IMPROVING STUDENT COMPETENCE IN THE ERA OF THE INDUSTRIAL REVOLUTION 4.0 THROUGH THE MBKM PROGRAM

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Abstract
Merdeka Belajar-Kampus Merdeka is a policy of the Minister of Education and Culture, which aims to encourage students to master various sciences that are useful for entering the world of work. Kampus Merdeka allows students to choose the courses they will take. Through Merdeka Belajar – Kampus Merdeka, students have the opportunity to take 1 (one) semester or the equivalent of 20 (twenty) credits of studying outside the study program at the same university; and a maximum of 2 (two) semesters or equivalent to 40 (forty) credits of studying in the same study program at different universities, learning in different study programs at different universities; and/or out-of-College learning. Learning in the Merdeka Campus provides challenges and opportunities for the development of creativity, capacity, personality, and student needs, as well as developing independence in seeking and finding knowledge through reality and field dynamics such as ability requirements, real problems, social interaction, collaboration, self-management, performance demands, targets, and achievements.
Keywords: Curriculum; MBKM; Students; Learning.

Preliminary

A development policy direction that prioritizes education as an investment in the future is needed to produce superior human beings. Suryadi explained three reasons to prioritize education as a long-term investment. (Ainia, 2020). **First**, education is a tool for economic development and not just economic growth. Modern education management says one of the five functions of education is a technical-economic function both at the individual and global levels. Technical-economic function refers to the contribution of education to economic development. For example, education can help students to gain the knowledge and skills necessary to live and compete in a competitive economy. It is generally proven that the more educated a person is, the better his income will be. This is possible because educated people are more productive when compared to uneducated ones. A person's productivity is due to the technical skills gained from education. Therefore, one of the goals that education must achieve is to develop life skills. **Second**, education investment provides a higher *rate of return* than physical investment in other fields. The return value of education compares the costs incurred to finance education and the income obtained after a person graduates and enters the workforce. In developing countries, it generally shows a relatively higher return on education investment than a physical capital investment at 20% compared to 15%. Meanwhile, in developed countries, the return on education investment is lower than physical capital investment, which

is 9% compared to 13%. This situation can be explained by the fact that with the number of skilled and skilled educated workers in developing countries is relatively limited compared to needs, the wage rate is higher and will lead to a return value to education as well as high. **Third**, investment in education has many functions other than technical-economic functions, namely socio-humanitarian, political, cultural, and educational functions. The socio-humanitarian function refers to the contribution of education to human development and social relations at different levels. For example, at an individual level, education helps the student to develop himself psychologically, socially, and physically and helps the student develop his potential as much as possible.

Considering that economic, social, and cultural changes continue to accelerate, universities must respond to this and transform learning to equip and prepare graduates who are superior, competent, cultured, and able to face the challenges of the times. This is in line with the opinion that looks at the present situation, where the times have changed with the currents of globalization, and technological advances are increasing. Therefore, education must not be outdated Education must go hand in hand with every phase of life that continues to change, one of which is the education system that is changing for the better to meet human needs in facing the challenges of a changing era (Ariyana et al., 2020; Baharuddin, 2021).

The learning process in the Kampus Merdeka is one of the manifestations of student-centered learning, which is essential. Learning in the Kampus Merdeka 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 reality and field dynamics such as ability requirements, real problems, social interaction, collaboration, self-management, performance demands, targets, and achievements. Students' hard and soft skills will be strongly formed through a well-designed and implemented independent learning program. The Program of Merdeka Belajar-Kampus Merdeka is expected to answer the challenges of higher education to produce graduates following the times, the progress of science and technology, the demands of the business world and the industrial world, as well as the dynamics of society.

Method

The method used in this study is a literature review of several relevant sources. The literature review is a systematic, explicit and reproducible method for identifying, evaluating, and synthesizing research works and thoughts that researchers and practitioners have produced.

The library sources used in writing this paper come from national and international journal websites and websites from the Ministry of Education, Culture, Research, and Technology.

Results and Discussion

In order to prepare students to face social, cultural, and world work changes and rapid technological advances, student competencies must be prepared to better adapt to the needs of the times. *Link and match* not only with the world of industry and work but also with a rapidly changing future. Universities must be able to design and implement innovative learning processes so that students can achieve learning outcomes, including aspects of attitudes, knowledge, and skills optimally and continuously relevant (Baro'ah, 2020; Faiz & Purwati, 2021; Fuadi & Aswita, 2021).

The independent campus provides opportunities for students to hone their abilities according to their talents and interests through direct practice in the world of work in preparation for future careers. MBKM aims to present an autonomous and flexible learning process at universities, provide an innovative and independent learning culture according to student needs, fulfillment of learning rights based on a life-based, capability, and transdisciplinary approach to improve student learning capabilities, facilitate learning rights following students' interests and potentials to become graduates with competence and personality, provide insight and experience so that students become graduates following the profile of graduates, as well as provide quality graduates following the needs of the 21st century and the industrial era 4.0 (Lase, 2019; Sasikirana & Herlambang, 2020; Sherly et al., 2021).

The main programs of MBKM are the ease of opening new study programs, changes in the higher education accreditation system, the ease of state universities becoming legal entities, and the right to study three semesters outside the study program. Therefore, students are free to take credits outside the study program for three semesters which are intended in the form of 1 semester of opportunity to take courses outside the study program and two semesters of carrying out learning activities outside of higher education (Hasim, 2020; Mariati, 2021).

Various forms of learning activities outside of higher education, including conducting internships/work practices in the industry or other workplaces, carrying out community service projects in the village, teaching in education units, participating in student exchanges, conducting research, conducting entrepreneurial activities, making independent studies/projects, and participating in humanitarian programs. All these activities must be carried out with guidance from the lecturer. An independent campus is expected to provide a field contextual experience that will increase student competence, be ready to work or create new jobs (Masnun, 2020; Joseph & Arfiansyah, 2021).

The learning process in the Kampus Merdeka is one of the manifestations of student-centered learning, which is essential. 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 reality and field dynamics such as ability requirements, real problems, social interaction, collaboration, self-management, performance demands, targets and achievements (Mustaghfiroh, 2020). Students' hard and soft skills will be strongly formed through a well-designed and implemented independent learning program. The form of learning activities in MBKM following the Minister of Education and Culture No 3 Tahun 2020 Pasal 15 ayat 1 can be carried out within the Study Program and outside the Study Program including (Baro'ah, 2020):

(1) Exchange Students

Currently, student exchanges with complete credit transfers have been carried out with partner universities abroad, but the credit transfer system carried out between universities in the country itself is still very small in number. Student exchanges are held to form several student attitudes as stated in the Regulation of the Minister of Education and Culture (Permendikbud) Nomor 3 Tahun 2020, that is, respecting the diversity of cultures, views, religions, and beliefs, as well as the original opinions or findings of others; and work together and have social sensitivity and concern for the community and the environment. The objectives of student exchanges include: a) Studying across campuses (at home and abroad), living with family on the destination campus, students' insights into Bhinneka Tunggal Ika will grow, and cross-cultural and tribal fraternities will be stronger. b) Build student friendships between regions, tribes, cultures, and religions, thereby increasing the spirit of national unity and unity. c) Organizing the transfer of knowledge to cover educational disparities between domestic universities and the conditions of domestic and foreign higher education (Zuhri et al., 2022).

Figure 1. Student Exchange Program Scheme

(2) Internships/Work Practices

So far, students have not received work experience in the industry / real professional world, so they are not ready to work. Short-term internships (less than six months) are not enough to provide industry experience and competence for students. Companies that accept internships also state that internships in a brief period are not beneficial, even disrupting activities in the industry. The objectives of the internship program include a 1-2 semester internship program, providing sufficient experience to students, and direct learning in the workplace (experiential learning). During the internship, students will get hard skills (complex problem-solving, analytical skills, etc.) and soft skills (professional/work ethics, communication, cooperation, etc.).

Meanwhile, the industry gets qualified talent that can be directly recruited, thereby reducing the cost of recruitment and initial training/induction. As a result, students familiar with the workplace will be more skilled in entering the world of work and careers. Through this activity, industrial problems will flow to universities so that updating teaching and learning materials for lecturers and research topics in universities will be more relevant. Learning activities in collaboration with partners include companies, non-profit foundations, multilateral organizations, government institutions, and startups (Zuhri et al., 2022).
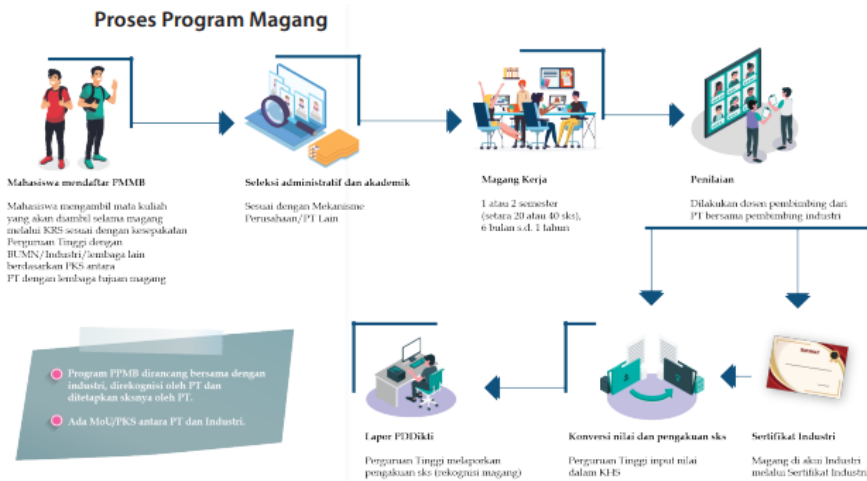
Figure 2. Internship Program Scheme

(3) Teaching Assistance in Education Units

Primary and secondary education quality in Indonesia is still deficient (PISA 2018 ranks Indonesia no. 7 from the bottom). The number of academic units in Indonesia is substantial, and various problems, both formal, non-formal, and informal education units. Students in academic units such as elementary, middle, and high schools carry out learning activities in the form of teaching assistance. Schools where teaching practice can be located in city locations as well as in remote areas. The objectives of the teaching assistant program in the education unit include: a) Providing opportunities for students interested in the field of education to participate in teaching and deepen their knowledge by becoming teachers in the education unit. b) Help improve the equitable distribution of the quality of education, as well as the relevance of primary and secondary education to higher education and the development of the times (Zuhri et al., 2022). The following is a scheme for teaching in the education unit.
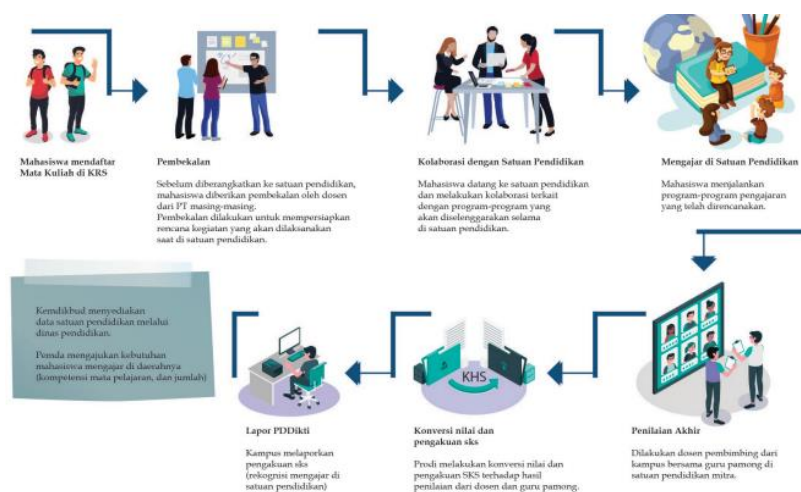

Figure 3. Teaching Assistance Program Scheme

(4) Research

For students who are passionate about becoming researchers, independent learning can be realized through research activities at research institutions/study centers. Through research, students can build a way of thinking critically, which is needed for various scientific clusters at the higher education level. With the ability to think critically, students will explore, understand, and be able to do research methods better. For students who have an interest and desire to work in the field of research, the opportunity to intern in a research center laboratory is their dream. In addition, laboratories/research institutions sometimes lack research assistants when working on short-term research projects (1 semester–1 year). The objectives of the research program include: a) Student research is expected to be improved in quality. In addition, the student's experience in extensive research projects will topically strengthen the talent pool of researchers. b) Students gain research competencies through direct guidance by researchers at research institutions/study centers. c) Improving the ecosystem and quality of research in Indonesian laboratories and institutions by providing research resources and regenerating researchers early (Zuhri et al., 2022).
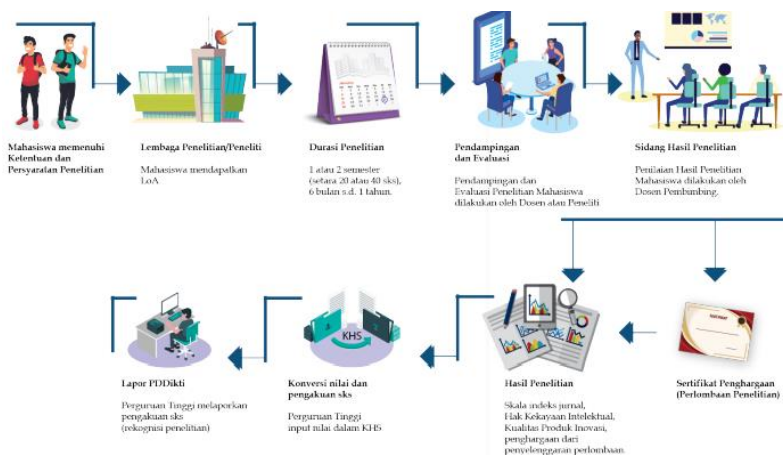
Figure 4. Research Program Scheme

(5) Humanitarian Projects

Indonesia experiences many natural disasters, such as earthquakes, volcanic eruptions, tsunamis, hydrological disasters, etc. Universities have helped overcome disasters a lot through humanitarian programs. However, student involvement so far has been voluntary and only short-term. In addition, many international institutions (UNESCO, UNICEF, WHO, etc.) have conducted in-depth studies and created development pilot projects in Indonesia and developing countries. Therefore, students with a young spirit, knowledge,

competence and interest can become "foot soldiers" in humanitarian and other development projects in Indonesia and abroad. The objectives of the humanitarian project program include: a) Preparing excellent students who uphold human values in carrying out tasks based on religion, morals, and ethics. b) Train students to have social sensitivity to explore and dive into existing problems and participate in providing solutions according to their respective interests and expertise (Zuhri et al., 2022).
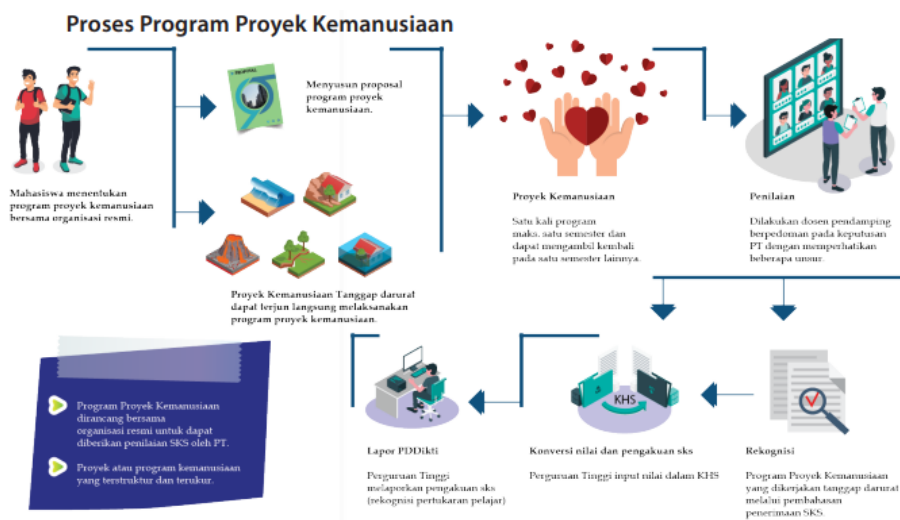

Figure 5. Humanitarian Project Program Scheme

(6) Entrepreneurial Activities

Based on the Global Entrepreneurship Index (GEI) in 2018, Indonesia only has a score of 21% of entrepreneurs from various fields of work or is ranked 94th out of 137 countries. Meanwhile, according to research by darn IDN Research Institute in 2019, 69.1% of millennials in Indonesia have an interest in entrepreneurship. Unfortunately, the entrepreneurial potential of the millennial generation has not been appropriately managed so far. The Independent Campus Policy encourages the development of student entrepreneurial interests with appropriate learning activity programs. The objectives of the entrepreneurial activity program include: a) Providing students interested in entrepreneurship to develop their business early and guided. b) Addressing the problem of unemployment resulting in intellectual unemployment among scholars. Learning activities in the form of entrepreneurship are those that have not been or have been stipulated in the study program curriculum. Requirements are set out in academic guidelines issued by the College (Zuhri et al., 2022).

Figure 6. Entrepreneurial Program Scheme

(7) Independent Studies/Projects

Many students are passionate about realizing masterpieces contested at the international level or works from innovative ideas. Ideally, independent studies/projects are carried out to complement students' curricula. Colleges or faculties can also make independent studies to cover topics that are not included in the lecture schedule but are still available in the course syllabus or faculty. In addition, independent project activities can be carried out as group work across scientific disciplines. The objectives of independent study programs/projects include: a) Realizing students' ideas in developing innovative products that become their ideas. b) Organizing research and development (R&D) based education. c) Increase student achievement in national and international events (Zuhri et al., 2022).
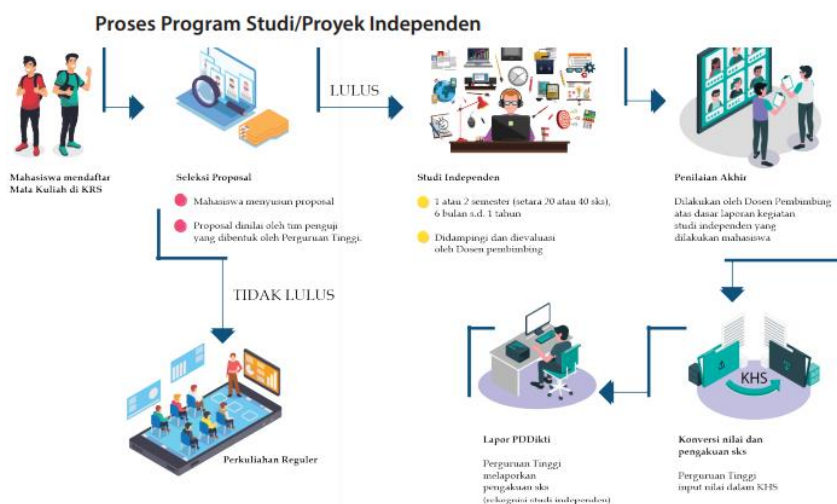
Figure 7. Independent Project Programme Scheme

(8) *Kuliah Kerja Nyata Tematik* (KKNT)

Kuliah Kerja Nyata Tematik (KKNT) is a form of education that provides learning experiences for students to live in the community outside the campus, which directly together with the community, identifies potential and handles problems so that it is

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expected to be able to develop the potential of the village/area and formulate solutions to problems in the village. In addition, KKNT activities are expected to hone soft partnership skills, cross-disciplinary/scientific teamwork (across competencies), and student leadership in managing development programs in rural areas. So far, universities have run the KKNT program, and it is just that the *Satuan Kredit Semester* (SKS) has not been able or can be recognized following the independent campus program whose credit recognition is equivalent to 6-12 months or 20-40 credits, with its implementation based on several models. It is also expected that after the implementation of KKNT, students can write down the things they do and the results in the form of a final project (Zuhri et al., 2022).

The implementation of KKNT is carried out to support cooperation with the Ministry of Villages PDTT and other ministries/stakeholders. Through the PDTT Ministry of Villages, the government distributed 1 billion village funds per village to 74,957 villages in Indonesia; based on data from the 2019 *Indeks Desa Membangun* (IDM), there were 6,549 severely underdeveloped villages and 20,128 underdeveloped villages. The implementation of KKNT can be carried out in underdeveloped, underdeveloped, and developing villages whose human resources cannot yet plan development with these extensive funding facilities. So that the effectiveness of using village funds to drive economic growth still needs to be improved, one of which is through students who can become human resources which further empowers village funds.

Figure 8. Thematic Village Building Program / KKN Scheme

Conclusion

The purpose of the Merdeka Belajar Kampus Merdeka (MBKM) curriculum is to encourage students to master various kinds of science that are useful for entering the world of work and provide opportunities for students to choose the courses they will take—

implementing the MBKM curriculum to answer the challenges of technological development with outcome-based education learning system education so that graduates focus on learning outcomes that are in harmony with the discipline.

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