Urgensity of Synergy Between Industry and Educational Institutions Using Technology to Support Implementation Freedom to Learn-Independent Campus

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**Abstract.** The synergy between industry and educational institutions must be maintained in order to advance education in Indonesia. To strengthen the synergy between industry and educational institutions, the government launched the Freedom to Learn-Independent Campus program through the Ministry of Education, Culture, Research, and Technology. However, there are still numerous challenges to be overcome in practice. One of them is the condition that existed during the Covid 19 pandemic. In such cases, technology is one of the solutions that can be used to ensure that the educational process runs smoothly. This study is a descriptive study based on a literature review. Selecting topics, exploring, determining research focus, determining data sources, reading library sources, collecting research data, processing research note data, and compiling research results comprised the research design. Editing, organizing, and finding data are some of the data collection techniques employed. Interpretive and deductive analysis are the data analysis techniques used. The findings are as follows: 1) The relevance of industry needs and graduate competencies is critical for each educational institution to improve the quality of graduates. The more relevant the industry's needs are to the graduates' competencies, the more likely it is that they will be able to work well. 2) Industry involvement is very important in this freedom to learn-independent campus program. This is because industry is one of the places to focus on developing student competencies for a minimum period of 6 months or more. 3) The role of technology is one of the solutions to answer the challenges of education and the learning process during the pandemic. In this case, technology is divided into 3 aspects, namely information technology, educational technology, and tool/machine technology.

# introduction

In recent years, the development of education in Indonesia has become extremely dynamic. One of the most important factors is the pandemic situation caused by covid 19. Almost every aspect of education necessitates changes to existing conditions. Learning methods, media, mechanisms, technology, and curriculum are all examples of things that need to be tweaked. Since the pandemic, technology has become increasingly important in learning activities [1]. This is because the use of technology allows for learning interactions even when space for movement and face-to-face interaction is limited. Humans can still explore space and time with technology [2].

The entire structure of Indonesia's education system has changed dramatically since the COVID-19 pandemic. Especially in relation to the online learning process. This necessitates that all education providers, educators, and students be able to utilize and use technology in the learning process. If, prior to the pandemic, the learning process was dominated by face-to-face and offline interactions, this condition could no longer be maintained during the pandemic. This condition clearly poses its own set of challenges for education in Indonesia.

Changes in the structure of the education system in Indonesia are abrupt, necessitating quick adjustments. This represents a significant challenge for Indonesian educational development. All aspects of education must move quickly in tandem with technology to ensure that educational quality remains high even in the event of a pandemic. This condition necessitates that everyone in every circle be technologically literate and adapt to all current technological developments. Starting from basic education level to higher education.

Many new policies in educational institutions have been implemented in recent years. One of them is the freedom to learn-independent campus. This policy was implemented almost simultaneously with the emergence of the covid 19 outbreak. The freedom to learn-independent campus policy is a learning program policy that allows university students to study outside of their study program. The freedom to learn-independent campus policy applies to all universities in Indonesia. This policy represents the government's effort to fulfill students' rights and learning opportunities to gain competence and capabilities through a learning process outside of their study program. Depending on the policies of each university, this program may be equivalent to a number of course credits. Several universities have implemented a capability approach to their curriculum in order to implement the freedom to learn-independent campus program.

The policy regarding the freedom to learn-independent campus is in line with the national standards of higher education in Indonesia (SNDikti). According to Article 18 of the SNDikti in 2020, undergraduate or applied undergraduate students can fulfill their study period and load by: 1) participating in the entire learning process in study programs at universities according to the study period and load, and 2) participating in the learning process in the program. The rest participate in learning outside of the study program and study according to the period and study load. According to SNDikti article 15, the freedom to learn-independent campus program is facilitated by: 1) studying in another study program at the same university, 2) studying in the same study program at a different university, 3) studying in another study program at a different university, and 4) studying at non-university institutions. Industry is one example of a non-university institution.

The freedom to learn-independent campus program emphasizes the importance of students being able to study more freely, particularly in the industrial world. This is due to the fact that developments in the industry tend to be faster than those in universities. It is hoped that by participating in an internship program for a set period of time, such as 6 months, students will be able to learn firsthand how to get involved in the industrial world. Unfortunately, many industries are dissatisfied with student performance during the initial internship activities. One of the factors is the incompatibility of technological advances and competencies required by industry with those obtained by students during lectures [3]. As a result, collaboration between industry and universities is required to align competencies and developments in the workplace today [4]. This is critical because the vast majority of university graduates will go on to work in the industrial world.

The synergy between industry and universities must be maintained in order to advance education in Indonesia. Both parties must back each other up. To strengthen the synergy between industry and universities, the government launched the Freedom to Learn-Independent Campus program through the Minister of Education and Culture. However, there are still numerous challenges to be overcome in practice. One of them is the COVID-19 pandemic conditions. During the pandemic, students are unable to freely pursue internships in industry. This is because some industries are unwilling to accept offline students for direct internships. In these circumstances, technology is one of the solutions that can be used to keep internships running. Based on these conditions, a more in-depth study of the importance of using technology in an effort to synergize between industry and universities, particularly in the freedom to learn-independent campus program, is required.

# method

This study is a descriptive study based on a literature review. Selecting topics, exploring, determining research focus, determining data sources, reading library sources, collecting research data, processing research note data, and compiling research results comprised the research design. Editing, organizing, and finding data are some of the data collection techniques employed. Interpretive and deductive analysis are the data analysis techniques used.

# result and discussion

**Relevance of Industry Needs and University Graduate Competency Content**

Every educational institution is expected to produce superior and professional graduates in their respective fields. This is closely related to graduate employment in the industrial world. The more competent and qualified human resource graduates from a university, the more likely they are to be absorbed into the labor market [5, 6]. Unfortunately, the attainment of graduate competencies has not been fully optimized. This is due to a mismatch between industry requirements and the competencies taught in lectures. One source of this disparity is technological advancements in the industrial world, which are typically faster and more up to date than those in lectures [7].

One of the most visible differences between industry and educational institutions is in the field of technology. As a result, it is necessary to evaluate and update on a regular basis in order to determine the relevance of graduates' competencies to industry needs. Industry and educational institutions can conduct evaluations by collecting data and engaging in two-way communication. Holding a group discussion forum is one example.

The relevance of industry’s needs and graduate competencies is critical for each educational institution to improve the quality of graduates. The more relevant the industry's needs are to the graduates' competencies, the more likely it is that they will be able to work well. However, current conditions, particularly during the COVID-19 pandemic, have not yet fully enabled educational institutions to make significant breakthroughs in order to take action to equalize industry needs and graduate competencies. These are the elements: 1) There are still many educational institutions that lack complete or sophisticated equipment, such as in the industry, necessitating internships for lecturers and students to update their competencies. 2) Educational institutions are still constrained to equalize competence with industry because there is no intense two-way communication; 3) some industries are still apathetic to participate in the development of education in Indonesia; and 4) some industries still have low trust in interns to be able to work independently. 5) During the pandemic, many industries restrict internship activities by lecturers and students, preventing this collaborative activity from running optimally.

Some of the factors mentioned above are challenges that educational institution must face in order to adapt the competence of their graduates to the industrial world. The role of industry in the development of education in Indonesia is also critical. Furthermore, the current administration has established a campus program that allows students to learn independently. The industry should fully support this program so that the quality of education and graduates in Indonesia can become superior, qualified, and professional human beings.

**The Importance of Industry Involvement in the Freedom to Learn-Independent Campus Program**

The world of education is rapidly evolving, as evidenced by the emergence of technological innovations that necessitate changes to the educational system in a variety of ways. This must also be in sync with the demands of the workplace. Education should reflect a learning process capable of accommodating all of a student's potential in order to produce competent and professional graduates [8]. Furthermore, superior human resources play a significant role in Indonesia's national development [9]. So it should be if education is one of the priorities that must be developed and prioritized in Indonesia.

The process of developing education is not solely the responsibility of the government [10]. All citizens and aspects of life in Indonesia play their respective roles. One of them is industry. Industry, as an institution that will house graduates, should contribute to the preparation of high-quality graduates. This condition necessitates industry's willingness to participate and play an active role in the development of education in Indonesia. Among them is support for the Minister of Education and Culture's various policies.

The Freedom to Learn-Independent Campus program is one of the Minister of Education and Culture's policies that is being aggressively implemented. Industry is one of the non-educational institutions targeted by this program. Industry must be willing to provide students with internships for a set period of time. The industry has the authority in this program to the students it accepts to work according to the rules in the company.

Industry involvement is very important in this freedom to learn-independent campus program. This is because industry is one of the places where students can focus on developing their skills for a minimum of six months. This period is considered longer when compared to regular internship activities, which typically last only 2-3 months. It is hoped that with a longer period of time, students' competencies will be much more optimal.

**The Role of Technology in the Freedom to Learn-Independent Campus Program**

The development of education in Indonesia is always fraught with difficulties. In the learning process, there are no exceptions. The following issues are frequently encountered by students during the learning process: 1) it is difficult to learn abstract concepts, 2) it is difficult to imagine past events, 3) it is difficult to gain direct experience, 4) it is difficult to observe an object that is too big / small, and 5) difficulty understanding complex concepts, among others [11]. The existence of these issues necessitates the resolution of these issues in order for the learning process to function optimally.

The learning process occurs in a variety of ways in the freedom to learn-independent campus program. There are numerous options available to students in order to develop and acquire competencies relevant to their field. Students have the following options: 1) Students can study in different study programs at the same university; 2) students can study in the same study program at different universities; 3) students can choose to study at different programs. different studies at different universities, and 4) students can study in non-educational institutions such as in industry. The large number of options that students can choose, allows them to study in the classroom as well as outside the classroom. This condition will obviously provide different experiences and challenges.

The challenges in the development of education in Indonesia are becoming more diverse, particularly since the COVID-19 pandemic [12]. Many aspects of education, such as the learning process, must be adapted to current conditions. The role of technology is one of the solutions to the challenges of education and the learning process during the pandemic [13]. In this case, technology is divided into three categories: 1) information technology, 2) educational technology, and 3) tool/machine technology.

Information technology is one of the things that is constantly evolving and is inextricably linked to human life in this day and age. Especially during a pandemic like nowadays. Information technology is used as a means of distance communication in the field of education, particularly during the learning process. The pandemic condition prevents face-to-face/offline learning. As a result, the use of information technology has become one of the most important aspects of ensuring the continuity of learning activities. Zoom, Google Meet, WhatsApp, email, telegram, Instagram, Facebook, and other information technology tools are commonly used in the learning process. Various platforms were developed to facilitate communication without being limited by space and time.

Educational technology is one of the technologies that is crucial to the advancement of education in Indonesia. One of them is to support the campus's freedom to learn-independent program. If students choose to learn in a classroom or through theory, educational technology will be one of the things they encounter frequently. This is due to the fact that educational technology can aid in the facilitation of the learning process, thereby improving educational quality. Educational technology serves several functions in the field of education, including: 1) Improving educational quality by: a) assisting lecturers in better allocating time, b) advancing the stages of learning, and c) reducing the burden on lecturers in lecturing, allowing lecturers to facilitate discussions and develop learning processes for students. 2) Present a viewpoint on how education can be more individual, such as providing opportunities for students to develop individual potential and minimizing lecturer supervision. 3) Provide a more scientific foundation for learning through: a) systematic program planning; and b) the development of teaching materials based on scientific principles. 4) Improving lecturers' competence by broadening the scope of more concrete teaching; 5) Prioritizing equitable quality in education.

Furthermore, tool/machine technology also plays a role in the freedom to learn-independent campus program. The advancement of technology in the form of tools or machines that are more innovative and modern has a significant impact on students' competencies [14, 15]. Especially if the students will be working in industry later on. In accordance with current technological developments, adequate competence is required. It is hoped that graduates will be able to work well later in their careers.

# CONCLUSION

Based on the results and discussion, it can be concluded that: 1) The relevance of industry’s needs and graduate competencies is critical for each educational institution to improve the quality of graduates. The more relevant the industry's needs are to the graduates' competencies, the more likely it is that they will be able to work well. 2) Industry involvement is very important in this freedom to learn-independent campus program. This is because industry is one of the places to focus on developing student competencies for a minimum period of 6 months or more. 3) The role of technology is one of the solutions to answer the challenges of education and the learning process during the pandemic. In this case, technology is divided into 3 aspects, namely: information technology, educational technology, and tool/machine technology.

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# References

1. U. H. Salsabila, L. I. Sari, K. H. Lathif, A. P. Lestari, and A. Ayuning, “The Role of Technology in Learning During the Covid-19 Pandemic”, (Journal of Religious Research and Social Studies, 17(2), 2020).
2. A. Setiyowati, “The Role of Educational Technology in the Use of E-Learning as a Learning Platform During the Covid-19 Pandemic”, (Edureligia, 4(2). 2020).
3. R. Nurmalasari, B. Oktaviastuti, and E. Sutadji, “Vocational Education as The Answer of Challenges for Global Competition”, (Journal of Physics: Conference Series. Vol 1273, 2-5, 2019).
4. OECD, *Synergies for Better Learning: An International Perspective on Evaluation and Assessment,* (OECD, Israel, 2013).
5. B. Oktaviastuti, A. Dardiri, Nindyawati, and R.Nurmalasari, “The Correlation Between Industrial Support and Vocational Attitude Toward the increasing of Student’s Technical Skill on Building Drawings Engineering”, (Proceedings of IMEEEC 2016. Vol 1778, 1-6, 2016).
6. V. Klimuk, A. Tarasova, K. Yulia, and D. Laura, “Synergistic Interaction of Education, Science, and Industry”, (Leadership, Education, Personality: An Interdiciplinary Journal, 2(1), 2020).
7. J. Shen, Y. Zhu, and C. Ye, “Research on the Integrated Synergy Mechanism of Industry-University-Research Cooperation in Continuing Engineering Education”, (Journal of Mathematics, Science, and Technology Education, 14(5), 2018).
8. L. Hartiningtyas, Purnomo, H. Elmunsyah, and R. Nurmalasari, “Correlation Between Creative Thinking Skill and Competency Achievement with Vocational Maturity on Vocational High School”, (Proceedings of IMEEEC 2016. Vol 1778, 1-7, 2016).
9. R. Nurmalasari, P. Puspitasari, and Mardji, “The Role of Sarjana Mengajar’s Teachers for Student’s Outcomes on Vocational High School”, (Proceedings of IMEEEC 2016. Vol 1778, 1-3, 2016).
10. C.L.V. Thoms, and S. L. Burton, “Learning, Development, and Training: The Influence of Synergies through Educational Evolution”, (International Journal of Adult Vocational Education and Technology, 7(4), 2016).
11. J.M Spector, “Emerging Educational Technologies: Tensions and Synergy”, (Journal of King Saud University-Computer and Information Sciences, 26(1), 2014).
12. M. u. Gultom, “The Role of Educational Technology in Developing and Improving Educator Professionalism in the Era of the Industrial Revolution 4.0”, (Proceedings of the UNIMED Postgraduate Educational Technology National Seminar, Medan, 2019).
13. A. Widiyono, and Izzah Millati, “The Role of Educational Technology in the Perspective of Independent Learning in the 4.0 era”, (Journal of Education and Teaching, 2(1), 2021).
14. O. J. Oyebode, “Synergy Between Academia and Industries for Demand-Driven research and Optimal performance of Engineering Family”, (National Engineering Conference and AGM Kano, Nigeria, 2019).
15. U. Ernest, E. Helen A, E. Nathaniel, and E.Ernest A.C, “Effective Implementation of TVET- Industry Partnership for Employability of Graduates through Work Integrated Learning in Nigerian Universities”, (Review of Europe Studies, 8(3), 2016).