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Comprehension of elementary teacher education's students as future teachers toward the implementation of the independent curriculum principles

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ABSTRACT

This research is a qualitative descriptive study to measure students' level of comprehension in elementary teacher education at Khairun University toward implementing the principles of the independent curriculum. The independent curriculum makes it easy for teachers and students to conduct learning according to student's needs. Even though it has superior values compared to the previous curriculum, the independent curriculum presents other problems. Therefore, understanding the principles of implementing the curriculum is essential to analyze so that the difficulties faced by students are immediately known as a preventive measure. The subjects of this research were 30 students in semester IV. The instruments used were tests and interviews. The test instrument consists of 36 description questions and an interview consisting of five main questions. Based on the test results, it was found that students needed to understand the implementation of the principles of the independent curriculum well. All students needed more understanding, starting from the learning components, implementation, and final evaluation. The interview results also strengthened the comprehension test results. Students said that limitations in seeking additional information and different learning and assessment processes confused them with the independent curriculum. One of the solutions is special training and assistance for students to develop independent curriculum products such as teaching modules or student worksheets as instruments in carrying out assessments.

1. Introduction

The independent curriculum is the curriculum currently used in Indonesia. This curriculum is a development of the 2013 curriculum. The 2013 curriculum places more emphasis on intracurricular learning. Character development and extracurricular activities should be more attention in this curriculum. This causes students to pay attention to their interests and talents in the class. Apart from that, thematic learning creates more and more material, so it takes time without a deep understanding of the concepts. The solution to these various problems is an independent curriculum. The government's commitment to improving national education is the basis for constantly updating educational tools, including the curriculum. Through the Decree of the Minister of Education, Culture, Research and Technology of the Republic of Indonesia, Number 56/M/2022, concerning guidelines for implementing the curriculum in learning selection.

Simplifying material and providing particular space for students with unique talents and interests are some of the advantages of the independent curriculum.This curriculum has the potential to improve the overall quality of schools and contribute to the academic success of Indonesian participants [1]. The independent curriculum also provides the opportunity to develop multiple intelligences in the Indonesian curriculum. The existence of developed multiple intelligences can contribute to developing students' potential holistically, preparing them to achieve academic success and become empowered individuals [2]. Empowered individuals can make decisions under any circumstances using their academic abilities.

Another advantage of the independent curriculum is that it is more straightforward but has more profound meaning, and teachers and students can choose models, media, and learning practices [3]. Teachers focus more on understanding concepts with less material, and the problems presented can be solved through student collaboration. Apart from that, the independent curriculum is also more relevant to the demands of the times, namely collaborative and digital-based [4]. This is based on the values of Pancasila students, one of which is cooperation and a global perspective. Teachers can bring in practitioners who have expertise in the material presented. Learning with an independent curriculum prioritizes the principle of working with partners appropriate to the learning. Providing material directly by experts can provide examples of real experiences for students [5].

Curriculum innovation is a manifestation of the government's efforts to improve the quality of learning outcomes, the quality of teachers, the formation of good character in students, and the digitalization of schools. The 4.0 revolution in the 5.0 era requires students to understand the material with a global perspective and understand developments in the digital world. Understanding the digital world is about getting to know it and using and mastering digital ethics [6]. Search for necessary information, do not spread hoaxes, and use social media and other digital devices without harming others or breaking the law. The principle used by teachers in preparing digital-based learning is using the TPACK principle [7]. TPACK is an abbreviation for Technological Pedagogic Content Knowledge when a teacher's teaching ability is combined with the application of technology in the learning process.

Teachers, as intermediaries between the curriculum and students, are expected to be able to eliminate the distance between the differences between the 2013 curriculum and the independent curriculum. Pedagogical and professional competence are the primary capital in implementing the new curriculum [8]. The ability to manage a good class and realize that a teacher's job is to carry out duties according to applicable regulations, so changing the curriculum is part of the job of being a teacher. This includes keeping up with current developments in integrating digital technology into learning. A close relationship exists between teacher professional competence and skills needs in the 21st century. The competencies possessed by teachers can help develop learning suitable for the 21st century [9], [10]. The use of interactive learning media, digital games, and applications on gadgets is a form of teachers being adaptive to change. As is known, teachers are the dominant element and the most strategic subject in the knowledge transfer process [11]. The teacher has the role of directing learning from beginning to end, so the students want to achieve what the teacher directs and conveys.

Why is it important to focus on students' understanding of the independent curriculum? Because the independent curriculum has several differences from the previous curriculum [12]. Design learning plans with different components to complete types of assessment in each stage, namely diagnostic, formative and summative. Thematic learning has been changed again to each subject. Basic competencies and core competencies are combined into learning outcomes. This is a change that students need to get used to when applying the curriculum later when working [13]. Their self-regulation also influences PGSD students' readiness to face the independent curriculum [14]. Students must improve the quality of understanding they already have and prioritize critical thinking. As future teachers, it is essential to prepare students in the field of education to face the various challenges they will encounter. One of them is the curriculum, which continues to change. Related to the subject of this research are fourth-semester PGSD students who graduate two or several years later and work as teachers, so they need to be prepared to understand the curriculum currently used in learning.

Some of the facts obtained are that students experience difficulties adapting materials, media, and facilities to the independent curriculum [15]. Students need help adapting materials, media, and facilities to the independent curriculum. Project-based learning requires many media to be used, and

students are also active in finding solutions to the problems being studied [15]. One of the preparations provided is through the Learning Planning course, which contains several learning outcomes students must meet. These learning outcomes include understanding the independent curriculum in outline and the components of the teaching module as a reference for implementing learning. The output of this course is that students can create teaching modules that comply with standards and use them in teaching practice. Teaching modules that comply with standards have several components that must be fulfilled, and the writing must also be correct. During 16 meetings, students were guided to organize these components coherently, starting from the identity of the teaching module to the assessment and reflection sections. This explanation is reinforced by several studies that have been conducted previously, that regular meetings with coherent delivery of material and direct product development are more effective than just providing written material for students to study themselves [16]–[18]. Not only guidance from the lecturer but also students holding discussions with colleagues so that not only is the project achieved at the end of the meeting but also skills. The independent curriculum components are strengthened, and interaction skills between students and teachers are taught [19], [20]. These skills also support the implementation of the curriculum. Based on the description above, students' comprehension, especially in the Primary School Teacher Education at Khairun University, needs to be analyzed so that the deficiencies that must be deepened are known in detail.

2. Method

2.1. Research Design

This qualitative descriptive study explains the comprehension of elementary teacher educatuon's students as future teacher candidates toward implementing the independent curriculum. Descriptive research does not provide any treatment to research subjects. This research only looks at the extent to which PGSD students understand the independent curriculum as a learning tool they will apply when they become teachers in the future. Sample selection was conducted using purposive sampling of fourth-semester elementary teacher education students with low, medium and high abilities based on GPA scores. Students are given 36 essay questions and continue with an interview. The data obtained was analyzed using the formula presented by Arikunto and continued with a descriptive narrative.

2.2. Respondent

Thirty students were given an comprehension test to measure the extent of their readiness for implementing the independent curriculum. The students studied were in the fourth semester of the elementary teacher education's students at Khairun University. Thirty-six essay questions given to students have been validated by the learning planning development team and applied to the independent curriculum. Starting from the differences between the independent and previous curriculum, the components of the independent curriculum and the evaluation are part of the questions that students must answer.

2.3. Data Collection

The collection is collected through two methods: test and non-test. First, give a test with 36 descriptive questions and continue with an interview. To measuring the comprehension of elementary teacher education's students, they were given 36 descriptive questions from the learning outcomes used in the Elementary Learning Planning course and referred to the implementation of the independent curriculum. The details of these questions are presented in the following Table 1.

Table 1. Learning Outcomes (LO/CPL) and Number of Question

Number of LO	Learning Outcomes	Number of Question
1	Analysis of the 2013 curriculum and the independent curriculum	1-8
2	learning objectives flow (ATP)	9-17
3	Operational verb	18-19
4	Selection of independent curriculum learning approaches, strategies, methods, models and techniques	20
5	Learning scenario	21-22
6	Determining media and learning sources	23-24
7	Preparation of assessment tools	25-29
8	Teaching Module (Lesson Planning)	30-36

Each question has a different maximum score with the total correct score being 105. Besides giving questions, the data collection technique is collected through interviews. The interview guide has five main questions that can be developed according to the information obtained. The five questions are: (1) Do you understand the independent curriculum?; (2) Do you understand the differences between the independent curriculum and the 2013 curriculum?; (3) Do you know the components of the independent curriculum?; (4) What difficulties do you encounter when studying the independent curriculum?; and (5) Have you tried participating in activities (seminars, workshops) that can support your comprehension of the independent curriculum? Data analysis for the comprehension test uses the formula presented by Arikunto. The total scores obtained by students are then analyzed as follows.

$$\text{Score} = \frac{total\ score\ obtained}{maximum\ score} \times 100 \text{ [21]} \quad (1)$$

The scores obtained in percentages are then converted as in Table 2. The conversion results show the level of students' understanding of the implementation of the independent curriculum.

Table 2. Criteria of Score

Score	Criteria
0 – 39	Not Feasible
40 – 55	Less Feasible
56 – 75	Moderate
76 – 100	Feasible

3. Result and Discussion

3.1. Result

Based on the comprehension test, all students need help understanding the implementation of the independent curriculum well. Thirty students were in the criteria of not understanding with a score of 0 – 39. The average score obtained by students was 28.03. This value is in the don't understand category. The maximum score can only be obtained on 1 question, number 6. The maximum score obtained is 3; on average, students get this maximum score. None of the 35 questions received a maximum score. More detailed results are presented in the Table 3.

Table 3. Comprehension Test Results of Learning Outcomes 1 (CPL 1)

Number of Test Item	1	2	3	4	5	6	7	8
Max Score/ Item	5	3	3	2	2	3	7	3
Average	1	2	2	1	1	3	1	1

The Table 3 shows that for learning outcomes 1 of the 8 question items, only number 6 gets the maximum score. Seven other question items received an average score below the maximum score. Learning outcomes 1 is a topic regarding the differences between the independent and previous curriculum, starting from the components to the implementation of learning. The average differs from the maximum scores for question items 1 and 7. Number 1, with a maximum score of 5, only gets an average of 1. In number 1, the difference between the implementation of the 2013 curriculum and the independent curriculum is in principle, starting from the components to its implementation. Students must explain this. In number 7, students are asked to explain how Pancasila values are integrated into learning in the independent curriculum. The answers presented by the students could have been better, namely that applying the six values of Pancasila can be adjusted to the needs of the material and students. These six attitudes can be conveyed in a variety of lessons. Different from Table 3, the results in Table 4 contain one number that does not reach the maximum score, that is number 9. In number 9, students must explain the meaning of the learning objectives. The maximum score that can be achieved is 2, but the average score only reaches 1.

Table 4. Comprehension Test Results of Learning Outcomes 2 (CPL 2)

Number of Test Item	9	10	11	12	13	14	15	16	17
Max Score / Item	2	2	1	4	3	2	4	2	2
Average	1	2	1	4	3	2	4	2	2

For learning outcomes 2 overall, the results are quite good, which can be seen in the other eight numbers, which get an average score according to the maximum score that can be obtained. Topics related to the flow of learning objectives can be understood by students well, see Table 5.

Table 5. Comprehension Test Results of Learning Outcomes 3 (CPL 3)

Number of Test Item	18	19
Max Score / Item	2	12
Average	1	3

Learning Outcomes 3 only has 2 question items; they are numbers 18 and 19. Neither of these two question items reached the maximum score, especially number 19. Number 19, with a maximum score of 12, only got an average score of 3. Number 19 is a question that requires students to mention the level of operational verbs in Bloom's taxonomy and examples. Students must describe six levels, but no one answer covers all of them, see Table 6.

Table 6. Comprehension Test Results of Learning Outcomes 4 (CPL 4)

Number of Test Item	20
Max Score / Item	2
Average	1

Table 7 displays the results of CPL 4, where there is only one question item, that is number 20. The maximum score that can be obtained is 2, but the overall results of students are only able to get an average score of 1. In this number, the question given is "name one one approach/strategy/method/model/and learning technique that is appropriate to use in the independent curriculum and explain the reasons!". Students need to be able to give correct answers in accordance with the principles of the independent curriculum.

Table 7. Comprehension Test Results of Learning Outcomes 5 (CPL 5)

Number of Test Item	21	22
Max Score / Item	4	1
Average	4	0

There are two numbers in Table 8, which discuss learning outcomes 5. This LO discusses learning scenarios. Number 21 asked about the implementation of learning scenarios in the 2013 curriculum and the independent curriculum. All students were able to answer these questions perfectly, so they got the maximum score. For number 22, no students answered correctly, as seen from the average score, which only got a score of 0. The problem presented was regarding the division of learning scenarios into three important activities. The three activities are introduction, core, and conclusion. Basic topics are actually topics that often create difficulties for students.

Table 8. Comprehension Test Results of Learning Outcomes 6 (CPL 6)

Number of Test Item	23	24
Max Score / Item	2	2
Average	1	1

Table 8 shows that two question items in Learning Outcomes 6 do not reach the maximum score that can be achieved. Each of these questions gets an average of 1 and has a maximum score of 2. Numbers 23 and 24 discuss the use of learning media. The importance of using media and choosing the right media for learning the independent curriculum is something that students must understand. The independent curriculum prioritizes diagnostic assessments and the implementation of summative and formative assessments. This assessment material is in questions number 25 and 26. Question number 25 asks about the meaning of diagnostic assessment. This assessment is carried out before the material is given, see Table 9.

Table 9. Comprehension Test Results of Learning Outcomes 7 (CPL 7)

Number of Test Item	25	26	27	28	29
Max Score / Item	2	4	1	1	5
Average	1	1	0	0	1

The goal is for teachers to know which parts students need to strengthen and focus more on to optimize learning time. The results of the analysis of students' answers to this number were that only 19 people who were able to answer, and overall, no one got the maximum score. Not much different from question 25, the analysis results on question 26 also illustrate that students do not understand

the implementation of summative and formative assessments. The maximum score for number 26 is 4, but the average score students achieve is only 1, see Table 10.

Table 10. Comprehension Test Results of Learning Outcomes 8 (CPL 8)

Number of Test Item	30	31	32	33	34	35	36
Max Score / Item	2	10	2	2	4	1	1
Average	1	1	0	0	0	0	0

The question in the easy category and related to the independent curriculum is number 32 with the question, "Name the components that are not in the 2013 curriculum and are in the independent curriculum!". The correct answer is Pancasila's student profile, understanding meaning, trigger question, and reflection. Only three students could answer this question, but not with a perfect answer. One subject that is also difficult for students is the assessment section. Assessments in the independent curriculum and the 2013 curriculum are different. Besides from terminology differences, the independent curriculum's assessment stages have also experienced several changes. The research results show that students' comprehension is still low (Not Feasible). The scores obtained by students are still far from the average standard. The expected category is that students can be in the moderate category with a score of 56 – 75. Several question numbers that score 0 are types of questions included in the easy category/LOTS (Order Thinking Skill) category. The results of interviews with students also strengthen the presentation of the results above. This student with the initials N said that the independent curriculum is more suitable for current educational needs, but students still don't seem to understand it well enough. This happened because when schools were used to the 2013 curriculum, and it was reinforced at the start of lectures, related tasks were still given within the scope of the 2013 curriculum. Another student, AK, stated that his understanding of the independent curriculum was still lacking. When taking a test for understanding the implementation of the independent curriculum, she felt difficulties, especially with the new terms that appeared. Moreover, AK also did not upgrade herself through workshops or seminars toward the independent curriculum.

3.2. Discussion

A summary of the results of interviews with 30 students shows that understanding the independent curriculum is not optimal. Students are still getting used to the 2013 curriculum and all its components. The change from the 2013 curriculum to the independent curriculum, which experienced changes to several components and learning processes, meant that students needed to learn more. Most students experience difficulties in understanding the independent curriculum in parts of the learning process that require digital-based global insight or refer to one of the Pancasila student profiles. Not only that, but students are also confused about making assessments. Differentiation in the independent curriculum is one of the obstacles to realizing planning and learning. How to adapt the method of delivering material to the character of each student and how to prepare appropriate assessments for different students are questions that arise from this principle of differentiation. If you apply this differentiation principle, value delivery must also be adjusted. As in question item 25, presented in Fig. 1, one of the students' answers needs to be corrected.

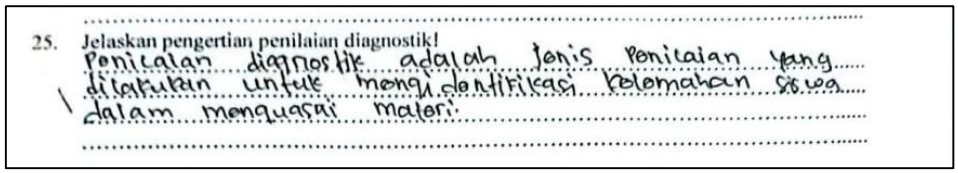
25. Jelaskan pengertian penilaian diagnostik!
Penilaian diagnostik adalah jenis penilaian yang dilakukan untuk mengidentifikasi kelemahan siswa dalam menguasai materi.

Fig. 1. Student Answer Number 25

Question number 25 asks about diagnostic assessment. This assessment is used to assess the initial condition of students so that later, the information collected can be used as a basis for learning. The student's answer is limited to understanding diagnostic assessment and does not include the purpose of the assessment. Carrying out assessments or diagnostic assessments aims to adapt the learning process to students' abilities [22]. This activity's importance also shows how a teacher can prepare learning well. As [23] state, teachers have an essential role in the classroom. Future teachers can prepare to carry out the learning process optimally when they become teachers. Answer number 26 is an example of a student who does not understand the assessment in the independent curriculum, see Fig. 2. The answers written by students regarding summative and formative assessments in the image below are correct but incomplete.

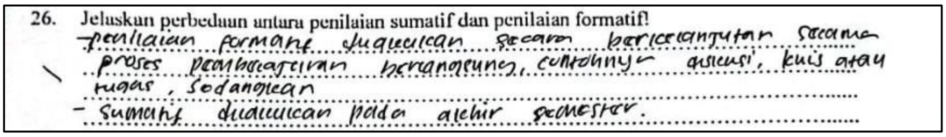
26. Jelaskan perbedaan antara penilaian sumatif dan penilaian formatif!
- penilaian formatif dilakukan secara berkelanjutan selama proses pembelajaran berlangsung, contohnya diskusi, kuis atau tugas, sedangkan
- sumatif dilakukan pada akhir semester.

Fig. 2. Student Answer Number 26

The purpose of the two assessments is not stated, even though "Explain" refers to everything related to formative and summative assessments. Being an elementary school teacher is not an easy job. Mentally, preparing yourself to face children of playing age is a challenge. This challenge must still be compounded by the importance of preparing and using appropriate teaching materials. Prepare and use the material and adapt it to student criteria and learning objectives so that it is easy to understand [24]. The government and other educational institutions have presented many activities related to the socialization of the independent curriculum through various kinds of training, workshops, and seminars, which can be accessed online and offline. Many of these activities are also held for free, making it easier for students. Students tend to rely on information from lectures. Several courses that support curriculum comprehension include educational curriculum courses, curriculum review, and learning planning [25]. Classroom learning is only done once a week for a few hours, so the knowledge lecturers provide is less than optimal. Students are expected to be able to increase their knowledge through active independent learning activities. Apart from the obstacles explained above, students also need to be equipped with an understanding of solving problems in the field. Primary school education faces challenges implementing character education due to inadequate school facilities, unsupportive family conditions, and lack of community support. Lack of teacher understanding of the curriculum, lack of socialization process for the new curriculum, lack of teacher awareness, and low teacher motivation are also found in implementing the independent curriculum [26], [27]. Learning needs related to the digitalization of learning refer to TPACK, as explained in the introduction [7]. Obstacles were also found in this case. Teachers experience obstacles in comprehending the curriculum when using technology [28]. If you know the obstacles that may occur, you can make more efforts to prevent them when future teachers are at the student stage, equipping them with problem-solving skills. Digital environments must be designed and taught to future teachers as applied subjects and infrastructure components [29]. If it becomes an infrastructure component, student discipline will be formed to continue preparing themselves.

Student motivation to understand the independent curriculum needs to be increased. Instill the importance of preparing adequate skills to become a teacher during practice on courses and after graduation to compete for jobs. This motivation applies not only to students but also to teachers who are currently experiencing difficulties in implementing the independent curriculum. The role of driving schools is vital in this regard; School principals are tasked with fostering work enthusiasm in their environment through innovative programs in schools [30]. The main aim of holding this driving school is apart from fostering work enthusiasm in the school environment among teachers; it also seeks to produce students who have the six Pancasila student profiles and also prepare the golden generation of 2045 [31]. Support for implementing an independent curriculum is also needed from lecturers in higher education [32]. However, not all independent curriculum implementations experience problems in their implementation in schools; several schools stated that implementing the new curriculum had no difficulties and was in line with students' current needs. This condition is also influenced by teacher readiness and available facilities and infrastructure [33]. Therefore, university lecturers must be competent to face new challenges in today's digital society. Digital technical and pedagogical competence allows teachers to enrich their teaching, develop their students' digital competence, and continue to develop professionally. Regarding the level of digital teaching competence, most university teachers appear to have sufficient digital technical competence. However, results regarding the pedagogical use of technology are still mixed, with lower levels of technology used to develop their teaching [34]. The current fact in the field is the low level of teacher digital competence and competence in evaluating educational practices [35]. If examined more deeply, the role of universities as producers of teachers is vital, especially in how lecturers guide their students in preparing themselves.

The education provided by lecturers while studying at their institution in the aspects of knowledge and skills in the field of study and pedagogy becomes the basis for new teachers in starting their careers as professional teachers in schools. An excellent educational process has produced teachers with good competency categories in various aspects [36]. High professionalism

guarantees the formation of positive motivation for the educational process of future teachers, as well as deepening and expanding pedagogical knowledge. This makes it possible to master the professional abilities and skills of future teachers entering the world of work in pedagogical environmental education [37]. The independent curriculum is also implemented in universities. Integration between technology and education can improve the quality of learning. Adapting to current developments can help students broaden their horizons. Students' readiness to have complete and good teaching competencies is proof of their readiness to enter the world of work.

4. Conclusion

The comprehension of elementary teacher education's students at Khairun University is unsatisfactory. All students were in the category of not feasible. A total of 36 essay questions did not reach the maximum score in the process. This requires special attention because the students being tested are in the fourth semester, which is almost the final stage of their education. The solution to the problems experienced by students is to create face-to-face seminars in the campus environment. The seminar can be followed up with training/workshop/Focus Group Discussion activities that discuss the principles of an independent curriculum or the development of independent curriculum products. These activities can be a stimulus to increase student cpmprehension.

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