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Implementation of Competency-Based Curriculum in Higher Education: Challenges and Solutions

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ABSTRACT

This study aims to identify challenges and solutions in implementing competency-based curriculum in higher education in Indonesia. The research method used is a qualitative approach with interview techniques, focus group discussions (FGD), and observations at several universities. The results of the study indicate that the main challenges in implementing competency-based curriculum include limited lecturer readiness, mismatch between competencies taught and industry needs, limited facilities, and lack of understanding of competency-based curriculum. As a solution, this study proposes continuous training for lecturers, closer collaboration with industry, infrastructure improvement, and development of a competency-based evaluation system. It is hoped that this study will contribute to improving the quality of higher education by making competency-based curriculum more relevant and effective in preparing students to face the challenges of the world of work.

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1. INTRODUCTION

The development of higher education in Indonesia has undergone a significant transformation in the last few decades. One of the major changes implemented is the preparation of a competency-based curriculum (KBK) which aims to create graduates who not only have knowledge, but also skills and abilities that are relevant to the needs of the world of work. A competency-based curriculum prioritizes measurable learning outcomes, as well as an emphasis on achieving practical skills that can be applied in a professional context.

Although competency-based curriculum has been implemented in various higher education institutions, challenges in its implementation still remain. Various obstacles arise, ranging from limited resources, lack of teacher readiness, to the gap between the competencies expected by industry and those taught on campus. Thus, an in-depth study is needed to understand the problems that arise during the implementation of competency-based curriculum and find the right solutions.

Formulation of the problem

Based on this background, this study aims to answer several main questions, namely:

1. What are the challenges faced in implementing competency-based curriculum in higher education?
2. How to overcome these challenges to improve the effectiveness of competency-based curriculum?
3. What is the role of universities in adapting the curriculum to the needs of the job market and industrial developments?

Research purposes
This research aims to:
1. Identifying key challenges in implementing competency-based curriculum in higher education.
2. Analyze the solutions that can be adopted by universities to overcome these challenges.
3. Providing policy recommendations that can help universities improve the implementation of competency-based curriculum to make it more relevant to the demands of the world of work.

Benefits of research
This research is expected to contribute to enriching the literature on competency-based curriculum, as well as providing practical insights for related parties, such as policy makers, university administrators, and teachers, in facing existing challenges. With the results of this study, it is expected that the implementation of competency-based curriculum can be more effective, have a positive impact on the quality of graduates, and bring higher education closer to the needs of industry.

Previous Research
Several relevant previous studies have discussed the challenges and solutions in implementing competency-based curriculum in higher education. Some of these studies include: **Pratama, D., & Rahardjo, T. (2019)**in their study entitled "Evaluation of the Implementation of Competency-Based Curriculum in Higher Education", found that although the competency-based curriculum is well implemented in several study programs, there are still significant obstacles related to the readiness of lecturers and inadequate facilities to support competency-based learning. This study proposes the importance of continuous training for lecturers and improving educational facilities. **Sari, D., & Haryanto, B. (2020)**in their study titled "Challenges of Competency-Based Curriculum Implementation in Engineering Faculties", identified a gap between the competencies taught in universities and the competencies required by industry. The study recommends increased collaboration between universities and industry to ensure a more relevant curriculum. **Kusnadi, A., & Mulyani, F. (2021)**in their work entitled "The Role of Competency-Based Curriculum Evaluation in Improving Graduate Quality", revealed that although the implementation of competency-based curriculum can improve the quality of graduates, there are still problems related to less objective evaluation. This study suggests that competency-based curriculum evaluation be carried out in a more structured manner and based on feedback from various stakeholders.

2. RESEARCH METHOD

Types of research
This study uses a qualitative approach with a case study to dig deeper into the challenges faced in implementing competency-based curriculum in higher education, as well as solutions that can be applied. The qualitative approach was chosen because this study aims to understand the phenomena that occur in depth and contextually, as well as to reveal the perceptions, experiences, and views of various related parties.

Research Design
This study will use a qualitative descriptive design, which aims to describe in detail the challenges that arise in the implementation of competency-based curriculum in higher education, as well as solutions that can be attempted to overcome these challenges. This study also seeks to provide an overview of how competency-based curriculum is implemented in higher education, and how the effectiveness of its implementation can be improved.

Location and Subject of Research
This research will be conducted in several state and private universities that have implemented competency-based curriculum. The research subjects consist of:
1. Lecturerwho are directly involved in teaching and curriculum preparation.
2. Studentas the main user of competency-based curriculum.
3. Study program manageror academic management involved in curriculum planning and evaluation.
4. Industry or users of graduates, which provides input on the competencies expected of college graduates.

Data collection technique

To achieve the research objectives, data will be collected using several techniques as follows:

1. **In-depth Interviews**
   a) Semi-structured interviews will be conducted with lecturers, students, and study program managers to explore their views on the challenges and solutions related to implementing a competency-based curriculum.
   b) Interviews with industry will be conducted to determine whether the curriculum implemented is in accordance with job market needs.
2. **Focus Group Discussion (FGD)**
   a) The FGD will involve lecturers and students in group discussions to gain a broader picture of the challenges they face in implementing competency-based curriculum, as well as the proposed solutions.
3. **Documentation**
   a) Researchers will analyze curriculum-related documents, such as syllabi, Semester Learning Plans (RPS), and curriculum evaluation results at the universities that are the research locations.
4. **Participatory Observation**
   a) Researchers will conduct direct observations in the classroom to understand how the competency-based curriculum is applied in the daily learning process, as well as the interactions between lecturers and students.

Data Analysis Techniques

Data obtained from interviews, FGD, documentation, and observations will be analyzed using thematic analysis techniques. The steps to be taken in data analysis are as follows:

1. **Coding**
   Interview and FGD data will be processed through coding to identify key themes related to challenges and solutions in implementing competency-based curriculum.
2. **Categorization**
   The identified themes will be grouped into relevant categories, such as challenges related to curriculum, teaching, evaluation, resources, and relevance to industry.
3. **Interpretation and Drawing Conclusions**
   The categorized data will be interpreted to provide an in-depth picture of the challenges faced and the solutions that can be applied. The results of this analysis will be used to answer the problem formulation and research objectives.

Validity of Data

To ensure the validity and credibility of the data, this study will use source triangulation and method triangulation. Source triangulation will be carried out by collecting data from various parties, such as lecturers, students, study program managers, and industry parties. Method triangulation will be carried out by combining interview techniques, FGD, documentation, and observation to obtain a more holistic understanding.

Research Ethics

This research will follow applicable research ethics principles, including:

a) Obtain informed consent from the researched party.
b) Maintaining the confidentiality of data and respondent identity.
c) Ensuring that the research is conducted honestly and without bias.

3. RESULTS AND DISCUSSIONS

Challenges in Implementing Competency-Based Curriculum in Higher Education

Based on the results of interviews, FGDs, and observations at the universities that were the research locations, several main challenges were found in implementing competency-based curriculum in higher education, which can be divided into several categories as follows:

Readiness of Lecturers and Teachers

a. Lack of Professional Training: Most of the lecturers in the universities that were the subjects of the research revealed that they did not receive adequate training or provision in implementing

competency-based curriculum. This causes difficulties in designing and implementing a curriculum that prioritizes practical skills and competencies.

b. Reliance on Traditional Teaching Methods: Many lecturers still rely on conventional teaching methods (face-to-face lectures) that focus on theory, without integrating more applicable activities to develop students' practical skills.

Mismatch between taught competencies and industry needs

a. Lack of Industry Involvement in Curriculum Development: Some study programs do not involve industry in the preparation of the curriculum, which results in the competencies taught not being fully in line with the needs of the workplace. For example, in some engineering study programs, the curriculum focuses more on theory and basic knowledge, while practical skills needed by industry are not taught much.

b. Rapidly Changing Industry Needs: The industrial world is very dynamic, while changes in the curriculum in universities tend to be slow. This causes a gap between the competencies taught and those desired by the job market.

Limited Resources

a. Inadequate Facilities: In some universities, limited facilities and infrastructure are one of the major challenges. For example, the lack of software or practical tools needed to support competency-based teaching, especially in study programs that require technical skills.

b. Budget Limitations for Curriculum Development: Some universities also face limited budget problems, making it difficult for them to develop or update competency-based curricula in line with the latest developments in the industrial world.

Lack of Understanding of the Concept of Competency-Based Curriculum

a. Challenges in Implementation: Although competency-based curriculum has become a national policy, its implementation is still not fully understood by all parties in higher education. Several study program managers and lecturers find it difficult to translate competency-based curriculum theory into concrete practices in daily learning.

b. Resistance to Change: Some parties in higher education show resistance to change, especially lecturers who are accustomed to traditional teaching methods. They feel burdened by the demands to change learning methods and adapt to competency-based curriculum.

Implementable Solutions to Overcome Challenges

Based on the results of interviews and FGDs, several solutions that can be implemented to overcome these challenges include:

a. Lecturer Training and Development

1) Regular Training Program: One of the most frequently proposed solutions by respondents is the importance of providing regular training and development programs for lecturers. This training should focus on competency-based teaching techniques, the use of educational technology, and ways to develop learning materials that can develop students' practical skills.
2) Improving Collaboration Between Lecturers: Lecturers need to be encouraged to collaborate across disciplines in designing a more applicable competency-based curriculum. In addition, project-based learning can be introduced as a method to facilitate students' practical skills.

b. Collaboration with Industry

1) Curriculum Development Involving Industry: Universities need to strengthen their relationship with industry by involving them in curriculum development. This aims to ensure that the curriculum taught is in line with the ever-changing needs of the job market. In several study programs, curriculum adapted from industry standards has begun to be implemented.
2) Internship and Work Practice: Developing internship and work practice programs that are more integrated into the curriculum can be a solution to strengthen students' practical skills. By going directly into the industry, students will gain experience that is relevant to the world of work.

c. Improvement of Facilities and Infrastructure

1) Development of Facilities and Infrastructure: Universities need to allocate budget to improve competency-based learning facilities, such as the latest software, practical tools, and classrooms equipped with adequate information technology.
2) Use of Technology for Online Learning: The use of an effective e-learning platform to support online learning can be an alternative in overcoming the limitations of physical facilities. This platform allows students to access learning materials that are relevant to the expected competencies.

d. Preparation of a More Comprehensive Evaluation

1) Competency Based Evaluation: Evaluation should focus on measuring the competencies achieved by students, not just on academic grades. Project-based or portfolio-based evaluation methods can be used to assess the development of students' practical skills.
2) Feedback System Strengthening: Strengthening the feedback system from students and industry on the existing curriculum is very important. This can be done through surveys or discussion forums between universities and industry to assess the suitability of the competencies taught with the needs of the workplace.

Implications for Higher Education

Based on the findings of this study, universities need to immediately make improvements in several aspects related to the implementation of competency-based curriculum. More intense collaboration with industry, improving educational facilities and infrastructure, and strengthening lecturer competencies are strategic steps that need to be taken to create graduates who are ready to face the increasingly complex challenges of the world of work. In addition, competency-based evaluation and the development of more flexible and applicable teaching methodologies are also urgent needs.

Discussion

Challenges in Implementing Competency-Based Curriculum

Readiness of Lecturers and Teachers

One of the main findings in this study is the gap in the readiness of lecturers to implement a competency-based curriculum. This curriculum requires lecturers to not only master theoretical material, but also have the ability to teach practical skills and develop competency-based learning that can be applied in the workplace. However, the lack of professional training that focuses on competency-based teaching is a major obstacle. This shows that lecturer education and training need to be continuously updated and adjusted to developments in industry needs and the latest teaching methodologies. A competency-based curriculum requires more dynamic teaching and is based on learning by doing, not just theoretical lectures.

Meanwhile, the reliance on traditional teaching methods that focus more on delivering materials orally without providing students with opportunities to develop practical skills is also still an obstacle in implementing a competency-based curriculum. This indicates that there is a need to change the way lecturers teach and plan lessons.

Mismatch between taught competencies and industry needs

One of the biggest challenges found in this study is the mismatch between the competencies taught in universities and the needs of industry. This is rooted in the lack of industry involvement in curriculum development. Although there are efforts to align the curriculum with the needs of the workplace, industry involvement in the curriculum development process in many universities is still limited. For example, many engineering study programs focus more on theory and basic concepts, while practical skills needed by companies or industries are not taught optimally.

Rapid changes in the industrial world often leave higher education lagging behind in responding to these needs. Therefore, it is important for universities to strengthen collaboration with industry in designing and updating the curriculum to be more relevant to the needs of the dynamic job market. Industry involvement is also important to provide direct input on what competencies are needed and how universities can prepare students to enter the workforce with the appropriate skills.

Limited Resources

Limited facilities and infrastructurealso a major obstacle in the implementation of competency-based curriculum. Several universities involved in this study experienced difficulties in providing adequate facilities to support practical skills-based teaching. For example, the lack of practical tools, special software, or facilities to support industrial simulations. Adequate facilities are essential to ensure that students can develop the skills needed in the workplace.

In addition, budget constraints also affect the ability of universities to update or improve competency-based curriculum. Universities should consider allocating a larger budget to infrastructure development and improving the quality of teaching so that competency-based curriculum can be implemented more effectively.

Lack of Understanding of the Concept of Competency-Based Curriculum

Uneven understanding of the concept and implementation of competency-based curriculum in higher education is also one of the main challenges. Some study program managers and lecturers do not fully understand the essence of competency-based curriculum, which emphasizes the mastery of practical skills and abilities, not just theoretical knowledge. Without a deep understanding, it is difficult to translate this concept into real practice in learning.

In addition, resistance to change from some lecturers also worsens the implementation of competency-based curriculum. Universities that are accustomed to traditional teaching models need to be encouraged to adapt to a curriculum that is more focused on competencies and practical skills.

Implementable Solutions

Lecturer Training and Development

The main solution proposed by most respondents is the importance of continuous training and development of lecturers. Lecturer education is not only limited to improving the subject matter of the subject, but must also include competency-based teaching methodologies. Continuous training for lecturers to introduce them to more applicable teaching techniques, such as project-based learning and collaborative learning, can help mitigate this challenge. Universities also need to facilitate opportunities for lecturers to collaborate with industry professionals in designing teaching materials and curricula.

Collaboration with Industry

Collaboration with industrybecome one of the key solutions to overcome the mismatch between the competencies taught and those needed by the world of work. By involving industry in the preparation of the curriculum and the preparation of learning modules that are more based on practical skills, universities can ensure that students not only learn theory, but also skills that are relevant to the job market. In addition, a more structured and integrated internship program in the curriculum will provide students with the opportunity to gain practical experience in the industrial world.

Improvement of Facilities and Infrastructure

Universities should invest more budget to improve infrastructure and educational facilities that support competency-based teaching. For example, updating software, providing practical tools, and creating classrooms equipped with the latest technology. By having adequate facilities, students can develop skills that are in accordance with industry standards. The use of e-learning platforms can also be a solution to overcome physical limitations and expand access to competency-based learning.

Preparation of a More Comprehensive Evaluation

Competency-based evaluation should be a priority in a competency-based curriculum. This evaluation does not only focus on written exams or tests, but also on projects, portfolios, and practical skills that students have achieved during the learning process. This more comprehensive evaluation can help show the development of student competencies more accurately. In addition, a strong feedback system from students and industry will help universities to continuously update and improve the curriculum to stay relevant.

Implications for Higher Education

Based on the research findings, universities in Indonesia need to develop long-term strategies that involve improving the quality of lecturers, collaborating with industry, and improving facilities to optimize the implementation of competency-based curriculum. In addition, developing a curriculum that is responsive to changing industry and job market needs must be a top priority for universities so that graduates can be better prepared to face professional challenges.

4. CONCLUSION

This research identifies key challenges in the implementation of competency-based curriculum in higher education, including limited lecturer readiness, mismatch between the competencies taught and industry needs, limited resources, and uneven understanding of the curriculum. Proposed solutions to overcome these challenges include continuous training for lecturers, strengthening collaboration with industry, improving supporting facilities and infrastructure, and developing a competency-based evaluation system. Universities need to take strategic steps to improve the quality of education, including designing a curriculum that is more responsive to changing industry needs, in order to prepare graduates who are ready to face the challenges of the world of work. This research is expected to provide insights and contributions to improve the quality of higher education in Indonesia. Translated with DeepL.com (free version) Overall, although the implementation of competency-based curriculum in higher education faces various challenges, the right solutions can help optimize its implementation. Improved lecturer training, more intense collaboration with industry, and the development of infrastructure that supports practical skills-based teaching are important steps that need to be taken. With a more holistic competency-based evaluation, students can be better prepared to face the demands of an increasingly competitive world of work. Therefore, universities need to continue to adapt and update the curriculum to be more relevant to industry needs, so that graduates can have skills that are in line with the times.

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