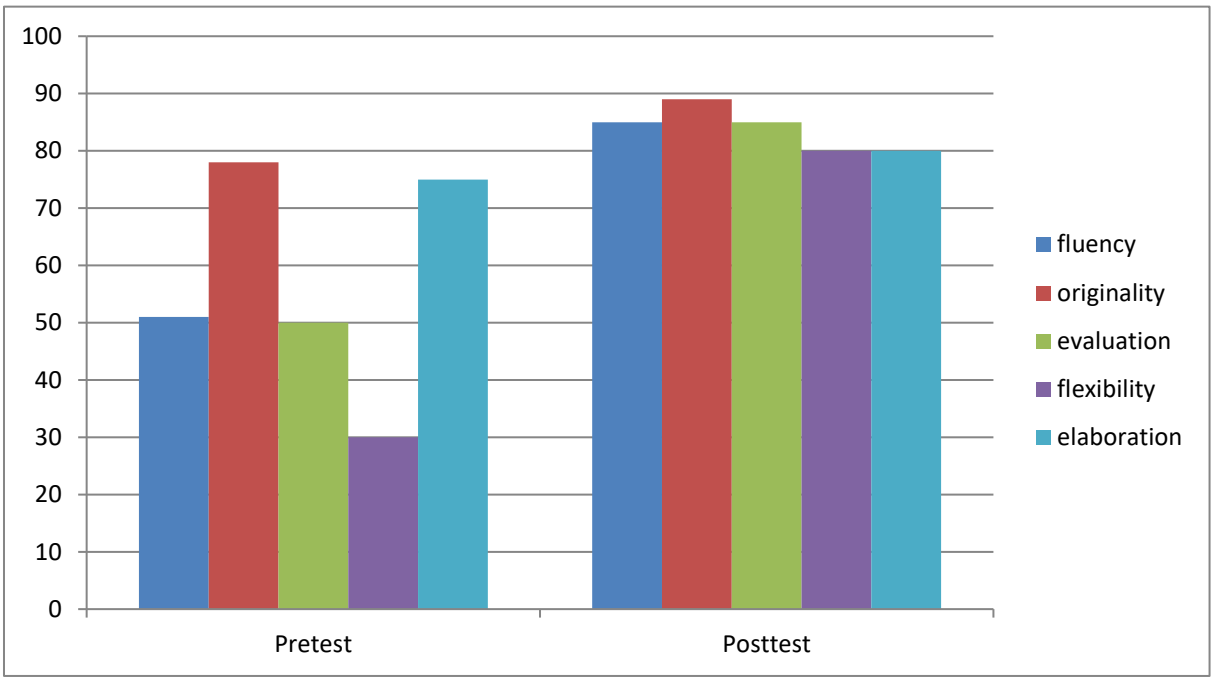

Diagram 1. Achievement of pretest and posttest cognitive assessment indicators for students implementing project based learning (PjBL) video learning

From diagram 1. It was found that after implementing project based learning (PjBL) video learning (posttest) in basic biomedical science learning, the highest score was obtained on the assessment indicator for students' original thinking ability, namely 89%, which has increased from before it was implemented. implementation (pretest) was only 78%.

Discussion

Based on the research results obtained, the application of project based learning (PjBL) video learning showed that the statistical results of hypothesis testing obtained a significance value of 0.000 ≤ 0.05 with a dominant average value of posttest validation results of 45.5% which was in the creative category. This shows that the application of project based learning (PjBL) video learning in basic biomedical science learning is good because it can improve student learning outcomes as evidenced by an increase in students' creative thinking abilities so that they can be applied in the basic biomedical science learning process. This is in line with the theory of Hayati, et al. (2016) that students' creative thinking abilities after implementing the video-based project based learning (PjBL) model certainly have a positive impact(Rismawati et al., 2023). It can be seen that based on the KKM classification, students' scores on the posttest, the percentage of the average score for creative thinking ability for each indicator is in the quite creative category. This is also in line with the results of research conducted by Suciati et al., (2021)

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which concluded that the physics learning outcomes of students who were taught using the project based learning (PjBL) learning model were higher compared to students who were only taught using conventional learning model, and explains that teachers tend to use conventional methods so that students are passive when learning occurs. Students have difficulty understanding the material presented. Educators only explain the material in front of the class so students often feel bored. Students want fun activities in learning(Rismawati et al., 2023).

Apart from that, the research results of Iasha, V et al, (2018), concluded that there was the development and use of multimedia in the learning process which had a positive impact on learning, including using videos, where learning could be student-centered, helping to increase students' interest and motivation to learn. students so that the learning process runs more effectively(Habib et al., 2020). Multimedia, including the use of videos, also makes it possible to increase children's interest and motivation in learning which often decreases. Multimedia is also a step to stimulate accelerated students' understanding of the material being taught(Manurung, 2021).

Based on the results of research conducted by Wati & Valzon (2019) which applied videos to anatomy learning, it was stated that providing media in the form of videos made a difference in students' knowledge retention during independent study. This is assessed from the pretest score for the anatomy course. The combination of teaching materials with videos shows the best retention of students' knowledge in anatomy courses. Using a combination of videos can provide facilities for students to learn more, increase interest in learning and make students understand the material better. This is reinforced by research conducted by Magfirah, Nurul (2022) which concluded that it is important to implement the PjBL model. Based on the results of data analysis from the results of this study, the students' abilities before receiving treatment in the form of learning using the project based learning model obtained an average score of 46.52, which can be interpreted as meaning that the students' abilities were still relatively low when the students had never received the material. about the structure of previous animal development with the application of PjBL. After implementing the learning process by applying the PjBL model which was then given a Posttest, the average score obtained increased from the score obtained in the Preetest. Where the average score on the posttest was 69.65, which means that the average score on the posttest was classified as good. Furthermore, the results of the hypothesis test obtained a significance value of 0.000 ≤ 0.05 so it can be said that there is an influence of the application of the PjBL model on the learning outcomes of Biology Students' Animal Development Structure.

The results of this research are also confirmed by the results of research conducted by Putri, L., & Sazarni, RD (2021) who have implemented project based learning (PjBL) video learning in the anatomy and physiology course, concluding that the average value of the posttest results has increased namely 71.97 with categories namely very low 00.00%, low 5.72%, medium 17.14%, high 57.14%, and very high at a percentage of 20%. Looking at the existing percentage results, it can be said that the level of respondents' ability to understand and master the learning material after using video learning media is relatively high. Based on the results of inferential statistical analysis using the t test formula, it can be seen that the t value is 18.61, at a significance level of 0.05, t table = 1.69,

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this shows the influence of the use of video learning media on student learning outcomes in lecture courses. anatomy physiology.

Learning model*Problem Based Learning*(PjBL) is a learning model that frees students to search for information from various media so that they are able to answer the questions found, students are also required to be able to carry out learning independently and be active in designing a project related to learning (Buhungo, 2021) . The PjBL learning model emphasizes that students are more active in solving open-ended problems and are able to work on projects based on the knowledge they have to produce certain products. In the opinion of Nurhayati (2021), activeness is a situation or thing that students learn actively. Thus, the involvement of students in the learning process can of course be seen through the forms of student activity in learning where discussing is important then listening to arguments then solving problems, active involvement is also important in carrying out or paying attention to the teacher's tasks, after that make a report, and finally be able to display or present the students' learning results. Problem Based Learning (PjBL) Learning Model Problem based learning is an innovative learning model that can provide active learning conditions for students. Problem-based learning is a learning model that involves students solving a problem through the stages of the scientific method. The PjBL learning model can also enable students to manage information freely, design frameworks independently, encourage students to work collaboratively, plan processes with the aim of producing maximum projects, carry out evaluation activities for the products produced so that they can improve student learning outcomes. education by implementing PjBL (Prajitno & Agustin, 2022).

The Project Based Learning (PjBL) learning model can be carried out in several steps according to Hosnan (in Ahmad, et al. 2016), namely (1) Determining the project: in this step, students determine the theme/topic of the project based on the project assignment given by the teacher. Students are given the opportunity to choose or determine projects to be carried out in groups or independently. For short-term projects (one meeting) determining the project can be started by asking several questions to encourage students to think about what project to create. (2) Designing steps for project completion: In this step, students design steps for project completion activities from start to finish along with their management, selecting activities that can support project tasks, planning/preparing tools and materials to be used. (3) Preparing a project implementation schedule: In this step, students schedule all the activities they have designed along with the time period needed to complete the project stage by stage. This step is continued by consulting the activity schedule that has been made with the teacher. For short-term projects (completed in one learning/meeting), the time period for the project completion stages does not need to be determined for each completion step, only determine the timeline and deadline. (4) Completion of the project with teacher facilitation and monitoring: In this step, students apply the project design that has been created to produce a product or complete a project. Students report the progress of their projects to the teacher. For long-term projects (one semester), project completion can be done at home, while for teacher monitoring, students can report the results of their project work every time they meet/learn in class for the teacher to see. For short-term projects (one meeting) project completion is carried out in class or in the school

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environment with teacher guidance. (5) Preparation of reports and project presentations/publications: In this step, the results of the projects that have been created, whether in the form of written products, works of art, or technological works are presented and/or published to friends and teachers. Students receive an assessment from the teacher. (6) Evaluation of the project process and results: In this step, the teacher and students at the end of the lesson reflect on the activities and results of the project assignment. The reflection process on project assignments can be carried out individually or in groups. At this stage, feedback is also provided on the processes and products that have been produced by discussing what was successful and what failed and sharing ideas to lead to new findings.This project-based learning is very interesting for students because it gives them the opportunity to do what scientists do (Insyasiska et.al., 2017).

According to Noviyana (2017) states that the essence of project learning is collaboration, so that each group of students begins to get used to searching for information, actively and creatively exchanging information in groups, being adept at discussing, so that they can easily solve the problems they encounter to produce a successful project. want to achieve. Project based learning (PjBL) can improve student learning outcomes compared to learning that uses conventional learning, because it can make students feel that they are receiving attention, enthusiasm and are involved in the learning process, and have the opportunity to convey opinions, thoughts, ideas or questions. So it can be concluded that learning with the project based learning (PjBL) model can have a positive influence on the learning process. Learning using PjBL becomes a meaningful experience because it allows students to master a concept, solve a problem through project completion and provides opportunities to think critically, communicate and be creative, with cognitive, creative and affective aspects and improve students' communication skills.

With the development of technology today, various kinds of new and increasingly sophisticated teaching materials have emerged, starting from printed teaching materials, then audio teaching materials, to audio-visual or video teaching materials. These developments show that teaching materials always follow developments in technology and science. Teaching using video is characterized by the use of hardware during the learning process, such as film projectors, tape recorders and wide visual projectors (Yuanta, 2020). Seeing this,Learning media requires tools in learning, one of which is video, which is a medium that can help understand the learning material. So that students can broaden their horizons and experiences that reflect nonverbalistic learning and make appropriate generalizations.

As stated by Basuni H, et al (2022), media basically has two main functions, namely as a tool and as a learning resource for students. It is important for educators to choose effective learning media to use as learning facilities. This will contribute greatly to attracting students' attention in the teaching and learning process, which will ultimately increase students' understanding of the material provided. In science learning, respondents are taught to be able to master four language skills, namely listening skills, speaking skills, reading skills and writing skills. With these four language skills, lecturers are motivated to improve techniques in providing learning materials.

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One way that can be done is to use multimedia-based learning media such as videos. Science is an important learning for health students, one of which is nursing, both formally and scientifically(Putri & Daini Sazarni, 2021).In this way, learning video media plays a very important role in the learning process, especially in terms of delivering learning material, thereby making the presentation of basic biomedical science learning more attractive to students. So learning through video is the production and use of material that is absorbed through sight and hearing. Video media is one of the media that can be used in listening learning. This video media can increase students' interest in learning because they can listen and see pictures. The ability of videos to present information, explain processes, explain complex concepts, teach skills, shorten or lengthen time and can influence attitudes (Yuanta, 2020).

Implementation of project based learning (PjBL) video learning with innovative learning, focusing on the main concepts and principles of a discipline, involving students in problem solving activities and tasks during the learning process, giving students the opportunity to work autonomously, building and discover their own and realistic learning knowledge (Sari, RT, & Angreni, S., 2018).This learning model can make it easier for students to improve their creative thinking abilities. The ability to think creatively is related to fluent thinking skills where students are able to express many ideas, answers, solve a problem or question, think fluently where students are able to produce a variety of ideas, answers or questions, and original thinking students are able to give birth to innovative ideas and creative (Sari, Manzilatusifa & Handoko, 2019). According to Rusman (2012) explains several ways that can be done to improve student activity, namely providing more time for learning activities, involving students effectively in the learning process, providing clear and enjoyable teaching in accordance with learning objectives, and recognizing students who less actively involved in learning and making it a priority so that they can take an active role in the learning process.

During the use of multimedia based on project based learning (PjBL), students will be active and more enthusiastic in completing projects in learning. The use of multimedia makes students happy, not bored, and increases student learning so that learning is meaningful (Reffiane & Bayutama, 2019). Student activities in learning can stimulate talent development, train them to think critically, help in solving problems or issues faced by students. So the effort that educators can make to provide a stimulus for their students' activity is to plan the learning process, so that active and conducive classroom conditions will be created. This kind of learning atmosphere can be implemented with a project learning model.

When this video-based project based learning (PjBL) model is implemented, students will be enthusiastic in the learning process, where basically students are happy with a challenge, happy to discuss by exchanging ideas and opinions, and happy with a challenge to produce projects and solve problems in learning(Magfirah, 2022). According to Wena, M (2014), there are advantages to the Project Based Learning (PjBL) model, namely: 1) Motivating students 2) Solving problems both in learning and daily activities 3) Increasing collaborative abilities between educators and students 4) Managing skills from various existing sources 5) Managing students' abilities. Moreover, it is implemented using video media which can make students more active.

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In project based learning (PjBL) based learning, effective learning media is needed. Learning media as a tool in the learning process cannot be denied. Educators realize that without the help of media, learning material will be difficult for students to understand and comprehend, especially complicated and complex learning. Each learning material has a different level of difficulty. There is learning that does not require learning media, but there is also learning that requires learning media. Learning material that has a high level of difficulty is certainly difficult for students to understand, especially for students who don't like the learning being delivered. One of the information and communication technology media that is able to reach and is most popular among the wider community is video media.

Video is an electronic media that is able to combine audio and visual technology together to produce dynamic and interesting shows. With these two elements, students can receive, understand and remember learning messages well. This video media has the function of 1) clarifying the presentation of the message so that it is not too verbalistic, 2) overcoming limitations of space, time and sensory power, and 3) using appropriate and varied educational media to overcome the passive nature of students(Yuanta, 2020).

Video media has many advantages when used as a learning medium. Video is a media that is suitable for various learning media such as in classes, small groups, even one student alone. Videos with a duration of only a few minutes will be able to provide more flexibility for educators towards their students and can direct learning directly to the needs of students (Firdaus, S., & Hamdu, G., 2020). Apart from that, videos can also be used for almost all learning materials, types of learning, and every domain, including cognitive, affective and psychomotor. Apart from the advantages of using video in learning, it also has disadvantages, namely: first, Opposition, where inappropriate shots can cause doubts in the audience. Interpreting the images they see, for this reason they need the assistance of teaching staff during the use of videos. Second, video supporting material requires a projection tool to be able to display the images contained in it (Daryanto in Yuanta 2020). Educators really need to pay attention to this.

According to Anderson (in Yuanta 2020) learning using video media has a goal, namely: covering cognitive, affective and psychomotor goals. First, cognitive goals include: a) Can develop cognitive abilities which involve the ability to recognize and provide stimulation in the form of movement and sensation; b) Can display a series of still images without sound as photo media and frame film, although less economical; c) Videos can be used to show examples of how to behave or act in a performance, especially regarding human interactions. Second, Affective goals, by using effects and techniques, video can be an excellent medium in influencing attitudes and emotions. Third, Psychomotor objectives include: a) video is the right medium to show examples of skills related to movement. Movements can be slowed down or accelerated, b) Through media, students immediately receive visual feedback on their abilities so they try skills related to these movements. Besides that, video media also has benefits, namely: 1) Providing a good experience unpredictable to students. 2) Showing clearly something that was initially impossible to see. 3) Analyze changes over a certain period of time. 4) Provide experience for students to feel a certain situation. 5) Show case study presentations about real life that can trigger student discussion. (Prastowo 2012).

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From all the results of the research and theory above, it can be concluded that the application of project based learning (PjBL) videos to student learning outcomes has increased. It can also be seen that in the results of the one sample test hypothesis, the results of students' creative thinking abilities obtained a significant value, so it can be concluded that there is a significant influence between the application of project based learning (PjBL) videos on students' creative thinking abilities, so it can be said that if the hypothesis is accepted, there is an influence of project based videos. based learning (PjBL) on learning outcomes in basic biomedical science learning.

4. CONCLUSION

Based on the results of research that has been conducted regarding the influence of videos based on the project based learning (PjBL) model on learning outcomes in basic biomedical sciences, it can be concluded that the assessment category for students is in the creative category after implementing PjBL-based videos. It can be said that there is an influence of video-based PjBL on learning outcomes in basic biomedical science learning, so this method is suitable for application in basic biomedical science learning.

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