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Readiness of the Science Education Study Program in the Implementation of the 'Merdeka Belajar - Kampus Merdeka' (MBKM) Curriculum

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abstract

The purpose of this research is the readiness of the science education study program to implement the MBKM curriculum, which is explained through the characteristics of cooperation, lecturer competence, student perception and participation, and analysis of stakeholder needs. The research method uses case study qualitative analysis, and the subjects are teachers, students, and stakeholders in the science education study program. One of the results obtained is the characteristics of the cooperation carried out by the achievement of the graduates. The competencies possessed by lecturers as facilitators in the implementation of MBKM. There is a biased understanding of students' perceptions and involvement in the implementation of MBKM. The stakeholders involved in the preparation of this curriculum have conformity with the needs of the curriculum structure. Furthermore, these results can be used as the basis for the readiness of the Science Study Program in implementing MBKM.

1. Introduction

The development of science and technology in the industry 4.0, where students not only have one skill but also several skills. In line with these developments, education is strengthening outcomes-based education (OBE) (Suryaman, 2020).The process of teaching is not only about the content, but how to make students achieve the expected graduate achievement targets in the science education program. So far, graduates' achievements have only focused on the four content of teacher abilities (individual, pedagogical, professional, and social abilities). Both theoretically or practically, the curriculum content is only focused on being a science education teacher or research assistant in the science education field. Nadim Makarim, Minister of Education and Culture of the Republic of Indonesia, sees a phenomenon in the working world that requires college graduates to have multiple qualifications. There is a growing demand for higher education to meet the requirements of an increasingly dynamic and complex world of work (Cahyanti et al., 2018; Handayani, 2015).

Currently, there are three theoretical aspects regarding the development of the MBKM curriculum. The first aspect concerns the orientation of MBKM (Purwanti, 2021; Rusli

Baharuddin, 2021; Sopiansyah et al., 2021; Suryaman, 2020; Umazah & Sakre, 2020). In the orientation aspect, the MBKM curriculum is viewed from the model for developing MBKM activities at universities based on student involvement. The second aspect concerns the challenges and obstacles to MBKM implementation (Fuadi & Aswita, 2021; Haris et al., 2021; Mariati, 2021). In this case, the discussion is still in the stage of literature review and provisional hypotheses. The third aspect concerns the link and matches readiness of graduates with the business world and industry through the MBKM curriculum approach (Andari et al., 2021; Kodrat, 2021; Nasional & Pertanian, 2021; Nurtjahyati & Sukisno, 2021). In the aspect of link and match, it predicted that graduates would acquire many new skills. Due to existing research trends, many have not discussed the implementation of the MBKM curriculum readiness features the case studies so that the planning to carry out the MBKM curriculum implementation in September 2012 goes as expected.

The practice plan with the MBKM curriculum consists of nine activities; one, teaching assistant; two, student exchange; third, independent research; four, the target villages or thematic KKN; fifth, internships/PKL; sixth, entrepreneurship; seventh, research; eight, humanitarian projects; Ninth, defend the country (Junaidi, 2020). These nine activities require each study program to give students the right to choose from existing activities. During the selection process, the study program can provide and facilitate students. The process is to collaborate with internal and external campus parties. The science education study program provides significant opportunities for students to take advantage of existing collaborations with various fields so that graduates will be able to improve the competence of science teachers. These competencies must be developed and processed so that the quality of the competencies produced is higher, with the development of high competence, the teachers are expected to be able to perform their duties better and responsibly (Werdayanti, 2008). Professional teachers not only transform culture and knowledge but transform their values into knowledge. It might have some influence on the quality of students ability in the classroom (Nurramadhani et al., 2020). The role is no longer as a teacher center but as a facilitator, dynamist, and catalyst (Giantara, 2019).

The focus of this research is the readiness of the science education study program in implementing the MBKM curriculum. Specifically, it discusses the characteristics of cooperation between program study with internal and external parties on campus. The competence of lecturers to support the implementation of MBKM. Students' perceptions and involvement in the implementation process. And analyze the needs of stakeholders who have a link and match to the implementing curriculum. With the readiness of the Science Education study program before implementing the curriculum, it can be an alternative study material to see the achievement of the nine target activities of the MBKM program that is expected and provide benefits to stakeholders not only in the description of being a professional teacher but also in other skill needs. The ability of lecturers to develop the learning process is also given the flexibility to add the other skills. And illustrate how the readiness should prepare so that graduate students from science education study programs have a better opportunity in the working world and business.

2. Method

This study was conducted in a case study of the science education program at the Universitas Muhammadiyah Cirebon (UMC). The reason is that the two study programs have the same graduate profile characteristics. The method used in this case study is qualitative. The researcher wants to reveal the data as much as possible about the readiness of the Science Education study program in implementing the MBKM curriculum. Qualitative research is based on the interpretation of multiple perspectives of all participants in the study (Rukajat, 2018). The data collection strategy in this study was carried out in two events, namely the interactive and non-

interactive data collection methods. Interactive methods include interviews in-depth and focus group discussions. While non-interactive includes reviewing RPS documents, syllabus, lecture teaching materials, and other related documents. The data was obtained from the head of the study program, lecturers, students, and stakeholders through interviews and observation notes. Before analyzing the data, data authentication was done using triangulation, member check, and audit. In the triangulation authenticity test by checking the validity of the data. Member checking means that the data from the interview results obtained are then re-confirmed with the participants. Audits show the role of experts in strengthening research results (Semiawan, 2010). The role of the expert in this study is the chairman, deputy, and secretary of curriculum developers at the UMC.

In qualitative research, data analysis techniques are performed from the beginning to the end of the study. According to (Miles & Huberman, 1994), qualitative analysis has three activity phases: a data reduction phase, a data display phase, and a completion or review phase. Data reduction means summarizing, selecting points, focusing on the points, and looking for topics and patterns. Therefore, the reduced data provides a clearer image and makes it easier for researchers to take the next step and search again if necessary. In the reduction process, researchers are supported by experts so that the data show significant discoveries and significant theoretical developments (Wijaya & Umrati, 2020). After reducing the data, the next step is to present the data. To present the data, it can be provided with explanations, graphs, types of relationships between categories, and so on. By presenting the data, it will be helpful to understand what happened and what plan for further work based on that understanding. Then draw conclusions, analyze conclusions, and study the implications of existing data found in ongoing research.

3. Result and Discussion

There are nine programs launched by the Ministry of Education and Culture of the Republic of Indonesia, including: Student exchange, teaching assistance, entrepreneurial activities, independent research, internships in companies, state defense, thematic Student Work Lectures, and humanitarian projects. UMC Science Education has implemented at least five of the nine programs. These five programs have actually been implemented before the implementation of the MBKM curriculum. With the MBKM curriculum, the Science Study Program implements these programs more powerfully.

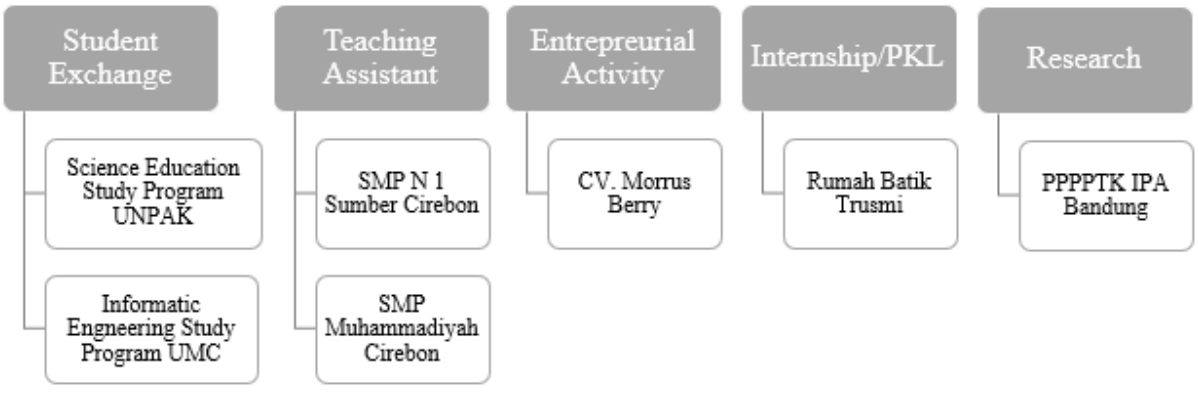

Figure 1. Cooperation program of UMC science study program with MBKM Model

Based on Figure 1 UMC Science Education program offers five collaborative programs to support the implementation of MBKM. UMC science education program makes an effort to collaborate with campus stakeholders, especially with the computer engineering study program to provide a wide range of technologies in science learning. The ICT-based learning model is a

support factor for industrial era 4.0 towards the era of society 5.0, that is why the science education study program collaborates with the informatics engineering study program. The application of ICT can facilitate teachers and students in implementing scientific skills in science learning (Juniati & Jamaluddin, 2020). Dumiyati et al., (2019) research stated that ICT learning was able to improve students' independent learning abilities. ICT-based science learning can improve the professional competence of aspiring teachers and make it easier for students to understand knowledge (Qomario & Agung, 2019).

The UMC Science Education Program collaborated with CV Morrus Berry on the Entrepreneurship Program for about three months. In this program, students will learn the entrepreneurial Morbay process, how to grow Morbay plants, process Morbay products and sell a variety of products. The learning process provided can stimulate students' interest in entrepreneurship. (Yulfita, 2015) emphasized that learning about entrepreneurship can increase students' interest in entrepreneurship. Entrepreneurship is a creative and innovative ability, keen to see opportunities, and always open to any suggestions and positive changes that can bring the business to continue to grow and have value (Saragih, 2017). With entrepreneurship, it can create jobs so that it can reduce the unemployment rate (Jayadi et al., 2020). Today, a scientific approach to entrepreneurship as a parallel science with other disciplines has grown and developed in this view. In general, entrepreneurship has become a new field related to many models, theories, and concepts that are not yet widespread and not profound (Khamimah, 2021). With the concepts provided, the study of entrepreneurial practice becomes part of the learning that can be adapted to the science study programs.

The Science Education program from UMC collaborates with the Center for the Development and Empowerment of Educators and Natural Sciences Education Personnel (PPPPTK IPA) in Badung. By doing this collaboration, lecturers and students have the opportunity to develop joint research and service. Following the main tasks of Permendikbud Number 20 of 2020 concerning the Organization and Work Procedure of the Technical Implementation Unit of the Ministry of Education and Culture, the Center for the Development and Empowerment of Educators and Natural Sciences Education Personnel (PPPPTK IPA) has the task of carrying out the development and empowerment of educators and education personnel in the science field. In carrying out its duties, the Center for the Development and Empowerment of Educators and Natural Sciences Education Personnel (PPPPTK IPA) carries out the following functions: The preparation of development and empowerment programs for educators and education personnel; The management of data and information to improve the competence of educators and education personnel; The implementation of facilitation and improvement of the competence of educators and education personnel; The implementation of cooperation in the field of development and empowerment of educators and education personnel; The implementation of program evaluation and facilitation of improving the competence of educators and education personnel; and The implementation of administrative affairs.

The implementation of this activity was carried out through the conversion of ethnic science courses. In 2005, the government-supported local cultures as a learning program built into junior high school equivalent curriculums**,** which was subsequently refined in the 2013 curriculum. UMC science education also uses ethno sciences learning to support government regulation. Ethnic science consists of two syllables, the first word "ethnic" means a country in Greek, and "science" means knowledge in Latin. Parmin et al., (2017) mention that ethno sciences is the knowledge possessed by a nation or precisely an ethnic group or social group as a system of knowledge and cognition typical of a given culture, the emphasis is on systems or knowledge devices which are knowledge that is characteristic of a society because it is different from other societies. Ethnoscience learning is one of the new breakthroughs in the world of

education that combines culture with science (Nuralita, 2020). Ethnoscience in learning is a concept of science in the culture of a nation (Wati, 2020). Cirebon batik is a cultural heritage that can be appointed as one of the phenomena of science learning.

The next collaboration is the collaboration between UNPAK Science Education and UMC Science Education. This collaboration aims to implement the student exchange process in the MBKM program. The student exchange program was expected to fulfill the learning achievement or enrich the learning achievement of the graduates. Student exchange has an important role in the MBKM program. Student exchange is a program where students take classes or semesters at domestic and foreign universities according to agreements or collaborations that have been held (Tohir, 2020). The purpose of student exchange is to provide a learning experience outside the institution by upholding equality in learning (Latifah et al., 2021). With the aim of student exchange, students are able to have a wider learning experience and an introduction to a different academic culture.

UMC's science education program has six lecturers and one of them serves as the head of the study program. Lecturer competence is one of the factors that can motivate students to learn (Damanik & Irawan, 2021). The lecturer's competencies have an important role in achieving the lecturer's performance as an educator in universities. Over time, lecturers must constantly adapt their competencies by upgrading the four dimensions according to the needs of the times (Ritonga et al., 2021). With the competence and quality possessed by lecturers, the implementation of MBKM involving lecturers as facilitators can be fulfilled. Student perception of the MBKM were determined by interviews in-depth. The results are shown in Figure 3.

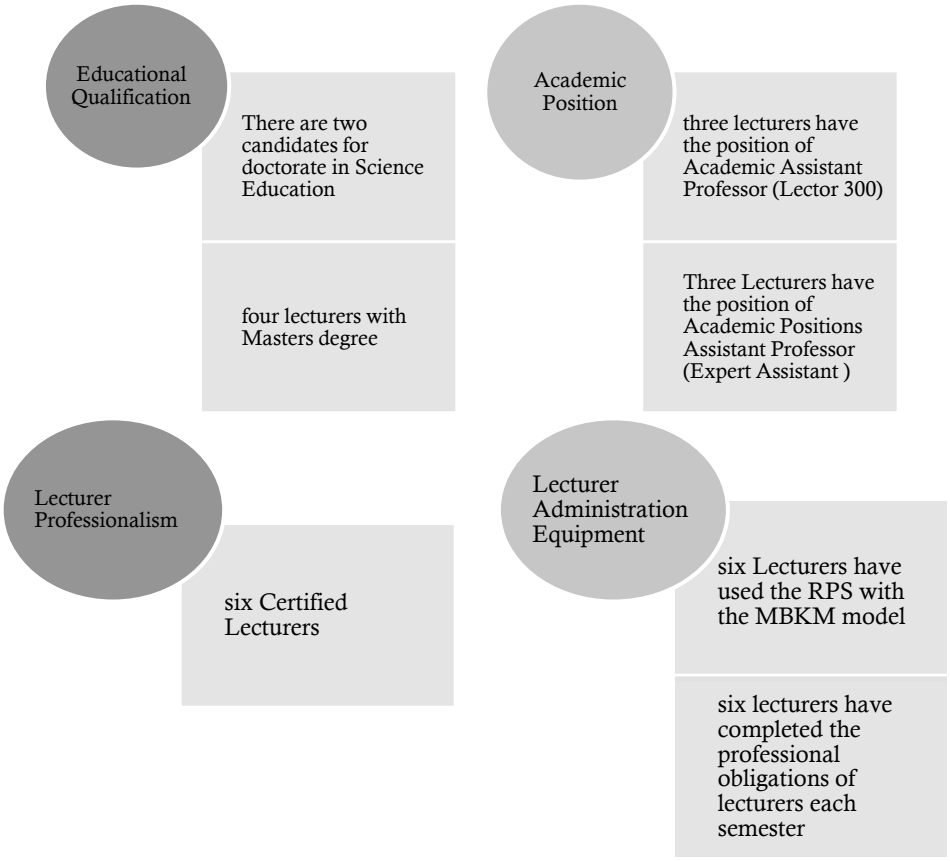

Figure 2. UMC science education lecturer competency mapping

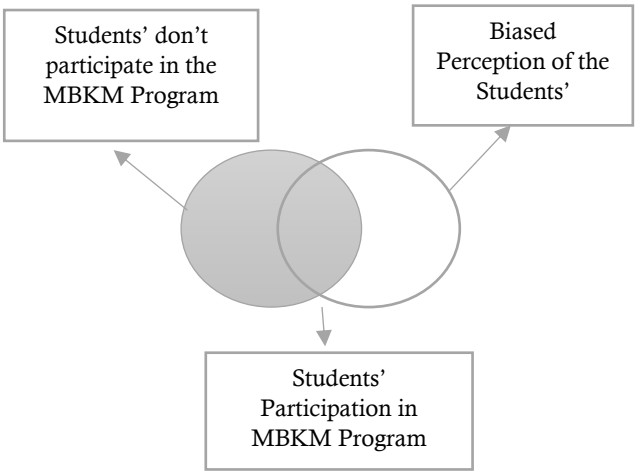

Figure 3. Student perceptions of the understanding of MBKM

In Figure 3 it can be seen that there is a bias in student perceptions of the understanding of MBKM. The bias is based on the interview results; "The implementation of MBKM is carried out for those who are selected by the Ministry of Education and Culture". In its implementation, MBKM is carried out by making an offer in advance to students from the study program regarding the program to be carried out based on the study program policies and programs offered by the Ministry of Education and Culture. Currently, there are 52 UMC students in the science study program and 20 of them are enrolled in the MBK program. Four students took part in the campus teaching program from the Ministry of Education and Culture, five students took part in the technical guidance of PPPTK IPA Bandung, three students took part in the Morrus berry entrepreneurship program, four students took part in the Internship/PKL program at Trusmi Batik House, and five students took part in the student exchange program with UNPAK. The results of interviews with all students participating in the MBKM program are as follows: "I participated in the MBKM program under the direction of my bachelor's degree program and my academic advisor to prepare for course conversions that could be produced from the outcomes of participating in the MBKM program". Perception is a person's view in assessing and determining attitudes towards an event or policy. Student perceptions of new curriculum changes are the first step in determining student attitudes and they can be change after implementation occurs (Agrawal et al., 2020).

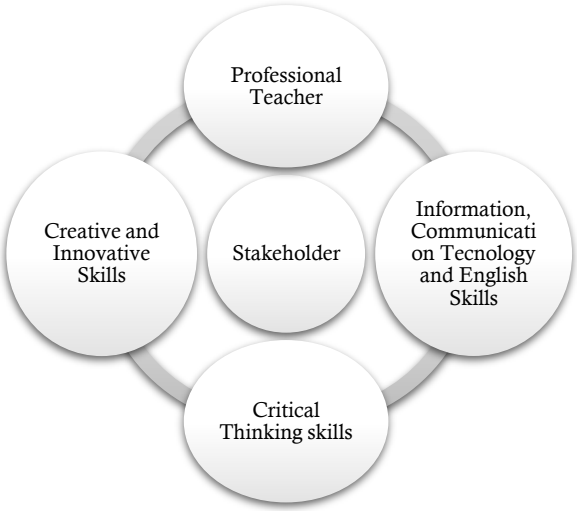

Figure 4. Analysis of stakeholder needs in the implementation of the MBKM curriculum

The stakeholders are the institution that is recommended to be formed to increase community participation in advancing education according to law number 20 of 2003. It can be seen in figure 4 the results of interviews with stakeholders involved in UMC institutions during the FGD (Focus Group Discussion). And further, the MBKM curriculum implemented can represent the expected needs. Stakeholders have a very close relationship with the environment and are responsible for maintaining the policy framework, implementation, and decision-making of the institution to achieve the goals of the institution (Savitri et al., 2019). The study obtained is used as a formulation for the implementation of MBKM in the learning process following the curriculum structure. So it can be ensured that there is a link and match between stakeholders and educational institutions.

4. Conclusion

The conclusions can be formulated, from the findings and the discussion. First, the characteristics of the Cooperation carried out by the UMC Science Education study program support the implementation of MBKM based on the curriculum structure developed through the organization of converted courses. Second, the competence of the lecturer has an important role in implementation because the lecturer acts as a facilitator. The competence of science education lecturers supports the implementation of MBKM by reviewing the semester learning plan (RPS). Third, students' perception and involvement in the implementation of MBKM are still biased. This occurs because students think that the implementation of MBKM is carried out only based on programs proposed by the Ministry of Education and Culture, not offered by the Program study. Fourth, stakeholders play a role in the preparation of the curriculum so that the implementation of MBKM can be carried out to meet the needs of graduates of the Science Education study program. From the results of this study, the curriculum structure of the study program and the implementation offered must be interrelated. The results of this suitability support the readiness of MBKM implementation. The limitations of this study are that the nine MBKM programs offered by the government have not been studied further along with the implementation of MBKM.

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