Team Based Project Learning Model on The MBKM Course in The Department of Nonformal Education

Abdul Rahmat¹*, Muhammad Zubaidi¹, Mira Mirnawati¹, Froilan D. Mobo²

¹Universitas Negeri Gorontalo, Indonesia
²Philippine Merchant Marine Academy, Philippines

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Abstract. The PISA ranking places Indonesia in 2019 at 74th, or the 6th bottom of the 79 countries surveyed. From this data alone, we can describe how low the cognitive abilities or intelligence of Indonesian students are. In the education curriculum, the government has designed special standards so that Indonesian students are increasingly trained in their cognitive abilities, and are increasingly able to solve problems well. Freedom to learn is an idea that gives freedom to educators and students in determining the learning system. The purpose of the declaration of independent learning is to create a meaningful education and emphasize aspects of skills and experiences in learning. The spirit brought by the concept of independent learning is the flexibility and freedom in designing and managing learning for educational actors, ranging from educational institutions, educators, to students. The main programs are: the ease of opening new study programs, changes to the accreditation system for higher lecturers, the convenience of state higher education institutions becoming state universities with legal entities, and the right to study for three semesters outside the study program. Students are given the freedom to take credits outside the study program, three semesters which are meant in the form of 1 semester of opportunity to take courses outside the study program and 2 semesters of participating in learning activities outside of higher education. Various forms of learning activities outside of tertiary institutions, including conducting internships/work practices in industry or other workplaces, implementing community service projects in villages, teaching in educational units, participating in student exchanges, conducting research, conducting entrepreneurial activities, conducting studies/ independent projects, and following humanitarian programs. All these activities must be carried out by students with guidance from the lecturer. The learning process at the Merdeka Campus provides challenges and opportunities for the development of innovation, creativity, capacity, personality, and student needs, as well as developing independence in seeking and finding knowledge through realities and field dynamics such as ability requirements, real problems, social interaction, collaboration, self-management, performance demands, targets and achievements. Through an independent learning program that is well designed and implemented, students' hard and soft skills will be formed strongly.

Key words: soft skills, team based project, learning outcomes


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INTRODUCTION

One of the improvements in the quality of education in Indonesia, the government implements the concept of independent learning in an independent campus. Freedom to learn is to give freedom and autonomy to educational institutions, and freedom from bureaucratization, lecturers are freed from complicated bureaucracy and students are given the freedom to choose the fields they like. The right to study three semesters outside the Study Program, aims to improve the competence of graduates, both soft skills and hard skills, so that they are more prepared and relevant to the needs of the times, preparing graduates as future leaders of the nation with excellent and personality. In addition, universities are required to give students the right to voluntarily take credits outside of tertiary institutions for a maximum of two semesters (equivalent to 40 credits), and in addition, they can take credits in different study programs at the same university for one semester. (equivalent to 20 credits). In implementing the policy of independent learning on an independent campus, the right to study for three semesters outside the study program, there are several general requirements that must be met by students and universities, including students from accredited study programs and active students registered with PDIKTI. Universities are expected to develop and facilitate the implementation of independent learning programs by making academic guidelines. Programs implemented by students should be prepared and mutually agreed upon between universities and partners. The independent learning program can be in the form of a national program that has been prepared by the Ministry or a program prepared by a university that is registered in the higher education database.

In the midst of the spread of Covid-19, according to the Circular Letter of the Minister of Education and Culture Number 4 of 2020 concerning the Implementation of Education Policies in the Emergency
Period for the Spread of Corona Virus Disease 2019, learning strategies in Higher Education are more innovative and varied. This is of course done with the interests of students oriented. Educators must ensure that all students have a learning experience that is meaningful, challenging and appropriate to their abilities. Lecturers and students collaborate to create learning experiences that involve the surrounding conditions. One of the learning models that can be chosen by educators in the Covid 19 era is the project-based learning model. This model provides an opportunity for lecturers to design a learning process that is built from real (contextual) problems so as to provide challenges for students to solve and provide learning experiences based on the concepts built and from the products produced in the project-based learning process. The contextual issues raised are of course adapted to the problems encountered by students in their environment. This will make it easier to collaborate in completing a given project. The use of technology in the application of this project-based learning model can be adjusted to the availability and abilities of each student.

Lecturers must be able to see students as human beings as a whole, where students have two needs, namely physical needs and inner needs. As educators, lecturers play a role in assisting students in determining learning goals and planning learning according to student needs. Lecturers not only help provide teaching oriented to external abilities (thinking skills), but also must assist students to develop inner strength (student character) in terms of building cooperation, building empathy, respecting others, self-reflection and contributing to their social environment. Learning that is planned according to student needs will help students to become independent human beings. An independent human is a human who can rule and control himself and does not depend on others. The capital to become an independent human being is able to think or reason well.

According to Ertmer, PA, & Simons, KD (2006), the sequence of thinking skills or cognitive level is remembering, understanding, applying, analyzing, evaluating and creating. Mastery of these thinking skills can be adjusted to the needs and stages of student development. Therefore, the learning process does not have to start from the level of remembering but must be integrated and adapted to learning needs. In this case, the role of the lecturer is very important to plan active, creative, innovative, collaborative and communicative learning in accordance with nature and the times. Lecturers must always learn to keep up with technological developments. Especially during this Covid-19 pandemic, teachers must be smarter in choosing strategies, learning models and using educational technology so that learning is not boring and prioritizes learning independence.

The learning process in the Department of Out-of-school Education is determined by the lecture strategies carried out, learning media, lecturers’ teaching methods and student learning methods. The problems faced in the learning process of these courses are lecture materials that are difficult to see for example in the real field, students are not motivated so that they do not touch the initial understanding of the management of the learning process which is less attractive so that students' lack of interest in attending lectures. An effort to overcome this is the development of learning methods that can create a conducive environment for MK MBKM participant students to be able to absorb and understand lecture material, be active and participatory in lectures and complete the tasks given for one semester. The approach method used in the learning process is Team Based Project. In the Team Based Project method, the teacher provides more opportunities for students to develop the ability to work together because it gives greater weight to the discussion process and individual learning compared to the concept explanation process.

**METHODS**

The research location is the Department of Out-of-school Education, State University of Gorontalo 2022. This model development research activity is designed by applying a research and development approach. Borg and Gall (1989; 624) argue that Research and Development is a strategy that aims to improve the quality of education. Research using the R & D approach aims to develop and validate educational outcomes and to discover new knowledge through basic research. This research is also intended to answer specific questions about practical problems through ‘applied research’ which is used to improve educational practices.

Figure 1. Model Analysis-Design-Development-Implementation-Evaluation
The following describes the five stages of the ADDIE development model:

**Analysis**

Activities at the analysis stage to determine the required components are: (1) determining the characteristics of learners; (2) analyze the needs of students in learning; (3) create a concept map based on initial research. Followed by designing a flow chart providing a clear direction for product production; (4) determine the type of media to be developed; (5) analyze the constraints found; (6) designing an assessment to test the competence of learners. Accuracy in completing assignments, worksheets, quizzes, etc.; (7) analyze the difference between web and regular classes; and (8) consider online pedagogy. Verbal, visual, tactical, auditory, etc.

**Design**

This stage is also known as making a blue print. The stages that need to be carried out in the design process are: first to formulate SMAR learning objectives (specific, measurable, applicable, and realistic). Then determine what the appropriate learning strategy should look like to achieve these goals. In this case there are many choices of combinations of methods and media that we can choose and determine which is most relevant. In addition, consider other supporting sources, such as relevant learning resources, what learning environment should be, and so on. All of this is contained in a clear and detailed document called a blueprint.

**Development**

Development is the process of turning the blueprint or design into reality. At this stage, team-based project learning is developed. The first thing to do in product development is to analyze the user of the system and what things the user can do and what things the user can do on the system. System users are administrators, and students. Implementation is a concrete step to implement the developed project-based learning. That is, at this stage everything that has been developed in such a way according to its role or function can be implemented. The implementation phase in this research was carried out by direct testing. The trial consists of two stages, namely: the first stage is a validity test by a subject content expert. The second stage is the practicality test by individual groups, small groups, large groups, and lecturers. The results of this trial are used as the basis for the evaluation stage.

**Evaluation**

The evaluation stage in this study until the formative evaluation aimed at the need for revision. Based on the results of expert reviews and field trials that have been carried out at the implementation stage, two stages of data analysis were carried out, namely qualitative and quantitative data analysis. Qualitative data analysis is used to process data in the form of input, criticism and suggestions from experts and field tests for further revision in stages for the development of better media. Meanwhile, quantitative data analysis was obtained from respondents' assessments in the form of numbers in the questionnaire given. All stages of this evaluation are aimed at the feasibility of the final product. Decent in terms of content, design and user friendly.

Research data were collected through interviews, observations, questionnaires, documentation studies, and focus group discussions. While the questionnaire is used to measure models. The questionnaire developed in this study was in the form of a list of statements that revealed the respondent’s suitability with the content contained in each statement. The instrument in this study was developed according to its purpose, namely to collect data as well as supporting data to validate the developed model in relation to model development.

The development of the research instruments used is aimed at streamlining the research process. There are four types of data collection tools used by researchers in this study, namely:

1. The test is developed and used to collect data that is knowledge in mastering one's ability to understand, listen and be sensitive to the intentions and thoughts of others, as well as feel and observe the reactions and changes of others, which are shown both verbally and non-verbally and are able to seek effective problem solving in a social interaction and have mastery of communication skills.

2. Observations were developed using an ordinal scale, used to collect quantified data (in the form of scores) mastery of knowledge and skills. Observations were carried out before and after the treatment implementation of the developed model. The data from the observations of each aspect were analyzed and described quantitatively.

3. Interview guide, developed to collect information in the preliminary study. An interview guide to dig up information is an open interview guideline that is structured to provide flexibility to sources of information (data) in providing more open answers, according to their respective opinions. The
The stages in the research process consist of steps: (1) researching research results related to the product to be developed, (2) developing products based on research results, (3) field testing, and (4) reducing the deviations found in the field trial phase. Referring to the stages in this research, the analysis of the data used is divided into several stages, namely: (1) writing data, (2) editing, (3) classifying data, (4) reducing, and (5) interpreting or interpreting. The data analysis technique used in this study was qualitative procedures; and its form is to examine the factors that conceptually will become obstacles in implementing the Team Based Project Model on the Independent Learning Course at the Independent Campus in Higher Education.

RESULTS AND DISCUSSION

The Team Based Project model is a learning model that can develop thinking skills and inner abilities (student character). In this learning model, students are free to plan their learning. Students explore, assess, interpret, synthesize and manage other information to produce various forms of learning according to real life. This project-based learning is not only concerned with the product produced, but is more concerned with the process of how students determine the problem and then solve the problem. This learning model makes students play an active role in completing their projects. Students are required to develop thinking skills and mental abilities in a balanced way so that they become independent humans. The steps for project-based learning are: 1. Determining basic questions. 2. Planning a project. 3. Developing a schedule. 4. Monitoring students and project progress. 5. Assessment of results. 6. Evaluation of experience.

To realize independent learning, limited face-to-face learning in universities implements project-based learning in the MBKM program courses. Students are divided into small groups. Each group consists of three students to avoid crowds during the Covid-19 pandemic. With these small groups, students are trained to socialize with their friends because during the pandemic students only socialize online. And in the group, students develop the character of cooperation and empathy to solve a problem. (Borrachero, B.; Brígido, M.; Dávila, M.-A.; Costillo, E.; Cañada, F.; Mellado, V., 2019).

Departing from the above background, this research is entitled: "Team Based Project Learning Model in the Independent Learning Program Course at the Independent Campus at the Department of Out-of-School Education, State University of Gorontalo".

Based on the above background, the identification of the research problem is as follows:

1. Most of the students have not reached the expected Minimum Completeness Criteria, this is because students are not invited to learn to look for problems through observation in the learning material.
2. Learning is not interactive, this is because students are not encouraged to directly interact with the object being studied and interact with their peers to solve the problems they are facing.
3. Student Center Learning (SCL), did not take place as it should. Teachers still dominate learning activities, while students are passive. This is because the teacher uses the lecture method only, students only take notes and fill out practice questions.
4. Learning has not been more varied in the process and assessment of the Merdeka Learning Course at the Independent Campus in the Out-of-School Education Department.
5. The occurrence of learning loss as a result of Covid 19.

Team Based Project Model has not yet been applied to the Independent Study Course at the Independent Campus in the Department of Out-of-School Education, State University of Gorontalo.
Merdeka Belajar Kampus Merdeka

Freedom to learn is to give freedom and autonomy to educational institutions, and freedom from bureaucracy, teachers are freed from complicated bureaucracy and students are given the freedom to choose the fields they like. The Merdeka Learning Campus Program is part of the Independent Learning policy by the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia which provides opportunities for students to hone skills according to their talents and interests by going directly into the world of work as preparation for future careers. The concept of independent learning aims to provide flexibility for students to study outside campus. The Ministry of Education and Culture continues to develop this concept as an effort to get qualified future leaders. In its application, this concept will allow students to be given the freedom for two semesters in their study program to carry out activities outside the classroom. This concept basically makes students to be more social with the environment outside the classroom. Students will indirectly be invited to learn how to live in the community. Basically, the policy aims to be able to introduce the world of work to students from an early age. So that students will be much more ready to work after graduating from an available college. (Baharuddin, 2021)

The objective of the Merdeka Learning policy - Merdeka Campus, the program "right to learn three semesters outside the study program" is to improve the competence of graduates, both soft skills and hard skills, to be more prepared and relevant to the needs of the times, prepare graduates as future leaders of the nation who excel and personality. Experiential learning programs with flexible pathways are expected to facilitate students to develop their potential according to their passions and talents. The purpose of implementing an independent campus is so that students will have the ability to master a variety of knowledge that is useful in the world of work later. In an independent campus, there are four things: 1) Practical activities in the field will be converted into credits. 2) Exploration of knowledge and abilities in the field for more than one semester. 3) Learn and expand networks outside the study program or home campus. 4) Gain knowledge directly from quality and reputable partners. (Susilawati, 2021)

The Independent Campus Program that has been running is a three-semester study program outside the study program. This program is carried out to improve the competence of graduates, both soft skills and hard skills, so that they are more prepared and relevant to the needs of the times and produce graduates with superior and personality traits. (Purwanti, 2021)

There are three important stages to support as well as become a teacher driving the Independent Learning policy (Simatupang & Yuhertiana, 2021), namely building a technology-based education ecosystem, collaborating with cross-stakeholders, and using data and technological innovations as policy references and learning patterns.

1. Building a Technology-based Education Ecosystem

The technology-based education ecosystem does not just create an education system that is not out of date but is aimed at encouraging the emergence of creativity, innovation and character for educators. It is hoped that the driving teachers will be able to have the freedom of thought, the courage to act and analyze risks appropriately. From these characters will be created teachers who are able to support the learning process of students independently.

2. Cross-Party Collaboration

Cross-stakeholder collaboration means that as driving teachers, we don't need to be afraid or hesitant to work with various parties to optimize each other's competencies. This collaboration can be done by supporting each other regarding ideas and/or resources to produce the best innovation and quality.

3. Use of Data and Technological Innovations as Policy References and Learning Patterns

Policy References and Learning Patterns

The task of educators is to use available data and innovations as a reference for policies and learning patterns. The teacher inserts important values on how to prepare and learn in the data era so that students realize that they not only need to develop their competencies but also have virtuous characters in the future.

The concept of independent learning (Wilhelm, S.; Förster, R.; Zimmermann, 2019) is very different from the curriculum that has existed and is used by formal education in Indonesia. This new educational concept takes into account the individual cognitive abilities and uniqueness of the students. Here's an outline of the concept:

1. Minimum competency assessment

The difference between this new educational concept and the previously used curriculum is that students are expected to be able to demonstrate minimum skills in terms of "literacy" and "numerics." The focus is not how much students are able to get grades through assignments from the teacher, but how students are able to think critically using their cognitive abilities. In the field of literacy, for example, in the previous curriculum, students were expected to memorize and apply the material they read, in the concept of competency assessment, students were expected to be able to think logically to abstract the intent and purpose of the material. Students are also
invited to discover the basic concepts, so that they can apply them to solving broader problems.

2. Character survey

Each region has the uniqueness of different people and it is impossible to be forced to implement a system with fixed indicators. Education will assess not only learning outcomes, but also the available ecosystem and infrastructure. The development of the quality of education is no longer about the application of fixed quality indicators, but based on the data from the student character survey. Students are given space to be able to develop themselves according to their interests and talents. Freedom to learn can also be interpreted as justice for equal access to education for all students. (Arifin, Abidin, & Al Anshori, 2021).

The basic understanding of philosophy in independent learning provides answers to problems that challenge humans, namely answers to ignorance about something. The forms and forms of reactions, creations, understandings, ideas regarding the principles and ideals of education are summarized in the main teachings of the philosophy of education. To answer the problems in the world of education today, a progress or progress is needed by functioning the soul so that it produces other dynamics in life, so it is not just an idea. The flow of philosophy that is suitable to answer the above is progressivism. (Yusuf & Arfiansyah, 2021)

Progressivism is referred to as naturalism, has the view that the real reality is this universe (not spiritual and supernatural reality). Progressivism is synonymous with experimentalism, this school realizes and practices experimentation as the main tool to test the truth of a theory and science. It is called instrumentalism, because this school considers the potential of human intelligence (a tool, an instrument) as the main force to deal with and solve the problems of human life. Environmentalism, this school considers the environment as a battlefield to face challenges in life, both physical and social. While pragmatism, because this flow is considered as a guide for the implementation of education to be more advanced than before. (Anwar, 2021)

Progressivism as an educational theory emerged as a form of limited reaction to traditional education which emphasized formal methods of teaching, mental learning, and classical literature of Western civilization. The main intellectual influences underlying progressive education were John Dewey, Sigmund Freud, and Jean Jacques Rousseau. First, Dewey departs from the pragmatic school which writes many things about the philosophical foundations of education and tries to test it in a laboratory on campus. Second, Freud raises the freedom of self-expression in students and a more open learning environment where students can be more open to releasing their instinctive impulses in creative ways. Third, Rousseau, opposed the intervention of adults in setting learning goals or curriculum for the subject of students. The child centered approach is in accordance with the thoughts of Rousseau and Freud (Wijayanto, 2021). In addition to the three figures above, Darling (Nehe, 2021) added progressivism figures, namely: Comenius, Pestalozzi, and Froebel. Progressivism emphasizes progress, namely natural change and development for the sake of progress. In this progress, students gain something new, as Brubacher said (Sihombing, Anugraharsi, Parlina, & Kusumastuti, 2021) progress is naturalistic; it implies change. Change implies novelty, and novelty lays claim to being genuine rather than the revelation of an antecedently complete reality. Progress is a value. Progress is said to be valuable when it brings goodness, is useful and can be used in daily concrete life.

George Herbert Mead, Dewey’s friend, was the most original progressive philosopher because he thought that ideas and actions should be combined and lead to social reform. Mead (Elhami, 2021) developed a play theory for students, according to him, in playing, students perform certain activities to produce a work. The environment provides opportunities for students to develop naturally and naturally. Teachers can stimulate the interests and activities of students to be interested in the lesson through playing. In progressive developments, it continues to emphasize educational renewal on the interests and talents of students, not at the formal stage for memorizing only (Prakoso, Ramdani, & Rahmah, 2021). Progressivism education aims to make humans into people who can unlock the secrets of the universe. This is the goal of this school of education. The universe has problems. And it greatly affects human existence. So, humans themselves must find solutions to their own problems. And students are given the freedom to build their creativity in terms of answering the problems that occur, but according to their own interests. (Meke, Astro, & Daud, 2022).

A good independent campus is a campus that can guarantee its students while they are studying. The point is that the campus must be able to assist and assist its students to grow and develop as well as provide space for students to develop their interests and talents through the guidance of teachers. This is true. However, to direct what is the intent and purpose of providing education, it is poured through a clear and precise curriculum. However, what happens is that for this school, everything is based on
flexibility, dynamics and includes the curriculum. (Mustari, 2022).

The main characteristics of the flow of progressivism is that it is based on knowledge and belief that humans have abilities and can face and overcome problems that are pressing or threatening the existence of humans themselves with their own skills and strengths. Progressivism views are considered as the liberal road to culture. In the sense that liberals are meant to be flexible, courageous, tolerant and open-minded. Liberal in another sense is that the adherents not only hold the attitude mentioned above, but are always explorers, researchers continuously for the sake of developing experience. Liberal in the sense of respecting human dignity as a subject in his life and in the sense of democracy, which provides the possibilities and prerequisites for the development of each human person according to the potential that exists in him. As a consequence of his opinion, this school does not approve of authoritarian education. (Mirnawati & Rahmat, 2022).

Progressivism as a philosophical school (Ibrahim, Rahmat, Isa, Husain, & Zubaidi, 2022) has a character that can be classified as (1) negative and diagnostic which means being anti-authoritarianism and absolutism in all its forms; (2) positive and remedial, namely a statement and belief in the ability of humans as subjects who have natural potentials, especially self-regenerative powers to face and overcome all the problems of life. (Mobo, Garcia, & Grace, 2022).

Environment and experience get enough attention from this flow. In connection with this, according to progressivism, it is not enough to just recognize what exists as existing things, but to find meaning for progress or other good causes. In addition, humans must be able to function their souls to build a life that has many problems that come and go. Indeed, progressivism does not pay much attention to non-empirical values such as supernatural values, universal values, religious values originating from God. (Arbarini, Rahmat, Ismaniar, Siswanto, & others, 2022).

The ontological view of progressivism (Arbarini et al., 2022) rests on three things, namely the hereby principle (worldly principle), experience as reality and the mind as a unique human function. Progressivism's ontology is as follows:

a. The Hereby principle is the existence of a very broad and unlimited reality because the reality of the universe is a reality in human life.

b. Experience is the key to human understanding of everything. Humans have a potential mind (mind) that plays a role in experience. The existence and reality of the mind is only in activity, in behavior. John Dewey said, experience is the key human concept of everything. Experience is a reality that has permeated and built the person. Experience according to Progressivism: Dynamic, life is always dynamic, demands adaptation, and adaptation in all variations of continuous change. Temporal (changes from time to time); Spatial which occurs in a certain place in the human environment; Pluralistic that occurs as far as the relationship and attraction in which individuals are involved. Likewise, the subject who experiences the experience captures it, with his whole personality with his sense, intention, thought and five senses. So the experience is pluralistic. (Jeong, JS; González-Gómez, D.; Cañada-Canada, F.; Gallego-Picó, A.; Bravo, JC, 2019).

c. Mind as a unique human function. Humans live because of the functions of the soul that he has. This intelligence potential includes the ability to remember, imagine, connect, formulate, symbolize and solve problems and communicate with others. This mind is an integration within the personality, not an entity on its own. The existence and reality of the mind is only in activity. Mind is what humans do. Mind in principle is playing a role in experience.

The epistemological view of progressivism is that knowledge is information, facts, laws, principles, processes, and habits that accumulate in the person as a process of interaction and experience. Knowledge is obtained by humans either directly through experience and contact with all realities in the environment, or knowledge is obtained directly through notes. Knowledge is the result of certain activities. The more often we face the demands of the environment and the more experience we have in practice, the more prepared we will be for the demands of the future. Knowledge must be adapted and modified to the new realities in the environment. Truth is the ability of an idea to solve a problem, truth is a consequence of an idea, the reality of knowledge and inner utility. In the view of progressivism in the field of axiology, values arise because humans have language, thus making mutual relations possible. So society becomes a place for the emergence of values. Language is a means of expression that comes from the impulse, will, feeling, intelligence of individuals. The value is true or not true, good or bad if it shows conformity with the test results experienced by humans in association. (Elihami, 2021).
Freedom of learning in the view of progressivism views students as having reason and intelligence as potential which is an advantage compared to other creatures. Excess that is creative and dynamic, students have the provision to face and solve their problems. While the field of progressivism curriculum views that in addition to progress, the environment and experience get enough attention from progressivism. For this reason, the philosophy of progressivism shows with its basic concept, the type of curriculum whose teaching program can influence students to learn educatively both on campus and outside the campus environment. Of course it takes a good campus and a good curriculum as well. Main Characteristics of Progressivism (Prakoso et al., 2021): 1) Education is considered capable of change in the sense of fostering a new culture that can save humans for the future. 2) Believing that humans are subjects who have the ability to face the world with independent skills and strengths. 3) Progress is the core of his attention, then science that can grow progress is seen as the main parts of culture, namely life sciences, anthropology, psychology and natural sciences. 4) Progressivism is a transitional philosophy between two major cultural configurations. Progressivism is a major rationalization of a culture, namely (1) rapid changes from Western cultural patterns that are inherited and achieved from time to time, (2) rapid changes to new cultural patterns that are in the process of being developed for the future.

**Team Based Project Based Learning**

Team Based Project learning is a learning model based on projects, where students are faced with problems that exist in the real world that are considered meaningful, then act collaboratively to create solutions to these problems. Project-based learning makes learning something more “alive” for students. Students Mr. and Mrs. Lecturers will work on projects within a certain time, where they are directly involved in the problem solving process and answer complex questions. (Arifin et al., 2021). Team Based Project learning helps students to learn and be active independently. Even so, Mr and Mrs Lecturers continue to monitor regularly the learning progress and projects carried out by students. Guidance that is carried out regularly gives students the opportunity not to carry out the tasks or projects that have been given, and will only work on them when the lecturer is monitoring. In practice, students are more often divided into groups to do a project. As a result, this activity can improve students' ability to relate and communicate with other students. (Wijayanto, 2021).

**Figure 2. Gold Standard as one of the Project Based Learning models (Photo from pblworks.org)**

Implementation of Team Based Project learning (Baharuddin, 2021) not only emphasizes students' understanding of the material presented but also can do planning, design, problem solving, and reporting. The following are the characteristics of project based learning, including:

1. Its implementation starts from a personal or collective problem or desire. From the problems found, then a project plan is made to find solutions to these problems.
2. Involving research according to the topic in order to determine the problem and the right solution. In this stage, students, Mr. and Mrs. Lecturer, conduct research according to the process that has been designed to obtain information, conduct evaluations, and review whether the research carried out is in accordance with the previous plan.
3. Held to find a solution that aims to solve a problem. Solving the problems obtained are the results of learning that can be accounted for.
4. Using a framework that contains the perceived problem, what challenges were found, then the opportunities, and how to solve them.
5. There is an umbrella schedule for the project so that the learning process remains organized even though it focuses on students.
6. The results are measurable, both qualitatively and quantitatively.
7. Evaluation is carried out after the project is completed so that in the future the results can be reused or improved.

Project-based learning allows students to consult directly with lecturers when they want to confirm whether the project they are doing is according to plan. However, the process may actually cause confu-
sion between lecturers and students. Lecturers cannot directly monitor how far the student's learning process is, while students cannot be sure whether what they learn is true or not. The most important thing from Team Based Project learning is that students know and understand the context that exists in the real world because the problem starts from the surrounding environment. They can find solutions to existing problems. Unfortunately, the lecturer's control in project-based learning is very small because students are focused on independent learning.

Team based Project learning not only helps students to be active and independent in learning but also creates a deeper understanding. According to the Cognitive and Constructivist theory presented by Jean Piaget, a person's cognitive development is largely determined by handling objects and active interactions with the environment. In relation to cognitive development, Piaget's constructivist theory conveys that knowledge will be more meaningful if students seek and find it themselves, especially since they were small. Students will better understand a knowledge when they feel it directly through the senses and based on their own experience. (Meke et al., 2022) In line with project-based learning, the knowledge that students gain focuses more on the process of how to acquire it than on how they remember the knowledge. Therefore, to support the process of cognitive development in the view of constructivism, Mr. and Mrs. Lecturers can apply Team based Project learning in the classroom. Through this learning method, Lecturers make knowledge meaningful and relevant to students, provide opportunities for students to find and seek solutions from their own thoughts, and direct students to apply the solutions found in learning and in real life. (Nehe, 2021).

According to Dávila-Acedo, MA; Cañada, F.; Sánchez-Martín, J.; Airado-Rodríguez, D.; Mellado, V (2021) social aspects of learning are related to project based learning. According to him, social interaction can trigger the development of new ideas and enrich students' intellectuality. Interactions that take place with adults or peers can make students learn more effectively. As previously mentioned, project-based learning places more emphasis on group activities. Through student interactions with friends or groups, students' intellectual development can be obtained more quickly. At the actual level of development, students can learn and improve their knowledge on their own efforts. Then at the level of potential development, students can achieve intellectual development with the help of others, one of them is their own friends. Like other learning methods, Team based Project learning requires preparation and planning. This method starts with an idea and a question that is used to design the project. For more details, the following are the steps that you can follow to implement project-based learning. (Susilawati, 2021). First, start with a basic question. Questions should be made with a focus on involving students, Mr. and Mrs. Lecturer and referring to real-life topics that are trying to be solved. For example, what's going on in class or in the local community, then choose a question about an issue that has impact and meaning in a student's life. Second, design a project. From the results of the questions asked and the problems encountered, make a project design. The project must be able to support the existing questions and problems, and must be in accordance with the curriculum or desired learning outcomes. Determine the basic competencies, topics, and indicators to be achieved from this project assignment. Third, make a schedule or project timeline. Determine the design period, data collection, to the problem solving process that will be carried out by students. In practice, there will definitely be changes or adjustments to the schedule. Help and accompany students in completing assigned projects, and provide reminders if the deadline is getting closer. Fourth, monitor the progress of projects carried out by students. This step is very important because project-based learning is a learning method that focuses on students learning independently. However, Mr and Mrs Lecturers also play a role in seeing the progress of the projects carried out by students. This is to ensure that the assignments given are appropriate and students can get the expected learning outcomes. Fifth, make an assessment of the results of projects carried out by students. Assessment here includes feedback, student success in meeting learning standards, and seeing how far the project has impacted student understanding and progress in learning. Finally, do an evaluation of the project experience. At the end of the lesson, the Lecturer and the students conducted an evaluation aimed at seeing the results of the project. The extent to which the project can achieve the learning objectives and whether this project-based learning method can be applied in subsequent learning. (Tejedor, G.; Segalás, J.; Barrón, J.; Fernández-Morilla, M.; Fuertes, M.; Ruiz-Morales, J.; Gutiérrez, I.; García-González, E.; Aramburuzabala, P.; Hernández, J., 2022).

PBL as a methodology to teach science successfully, oriented towards self-learning and at empowering prospective teachers. In the figure 1, we present the steps to develop a PBL (Carreira, C., 2018). Learning is an integrative and constructivist progress, not just receptive. It is highly stimulating to provide students with new opportunities and conditions (science, problems, activities) that help them to actively participate in the classroom by linking the content to
their real life. In fact, there are several and multidisciplinary tools available and numerous pedagogical instruments that help to make science lessons more comprehensive while students improve other skills and competences. In this paper, we present PBL as a methodology to teach science successfully, oriented towards self-learning and at empowering prospective teachers.

Implementation of team based project learning

This encourages students to develop their thinking skills in applying various knowledge to solve problems. In addition, students are trained to develop their character through cooperation, empathy and care for the environment. Through project-based learning, students are given the freedom to be creative and innovate according to their talents and abilities in determining how to solve problems. In other words, team based project is a learning model that can make students become independent human beings to determine learning goals and planning. Team Based Project is a method that is built on learning activities and project-based real tasks that provide challenges for students related to everyday life to be solved in groups.

Project-based instruction is a highly student centered model that creates longer term projects that focus on difficult questions or problems that students use various resources to explore and come up with solutions. Project-based instruction is a highly student centered model that creates longer term projects that focus on difficult questions or problems for which students use various resources to explore and come up with solutions. Project-based learning creates a sense of student ownership in learning. This learning model routinely provides students with a significant length of time, allowing students to really delve into a project and do extensive research. The end result, therefore, is often a product that the student or group is extremely familiar with and able to present easily. Another student centered aspect of project-based learning is that students have more freedom to create and make their project and their research something that is meaningful to them. It allows students to embrace their diversity by using their unique skills and to create that sense of community that progressivism calls for.

Student centeredness is imperative to the success of project-based learning. PBL allows students to be autonomous and to direct their own learning. PBL is relatively easy to implement. Because students are the drivers, so to speak, teachers need only be available to guide and assess progress. Assessment can be done through a final evaluation of the end result and also through checking in with students throughout their journey. The use of 21st century skills is also very relevant within this learning model.

This does not mean that students’ interest in being the only factor in determining what students should learn. What is clear is that students are still immature and may not be able to set meaningful goals. On the other hand, the doctrine of student interest does not stipulate that students naturally tend to oppose whatever is put on them by others. Therefore, the interest of students must be utilized by teachers who will develop a learning environment in which a naturally motivating drive will lead to the desired learning outcomes. Teachers use students’ natural interests to help them learn skills that will support students in discovering their new needs and wants. This in turn helps students (student subjects) develop problem-solving skills and build a cognitive ‘warehouse’ of information needed to live a social life (Simatupang & Yuhertiana, 2021). Progressivism theory places students in a central position in doing learning. Students have a natural tendency to learn and discover something about the world around them and also have certain needs that must be met in their lives. These tendencies and needs will give students a clear interest in studying various problems.

Students are creatures who have advantages compared to other creatures because students have the potential for intelligence which is one of the advantages. Therefore, every student has the potential

Figure 3. Project-based Teaching Strategy (Sánchez-Martín, J.; lvarez-Gragera, GJ; Dávila-Acedo, A.; Mellado, V , 2021)
ability as a provision to face and solve his problems. The task of the teacher is to increase the potential intelligence that has been possessed since birth by every student into reality intelligence in the field of education to be able to respond to all changes that occur in their environment. Institutionally, campuses must maintain and guarantee freedom of thought and creativity to students, so that they have independence and self-actualization, but educators are still obliged to supervise and control them in order to correct errors faced by students, especially in terms of methodological thinking.

Thus the prerequisite that must be done by students is an active and creative attitude, not just waiting for a teacher to fill in and transfer their knowledge to them. Students should not be like "empty bottles" that will be filled when filled by the user. If this is the case, the teaching and learning process is only in the form of transfer of knowledge from a lecturer to students, and this will not educate so that it can be said that the purpose of education has failed. Therefore, the main role of educators is to help students how they should learn by themselves, so that students will develop into independent adults in a changing environment (Yusuf & Arfiansyah, 2021).

At the beginning of learning, students are invited to think critically by reviewing journal articles, managing novelties that will be developed in projects, field observations. After designing the project, the teacher and students prepare a schedule of project activities. The teacher always supervises the project according to the specified target. Students can consult with teachers by telephone or chat via WhatsApp. In such learning, the teacher hopes to see students look happy and motivated because they are free to be creative and can find information on their own and can use technology according to the times. As a result, there are two outputs, namely publications and videos uploaded on the Youtube channel. Learning outcomes must also increase. Initially, 63% had completed, after implementing project-based learning, 86% of students had completed.

Problem-Based Learning (PBL) is one pedagogical approach that might fit in your teaching toolbox. PBL is a student-centered, inquiry-based instructional model in which learners engage with an authentic, ill-structured problem that requires further research (Jonassen & Hung, 2008). Students identify gaps in their knowledge, conduct research, and apply their learning to develop solutions and present their findings (Barrows, 1996). Through collaboration and inquiry, students can cultivate problem solving (Norman & Schmidt, 1992), metacognitive skills (Gijbels et al., 2005), engagement in learning (Dochy et al., 2003), and intrinsic motivation. Despite PBL’s potential benefits, many instructors lack the confidence or knowledge to utilize it (Ertmer & Simons, 2006; Onyon, 2005). By breaking down the PBL cycle into six steps, you can begin to design, implement, and assess PBL in your own courses.

Step One: Identify Outcomes/Assessments. PBL fits best with process-oriented course outcomes such as collaboration, research, and problem solving. It can help students acquire content or conceptual knowledge, or develop disciplinary habits such as writing or communication. After determining whether your course has learning outcomes that fit with PBL, you will develop formative and summative assessments to measure student learning. Group contracts, self/peer-evaluation forms, learning reflections, writing samples, and rubrics are potential PBL assessments.

Step Two: Design the Scenario. Next you design the PBL scenario with an embedded problem that will emerge through student brainstorming. Think of a real, complex issue related to your course content. It’s seldom difficult to identify lots of problems in our fields; the key is writing a scenario for our students that will elicit the types of thinking, discussion, research, and learning that need to take place to meet the learning outcomes. Scenarios should be motivating, interesting, and generate good discussions. Check out the websites below for examples of PBL problems and scenarios.

Step Three: Introduce PBL. If PBL is new to your students, you can practice with an “easy problem,” such as a scenario about long lines in the dining hall. After grouping students and allowing time to engage in an abbreviated version of PBL, introduce the assignment expectations, rubrics, and timelines. Then let groups read through the scenario(s). You might develop a single scenario and let each group tackle it in their own way, or you could design multiple scenarios addressing a unique problem for each group to discuss and research.

Step Four: Research. PBL research begins with small-group brainstorming sessions where students define the problem and determine what they know about the problem (background knowledge), what they need to learn more about (topics to research), and where they need to look to find data (databases, interviews, etc.). Groups should write the problem as a statement or research question. They will likely need assistance. Think about your own research: without good research questions, the process can be unguided or far too specific. Students should decide upon group roles and assign responsibility for researching topics necessary for them to fully understand their problems. Students then develop an initial hypothesis to “test” as they research a solution. Re-
member: research questions and hypotheses can change after students find information disconfirming their initial beliefs.

Step Five: Product Performance. After researching, the students create products and presentations that synthesize their research, solutions, and learning. The format of the summative assessment is completely up to you. We treat this step like a research fair. Students find resources to develop background knowledge that informs their understanding, and then they collaboratively present their findings, including one or more viable solutions, as research posters to the class.

Step Six: Assessment. During the PBL assessment step, evaluate the groups’ products and performances. Use rubrics to determine whether students have clearly communicated the problem, background, research methods, solutions (feasible and research-based), and resources, and to decide whether all group members participated meaningfully. You should consider having your students fill out reflections about their learning (including what they’ve learned about the content and the research process) every day, and at the conclusion of the process.

Although we presented PBL as steps, it really functions cyclically. For example, you might teach an economics course and develop a scenario about crowded campus sidewalks. After the groups have read the scenario, they develop initial hypotheses about why the sidewalks are crowded and how to solve the problem. If one group believes they are crowded because they are too narrow and the solution is widening the sidewalks, their subsequent research on the economic and environmental impacts might inform them that sidewalk widening isn’t feasible. They should jump back to step four, discuss another hypothesis, and begin a different research path.

CONCLUSION

Merdeka Learning - Merdeka Campus is expected to be the answer to these demands. Independent Campus is a form of learning in higher education that is autonomous and flexible so as to create a learning culture that is innovative, unfettered, and in accordance with the needs of students. The main programs are: the ease of opening new study programs, changes to the accreditation system for higher lecturers, the convenience of state higher education institutions becoming state universities with legal entities, and the right to study for three semesters outside the study program. Students are given the freedom to take credits outside the study program, three semesters which are meant in the form of 1 semester of opportunity to take courses outside the study program and 2 semesters of participating in learning activities outside of higher education. Various forms of learning activities outside of tertiary institutions, including conducting internships/work practices in industry or other workplaces, implementing community service projects in villages, teaching in educational units, participating in student exchanges, conducting research, conducting entrepreneurial activities, making studies/ independent projects, and following humanitarian programs. All these activities must be carried out by students with guidance from the lecturer. MBKM are expected to be able to provide field contextual experiences that will improve student competence as a whole, be ready to work, or create new job opportunities. The learning process at the Merdeka Campus is one of the most essential manifestations of student-centered learning. Learning in the Merdeka Campus provides challenges and opportunities for the development of innovation, creativity, capacity, personality, and student needs, as well as developing independence in seeking and finding knowledge through realities and field dynamics such as ability requirements, real problems, social interaction, collaboration, self-management, performance demands, targets and achievements.

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