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## Academic Capability Under the Lens: Analyzing the Comprehensive Exam Program

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### ABSTRACT

This program evaluation is intended to describe the results of the comprehensive examination program for prospective teachers in all science fields. The results of this program evaluation are expected to make a specific contribution to the sustainability of the comprehensive examination program being held and are expected to contribute to education in general. This program evaluation uses the CIPP (Context, Input, Process and Product) evaluation model. Data sources for this program evaluation consist of documents and human resources. Based on the results of a thorough evaluation of the comprehensive examination program, it can be concluded that recommendations to improve the effectiveness and sustainability of this program are very important. Evaluations covering context, input, process and product aspects show that there are several areas that need to be improved and improved. An effective and sustainable comprehensive examination program is not only an evaluation tool, but also an integral part of their academic and professional career development. With a holistic and sustainable approach, study programs can ensure that comprehensive exams provide maximum benefits for students and educational institutions as a whole.

**Keywords:** comprehensive examination, academic ability, evaluation

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## 1. INTRODUCTION

Quality education is the key to the success of a country. A country will progress and be successful if it is supported by quality education, but vice versa, if the education is not of good quality then of course the country will not be developed, because education will give birth to leaders with character to build a country. Education is closely related to the presence of teachers in it. An educator is required to be professional to produce quality students. Professional teachers not only teach but also guide, direct, organize and manage the class so that students can learn and ultimately reach a level of maturity as the ultimate goal of the educational process. The existence of professional teacher candidates is one of the responsibilities of higher education, especially educational institutions and education personnel who need to strive to dynamicize the learning process in higher education. In an ever-evolving world, technology continues to change and develop. Prospective teachers who need to improve their technological skills, pedagogy and good content knowledge can more easily overcome the challenges that arise along with changes in technology, so they will be able to remain relevant in delivering lesson material (Herring et al, 2016). The ability to master content and good pedagogy allows prospective teachers to be more creative in designing innovative learning experiences.

Education in higher education must be able to create professional teachers who are ready to face challenges in the real world. With an effective and efficient learning process in accordance with the curriculum, universities can prepare prospective teachers to be more prepared and effective in teaching. By understanding the principles of teacher professionalism, prospective teachers in higher education can become more effective learning facilitators, responsive to technological developments, and better prepared to teach in the context of modern education. Professionalism emphasizes mastery of knowledge or management skills along with implementation strategies. Professionalism is not just knowledge, technology and management but more of an attitude, developing professionalism is more than a technician not only having high skills but also having the required behavior (Mustofa, 2007). Professional Indonesian teachers are required to have: (1) A strong knowledge base as an embodiment of the technological society and scientific society in the 21st century; (2) Mastery of professional tips based on research and educational practice, namely educational science as a practical science, not just mere concepts. Education is a process that occurs in the field and is scientific in nature, and educational research should be directed at the educational practice of Indonesian society; (3) Continuous professional capability development. The teaching profession is a profession that develops continuously and continuously between LPTK and educational practice. The smallness of the teaching profession and educational science is caused by the disconnection of pre-service and in-service programs due to rigid bureaucratic considerations or weak education management (Noorjanah, 2014).

One study program that also seeks to produce professional teachers and identified researchers is the science education study program at one of the state universities on the island of Sumatra. Lectures carried out in this study program with a load of 149 credits for students are quite a long process and require monitoring and evaluation that is well managed in order to produce science teacher candidate graduates who meet the expectations of all parties. The field of education is cognate with the field of science, requiring concentration for the study program to make good efforts in producing prospective teachers who have competency standards that are also cognate with the

professionalism of science teachers which can be measured including mastery of science material, concepts and scientific mindset, mastery of competency standards and basic competencies in science subjects, and development of science learning materials in accordance with the competencies to be achieved. The National Science Teachers Association (NSTA) in the context of Science for all Americans mapped out various components that should be the focus of attention in science teacher education (Duggan-Haas, 1999). Standards in the science family that need to be mastered by prospective teachers also need to be given deep attention in the implementation of the learning process in higher education. The results of the initial identification carried out in this study program provide an illustration that at the end of the semester, students are required to take a comprehensive exam organized by the study program. The results of interviews with students who had gone through the comprehensive examination process stated that the examination results obtained were quite difficult to achieve a passing standard score. The information obtained from the examining lecturers shows that many students still repeat more than three times to achieve passing the comprehensive exam. Other information obtained based on the results of the search is that this study program is one of the study programs that maintains comprehensive examinations for its students among other study programs at the universities that accommodate it which have abolished the administration of comprehensive examinations for students.

Based on the initial identification carried out, this program evaluation is intended to describe the results of the comprehensive examination program for prospective teachers in all science fields. The results of this program evaluation are expected to make a specific contribution to the sustainability of the comprehensive examination program being held and are expected to contribute to education in general. The specific objective of this program evaluation is to analyze the effectiveness and efficiency of the comprehensive examination program. By conducting a program evaluation, it is hoped that the evaluation results can contribute to decision making regarding program sustainability so that it can more optimally support efforts to improve the quality of graduates. Based on the background described previously, evaluating this program is considered important because in the process of implementing it, students' comprehensive exam results from year to year have not shown improvement. Analysis needs to be carried out to evaluate the suitability of the material, learning process and questions tested in the comprehensive examination program. It is hoped that the evaluation of this comprehensive examination program can contribute to study program decision making for the sustainability of the program and is expected to provide innovative and optimal alternative efforts so that the effectiveness and efficiency of the program can support the quality of graduates. In accordance with the background that has been described, the research questions are formulated as follows: RQ 1: How is the comprehensive exam managed in terms of context, input, process and product aspects?; and RQ 2: What are the recommendations for the sustainability of a comprehensive examination program based on the CIPP model evaluation?.

## **2. METHODS**

This program evaluation uses the CIPP (Context, Input, Process and Product) evaluation model. The CIPP model is the evaluation model most widely used by evaluators. The CIPP (Context, Input, Process, and Product) Model Evaluation was initiated by Daniel L. Stufflebeam in 1965. The evaluation design is a scheme as embodied in the CIPP model

which describes a general process for determining program value plus a specific plan to assess its context, input, process, and products. Each specific plan describes the methods and schedule for collecting, analyzing, and reporting the required quantitative and qualitative information (Stufflebeam, 2015). The CIPP evaluation model is based on the view that the important goal in program evaluation is not to prove, but to improve. The CIPP evaluation model was chosen based on the suitability and advantages of the CIPP model. The advantages of the CIPP Model are: (a) it is more comprehensive or complete in gathering information because the object of evaluation is not only the results but also includes context, input, process and product; (b) improve and develop a program; (c) present information related to decision making; (d) provide feedback for ongoing program development. Apart from the advantages of the CIPP evaluation model, there are also weaknesses, including: (a) the evaluator's views may not be in line with the views of decision makers regarding program preparation steps and program components; (b) the focus of evaluation is very much emphasized on the results of program evaluation. The components contained in the CIPP model evaluation are context evaluation, input evaluation, process evaluation, and product evaluation (Mulyatiningsih, 2014). Data sources for this program evaluation consist of papers (in the form of documents and other written materials) and people. The evaluation procedure for a comprehensive examination program using the CIPP model is shown in Figure 1.

The general procedure for implementing this evaluation follows the following steps: (1) needs assessment, determining objectives and supporting factors for implementing the evaluation; (2) identify and detail program components and indicators; (3) preparation of grids and indicators for instrument items; (4) compiling evaluation instruments; (5) develop evaluation implementation procedures; (6) collect data or information related to program implementation; (7) analysis and interpretation of evaluation data; and (8) drawing conclusions and submitting recommendations.

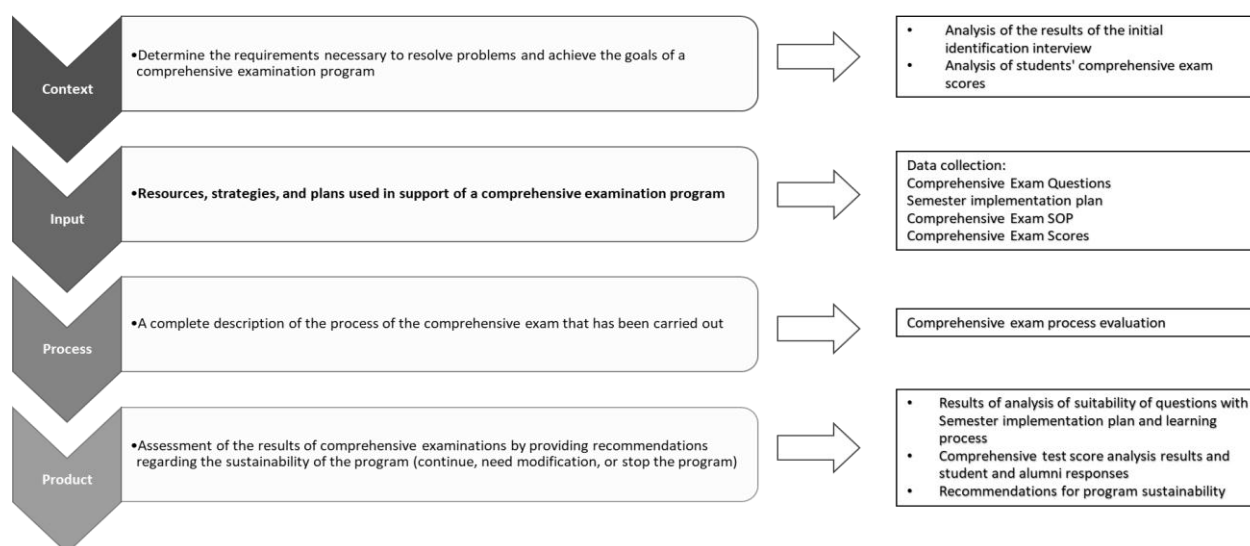


Figure 1. Comprehensive examination program evaluation procedure using the CIPP model

Comprehensive examination program evaluation parameters are shown in table 1. The aim of establishing program evaluation parameters in this program evaluation is to ensure that the evaluation is carried out systematically, objectively and comprehensively.

Evaluation parameters are designed to: (1) reduce subjectivity in assessment; (2) helps evaluators to focus on important aspects that need to be evaluated; (3) increasing transparency in the evaluation process; (4) provide a solid basis for providing specific and useful feedback; (5) assist in planning and developing more effective programs in the future; (6) help create a culture of continuous improvement and quality improvement in the educational process. Thus, comprehensive examination program evaluation parameters play an important role in ensuring that evaluations are conducted in a manner that is methodical, fair, and beneficial to all parties involved.

Table 1. Comprehensive exam program evaluation parameters

| No. | Evaluation Stage | Aspect                        | Indicator                                                                                                                                                                                                                                                                              |
|-----|------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Context          | Study Program Curriculum      | Information about graduate profiles, the need for comprehensive examinations to support the achievement of improving the quality of graduates                                                                                                                                          |
|     |                  | Program Substance             | Information about the purpose of conducting a comprehensive exam and the suitability of the test materials with the study materials in the study program curriculum                                                                                                                    |
| 2   | Inputs           | Study Program Coordinator     | Information about comprehensive exam management and the obstacles experienced                                                                                                                                                                                                          |
|     |                  | Lecturer                      | Information about the strategies and plans used in preparing for the comprehensive exam                                                                                                                                                                                                |
|     |                  | Student                       | Information regarding student profiles regarding mastery of concepts and readiness to face comprehensive exams                                                                                                                                                                         |
| 3   | Process          | Study Program Coordinator     | Information on exam question management, standard operating procedures, time, place and costs for implementing a comprehensive exam program                                                                                                                                            |
|     |                  | Student                       | Information about the implementation of the comprehensive exam and the obstacles experienced while taking the comprehensive exam until passing.                                                                                                                                        |
|     |                  | Lecturer                      | Information about the implementation and problems encountered during the management (planning, implementation and evaluation) of the comprehensive exam as well as input for improving the management of the comprehensive exam                                                        |
|     |                  | Graduates                     | Information about the implementation of the comprehensive exam and the obstacles experienced while taking the comprehensive exam until passing it as well as input for improving the management of the comprehensive exam                                                              |
| 4   | Product          | Students and graduates        | Information regarding the impact and results of comprehensive tests obtained is one of the considerations in recommendations for continuing program evaluation                                                                                                                         |
|     |                  | Comprehensive Exam Management | Obtained overall information regarding the comprehensive examination process to measure, interpret and decide the results that have been achieved by the program, namely whether it has been able to meet the needs in accordance with the study program's expected objectives or not. |

### 3. RESULTS AND DISCUSSION

#### RESULTS

##### **Comprehensive exam management is reviewed from the context, input, process and product aspects**

The results of the comprehensive examination program evaluation in terms of context, input, process and product aspects are presented based on document analysis and analysis of the results of interviews conducted. In terms of context, the comprehensive examination program is not written in the study program curriculum, but is an inseparable part of the student's thesis examination which has an assessment weight of 30% of the total thesis examination score. This is quite interesting because the comprehensive examination program is one of the components of the proposal seminar scores, results seminars and student trial assessments. The study program assesses that the comprehensive examination program carried out still needs to be maintained to maintain the quality of graduates. The evaluation results on the context aspect also show that students take a comprehensive exam and are faced with a choice of 5 test items, with specifications for 1 educational area and 4 content areas. Students are required to choose educational test subjects and may choose only 3 content areas. The comprehensive exam program carried out is prepared with test materials created by a team of lecturers according to their areas of competence so that the test materials are in accordance with the study materials in the study program curriculum.

In the input aspect, comprehensive exam management does not have significant obstacles. Several things, such as the preparation of test materials made by the lecturer team, have been scheduled and mutually agreed upon at the comprehensive exam preparation coordination meeting in the study program. In practice, the comprehensive exam is carried out classically with 3 stages. If a student does not pass the first stage, there are still two opportunities to improve the quality of the score to the minimum completion criteria. If a student has not passed 1 education test and 3 content field tests after going through 3 classical stages, then the student goes through the next stage, namely through a comprehensive test by dealing directly with the lecturer on the test material that has not been passed. Examining lecturers at the final stage for students who do not pass the classical stage are determined by the study program. During the implementation of the comprehensive examination program, the study program management stated that there were no obstacles in its implementation because the lecturer team played a role and participated well. Apart from the procedures for carrying out comprehensive exams, in the input aspect there are components that really need to be paid attention to, namely mastery of concepts and students' readiness to face comprehensive exams. This component is the main component because it determines the results obtained by students to facilitate the process towards the thesis examination.

In the aspect of the comprehensive examination program process, the evaluation results show that the SOP (Standard Operating Procedure) used has been well structured, covering all stages of the examination from preparation, implementation, to evaluation. However, some administrators indicated the need for revisions to adapt to the latest developments in the field of study. SOPs have been socialized to lecturers and students, but implementation in the field is sometimes inconsistent. The time for the comprehensive exam has been clearly determined and well scheduled. The exam venue is generally adequate, with a fairly large room and complete facilities. However, some students reported technical problems such as projectors not working properly or uncomfortable chairs. The costs for

carrying out comprehensive exams are only intended for preparation of print outs of exam questions and answer sheets as well as consumption for supervisors and there are no fees charged to students. The implementation of the comprehensive exam takes place according to the established schedule, with strict supervision to maintain the integrity of the exam. The exam is carried out offline so it does not require an online network. College students often face high levels of psychological stress during exams, which affects their performance. Some students reported difficulty in understanding exam questions which were considered too complicated or not appropriate to the material being taught. Graduation rates are generally low, but some students have met the graduation standards set for each term. Post-exam evaluation showed that some questions were irrelevant or too difficult, affecting the pass rate. Comprehensive exam planning was carried out well, but there were deficiencies in coordination between the parts involved. In general, the exam went smoothly. The exam supervision system is good and cheating is very rare. Evaluation of exam results is carried out transparently, but the assessment process often takes a long time so that exam results are announced late. Feedback from students regarding exam questions is often not followed up properly by the management.

At the product aspect evaluation stage, it was shown that the comprehensive exam was successful in measuring students' mastery of the lecture material as a whole. However, there are still many students who are not able to demonstrate in-depth understanding and good analytical skills. Most students still have difficulty in certain topics. Students who successfully pass comprehensive exams tend to have better critical and analytical skills. This exam also encourages students to study independently and develop effective study strategies. Comprehensive exam results are used as an indicator of student readiness in facing the thesis exam. Students who pass this exam well tend to be more confident. Comprehensive exam pass rates are generally quite low, indicating that the majority of students are not able to meet the set standards. Most students have to retake the exam. Graduates who successfully pass the comprehensive exam demonstrate good quality in knowledge and skills, in accordance with the study program objectives. This exam is an effective selection tool to ensure that only students with adequate competency can graduate.

### **Recommendations for the sustainability of comprehensive examination programs**

The evaluation results show that the study program has not made adequate coordination efforts in several important aspects related to the comprehensive exam. First, there has been no organized discussion regarding the sustainability of a comprehensive exam program, which includes a long-term plan to ensure the exam remains relevant and useful for students. Second, the effectiveness of comprehensive exams has not been thoroughly evaluated, so there is no accurate data on how well they measure student academic achievement and support the learning process. Finally, the efficiency of conducting comprehensive exams has also not been discussed, including the use of available resources and time.

## **DISCUSSION**

### **Comprehensive examination process based on context, input, process and product**

A comprehensive exam is a comprehensive evaluation that is given to students to test their mastery of all the material they have studied during a certain period, usually at the end of the study program. Comprehensive exams are an important form of evaluation in the

world of higher education which aims to measure students' overall understanding of the material they have studied during their study program. The main purpose of comprehensive examinations is to ensure that students have achieved an adequate level of understanding of the material taught during the course of study (Gronlund et al., 1990). In the context aspect, this comprehensive examination program can be maintained with the readiness of the study program to implement program management well. Comprehensive exam design plays a key role in determining the success of such evaluations. Implementation of comprehensive exams requires attention to factors such as validity, reliability, and fairness. There is a need to develop improved performance models to measure student achievement as a whole, taking into account student diversity and learning contexts (Fuller, 2012). The impact of comprehensive examinations on learning is also an important area of research. Various studies have shown that well-designed comprehensive exams can promote deeper learning and a more solid understanding of the course material (Misra et al., 2000).

Comprehensive exams are designed to measure students' mastery of material in a comprehensive way. Various assessment techniques are used in this exam to get a comprehensive picture of a student's abilities. The following are several assessment techniques that are often applied: (1) Multiple choice questions; (2) Long and short essay questions; (3) Case analysis or case studies; (4) Oral presentation or seminar; (5) Structured projects or assignments; (6) Practical or simulation tests; (7) In-depth interviews; (8) Work portfolio; (9) Peer assessment; (10) Specific skills tests, such as laboratory or demonstration. With these various assessment techniques, educational institutions can ensure that all aspects of students' understanding and skills regarding the material have been assessed correctly and fairly.

Comprehensive exams have become an integral part of higher education evaluation systems, but their effectiveness and efficiency are often the subject of debate among experts. The implementation of comprehensive exams basically has several advantages, including: (1) Comprehensive exams can be effective in measuring students' overall understanding of the subject matter they have studied. This can provide a clear picture of the extent to which students have achieved the learning objectives that have been set; (2) A well-designed comprehensive exam can encourage students to synthesize and integrate knowledge from various subjects or topics; (3) The process of preparing for and taking comprehensive exams can help students to develop critical thinking, analytical and communication skills that are important for success in their professional careers in the world of work. The weaknesses in implementing the Comprehensive Examination: (1) Preparing for and facing comprehensive examinations often creates high levels of stress and pressure for students; (2) Comprehensive exam designs that are too general or broad can result in a lack of specificity in measuring student understanding; (3) Too much focus on comprehensive exam preparation can lead to learning focused on remembering facts and information, rather than on deep understanding of concepts and application of knowledge in relevant contexts (Zhang, 2020; Wu, 2021; Benn, 2021).

The evaluation results of the comprehensive exam program on the input aspect need to consider students' mastery of concepts and readiness to face the comprehensive exam. Study programs need to make appropriate efforts to improve students' mastery of concepts and readiness for the material being tested. Of course, this condition requires a long process because students are expected to be able to master the concepts of the material through a quality learning process. Lecturers need to develop strategies and choose the right approach in teaching so that the concepts can be fully understood by the students they teach. In an



effort to achieve this goal, study programs must implement various innovative and interactive learning methods. One strategy that can be applied is the problem-based learning method which emphasizes solving real problems as a means of mastering concepts. This method encourages students to think critically, conduct research, and apply theoretical knowledge in practical contexts, so that they can understand and remember the material better (Ali, 2019; Hung et al., 2020; Bili et al., 2022). Collaboration between lecturers and students is also an important key in improving concept mastery. Continuous evaluation also needs to be implemented to ensure that the strategies used are effective. This evaluation is not only limited to exam results, but also includes monitoring student progress during the learning process. Lecturers can use various forms of evaluation, such as quizzes, assignments, and presentations, to measure mastery of concepts holistically. In this way, lecturers can identify areas that need improvement and make adjustments to the teaching strategies used. Additionally, it is important to create a supportive and motivating learning environment. Students need to feel comfortable and motivated to learn, so that they can more easily absorb the material being taught. Support from lecturers, adequate academic guidance, and access to quality learning resources are important factors in creating a conducive learning environment. Therefore, to improve students' mastery of concepts and readiness to face comprehensive exams, study programs need to adopt a holistic and sustainable approach. The combination of innovative teaching strategies, use of educational technology, active collaboration between lecturers and students, continuous evaluation, and a supportive learning environment will provide optimal results. In this way, students can be better prepared to face comprehensive exams and be able to master concepts in depth.

Preparation for comprehensive exams for students also needs to be done with students in good emotional and mental health. In order to obtain good emotional health for students in carrying out learning activities, of course they need to be given full support by parents and lecturers. Providing support can be done through simple things, one of which is by providing positive affirmations verbally and non-verbally. Affirmation can be interpreted as a form of reinforcement, affirmation, confirmation that can influence one's behavior to bring out abilities and strengths from within oneself. Psychological affirmations are very powerful in influencing positive changes in a person's personality. One technique of giving affirmation can be using positive sentences, praise, appreciation, or simple visual gifts that someone likes (Wahiddah et al., 2022). Apart from that, students who have self-regulation are able to motivate themselves to set personal goals, plan strategies that will be carried out in order to achieve these goals, and evaluate the behavior that has been carried out. When students are able to evaluate their behavior, students can be more responsible for learning so as to create independence for themselves to learn through self-regulation (Purwaningsih et al., 2020). It is possible that students' emotional and mental health conditions and good regulation will provide optimal results in obtaining satisfactory comprehensive exam results.

Evaluation of process aspects in a comprehensive examination program needs to consider various factors, including the level of stress experienced by students. Comprehensive exams that take place in several stages, especially for students who do not pass on the first try, can cause significant levels of stress. This level of stress has the potential to disrupt students' academic and mental performance, as well as prolong their study period. Stress is the result of an imbalance between demands and a person's ability to cope (Folkman, 2020). In the context of comprehensive exams, high academic demands and pressure to pass can exceed students' coping abilities, resulting in excessive stress. Study

programs should seek effective strategies to help students manage stress during preparation and implementation of comprehensive exams. One approach that can be taken is to provide psychological support through counseling services. Adequate psychological support can help students develop effective coping strategies, so that they can face exams with more calm and confidence. Academic counselors can provide guidance regarding time management, relaxation techniques, and effective study strategies, all of which can help reduce students' stress levels (Saunders et al., 2013). Apart from that, study programs also need to evaluate and improve the structure of the comprehensive exam itself. A review of the exam schedule, exam format, and assessment methods can be carried out to ensure that the exam process does not become too burdensome for students. For example, setting a more flexible exam schedule can give students more time to prepare well. In terms of exam formats, using a wider variety of evaluation methods such as projects or presentations, in addition to written exams, can help reduce pressure and give students the opportunity to demonstrate their understanding in different ways. Other expert opinions suggest the importance of a continuous academic support program. Students who feel supported by their academic environment are more likely to be successful and persist in college. Implementing tutorial programs, academic guidance, and comprehensive exam preparation workshops can be concrete steps taken by study programs. Preparatory workshops can include material reviews, practice questions, and exam simulations, all of which are designed to increase student confidence and readiness (Tinto, 2012). In this case, it is also important to ensure that comprehensive examination policies and procedures do not hinder the thesis examination process. Study programs must find ways so that students can proceed to the thesis examination stage without unnecessary delays due to failure to pass the comprehensive examination. One solution that could be considered is to provide quicker retake opportunities, so that students do not have to wait too long to correct their failures. In addition, study programs can consider introducing a remediation system that allows students to correct certain parts of the exam that they did not pass, rather than having to retake the entire exam. Thus, evaluation of the comprehensive examination process must include a comprehensive and holistic approach. Reducing students' stress levels and ensuring their graduation is based on fair and equitable outcomes is key to their academic success. Study programs that are proactive in supporting students through these various efforts will help create a healthier and more productive learning environment.

### **Recommendations for the sustainability of a comprehensive examination program based on the CIPP model evaluation**

Evaluation of a comprehensive student examination program that includes context, input, process, and product aspects provides very important insights for recommendations for the program's sustainability. Each aspect provides a different but interrelated view in an effort to increase the effectiveness and efficiency of comprehensive exams. Evaluation of context aspects includes analysis of the internal and external environment that influences the implementation of comprehensive exams. Context evaluation aims to identify existing needs and opportunities (Shinkfield, 2007). In this case, understanding academic demands, student needs, and industry or professional competency standards is very important. Study programs must ensure that comprehensive examinations are relevant to educational objectives and professional demands in related fields. Additionally, understanding student characteristics, including educational and cultural backgrounds, can help in designing more inclusive and fair exams. Evaluation of the input aspect focuses on the resources used in

carrying out comprehensive exams, including students' mastery of concepts and their readiness for the exam. The quality of input really determines the final result of the educational process. Based on this evaluation, study programs need to allocate adequate resources to support student preparation, such as providing comprehensive study materials, intensive training, and effective academic guidance. Lecturers must also be given training to develop innovative and interactive teaching strategies, in order to improve students' mastery of concepts. Evaluation of process aspects includes analysis of how comprehensive exams are carried out, including exam structure, assessment methods, and student experiences during the exam. Students' academic success is greatly influenced by their involvement in the learning process (Tinto, 2012). Therefore, study programs must ensure that the examination process is designed to minimize stress and maximize active student participation. Psychological support, flexibility in exam schedules, and variations in assessment formats are some of the steps that can be taken to improve the exam process. Evaluation of product aspects focuses on the final results of comprehensive examinations, including graduation rates and the quality of competencies achieved by students. Product evaluation in education involves measuring learning outcomes and their impact on future performance (Kirkpatrick et al., 2006).

Based on the results of evaluations using the CIPP model, study programs must set clear and objective standards for assessing student competency. In addition, feedback from exam results should be used to continuously improve study programs, both in terms of curriculum and teaching methods. Based on the evaluation results of these four aspects, several sustainability recommendations can be proposed. First, study programs need to develop policies that are adaptive and responsive to student needs and industry demands. This includes periodically revising the curriculum to ensure the relevance of the material taught. Second, strengthening academic and psychological support for students is very important. Counseling services, tutoring, and coping skills training can help students face exams better. Third, the comprehensive examination process must be designed to be more inclusive and flexible. The use of technology in administering exams, such as e-learning platforms and simulations, can provide a better experience for students. Lastly, continuous evaluation and feedback should be an integral part of the study program. Data from evaluation results must be used to continuously improve the quality of teaching and the implementation of comprehensive examinations. By implementing these recommendations, study programs can ensure that comprehensive examinations are not only an evaluation tool, but also a means of improving the quality of education and professional readiness of students.

#### 4. CONCLUSION

Based on the results of a thorough evaluation of the comprehensive examination program, it can be concluded that recommendations to improve the effectiveness and sustainability of this program are very important. Evaluations covering context, input, process and product aspects show that there are several areas that need to be improved and improved. First, context evaluation helps understand the academic and professional environment in which the comprehensive exam is administered. Second, the input aspect highlights the importance of good preparation from students and adequate teaching support from lecturers. Third, evaluation of process aspects shows the need for exams

designed to reduce student stress and maximize their active participation. Fourth, the product aspect emphasizes the final results of the comprehensive exam, namely the graduation rate and quality of competencies achieved by students. Recommendations for establishing clear evaluation standards, using exam result feedback for continuous improvement, and ensuring that passing exams does not hinder the continuation of students' academic processes, such as thesis exams, are key to the long-term success of this program. Overall, the implementation of these recommendations will help improve the quality of education and professional readiness of students. An effective and sustainable comprehensive examination program is not only an evaluation tool, but also an integral part of their academic and professional career development. With a holistic and sustainable approach, study programs can ensure that comprehensive exams provide maximum benefits for students and educational institutions as a whole.

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