Trial Result of Module Based on Case Method for Early Childhood Education Seminar Course

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Abstract. This research to determine the results of testing case method-based teaching materials in early childhood eduaction seminar courses. This research is development research. Based on of the validity test using the Aiken V formula, an average result of 0.76 was obtained, which means that media experts and material experts gave scores that tended to be consistent. However, there needs to be improvement in the presentation of cases that need to be analyzed by students. The results of the ICC analysis of expert tests obtained a result of 0.625, which shows that the experts agreed in giving the value so that the results were valid. The trial was carried out on a sample of 23 students from the Department of Early Childhood Education with average result of 3.69, which means the good category makes it suitable for use as teaching material in early childhood education seminar courses.

Keywords: seminar course, research and development, case method

1 Introduction

The demand to prepare graduates as future leaders of excellence and character must accommodate various experiential learning programs on flexible pathways. It is hoped the students will be able to develop their potentials according to their talent and passion. So the government policy regarding Independent Learning is a way to explore the potential of educators and students and improve the quality of learning which is a real step in preparing graduates who are ready and relevant to the need of the 21st century [1]. So teaching and learning activities which have so far focused on developing hard skills and neglected developing soft skills need to be balanced.

Changing the learning model according to expectations must also be facilitated with teaching materials that are able to cover the shortcomings of the previous learning model. The teaching materials provided by lecturers should be relevant to achieving the desired soft skills and hard skills, so they are not just theoretical teaching materials. Students of program study early childhood education Medan State University need to be facilitated with teaching materials that can present cases in the field, this is done so that students have the soft skills needed in the 21st century era. Many research results regarding the use of the case method show that the activities learning with this method is very effective when applied to various learning materials, because it can influence learning outcomes both in terms of understanding concepts, attitudes, and provide wider benefits to learning activities, namely being able to

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improve communication skills and better thinking [1].

Apart from that, according to T. Morrison in [17] case-based learning has many goals, namely 1) making students master the learning content because they are already familiar with real cases found, 2) this case-based activity is very supportive students to collaborate in problem solving discussions, 3) make students' thinking skills more honed, 4) improve students' communication skills because when discussing cases students are used to conveying their ideas orally, 5) improve students' research skills because when doing the case method students required to research the case information being discussed, 6) students by using the case method also aim to be able to act to interpret, transfer, test and change known knowledge in other contexts.

Case-based learning is a learning approach used in various disciplines, in which students apply their knowledge to real life scenarios, which promotes higher levels of cognition. In case based classes students usually work in groups on case studies, which are stories involving one or more characters and/or situations. Case studies present a problem or problems related to a particular scientific discipline, which must be solved by students with guidance from the lecturer. Case-based learning has a strong history of implementation in medical, law, and business schools, and is increasingly being used in higher education, especially in pre-professional and professional majors. This method involves guided inquiry and is based on constructivism, in which students form new meaning by interacting with the student's knowledge and environment.

One of the teaching materials in the Medan State University study program early childhood education that needs to be developed using the case method is the early childhood education seminar course. Teaching materials are an important part of learning and are part of teaching resources. This is defined as something that contains a learning message of either a specific or general nature that is used for the benefit of the learning process [9]. This course has a content of 3 credits which students can learn in semester 6th. This course provide skills and abilities for students to understand the nature of seminars, design and skillfully carry out seminar activities in the program study early childhood education. However, before being able to practice this seminar, students must first understand the material regarding the problems of implementing early childhood education. These problems include problems related to children, problems experienced by early childhood teachers, problems related to school facilities and infrastructure, problems related to early childhood management and early childhood education problems related to parents or the community. The problems found will be discussed with relevant theories after that, look for alternative solutions to solve the problem, then carry out seminar practice based on the proposals that have been prepared by the students. This early childhood education seminar provides students with the skills to prepare a thesis research proposal and practice presenting it. All of this skill organized into 16 meeting that provide practical learning experiencesand theoretical.

Case method-based teaching materials need to be developed because (1) teaching materials require examples of real cases in the application of science; (2) existing teaching materials are still limited to theory, and (3) build students' abilities to understand, solve problems, apply the material in early childhood education seminar lectures [12]. So, in this research, case-based teaching materials will be developed for early childhood education seminar courses which were not previously available in the program study of early childhood education, Medan State University.

2 Research Method

This research is development research or research and development (RnD), the type of research used to test the effectiveness and produce certain products and of the method [3]. The product in this research is case method-based teaching materials in early childhood education seminar courses. developing these teaching materials, one development method was determined, the development method by Borg & Gall which can be systematically see in the picture below:

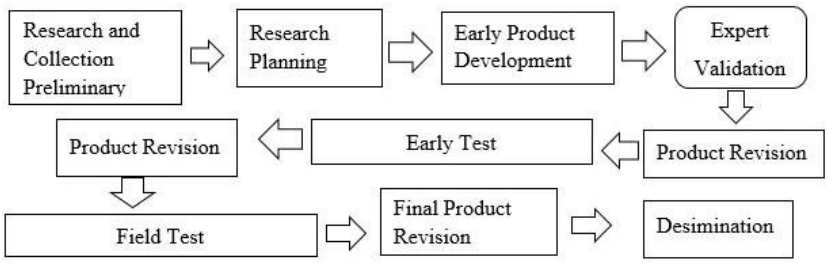

Fig.1. Borg and Gall Product Development Stage [Assyauqi, 2020]

The population are all early childhood education students who attended lectures in early childhood education seminar courses totaling 154 students and the sample for this research was 23 students.

Data collection techniques are the way researchers use to collect data [14], data collection was carried out by means of literature studies, interview and distributing questionnaire. Literature study was as a basis for developing teaching materials for the early childhood education Seminar course, questionnaires were given to validating the design by experts and test practicality based on questionnaire distributed to students, interviews were conducted to find detailed information regarding the use of teaching material by student [13], so that to collect this data an instrument will be prepared in the form of a Material and Media Expert Validation Questionnaire as well as interview guidelines for students.

Data analysis is measuring or calculating indicators to find out patterns of relationships in the data collected in research [15]. The data analysis technique used is a validity test using Aiken's V to see the confirmation between experts in giving value the product being tested [16], then a reliability test is carried out using the Interclass Correlation Coefficient (ICC) [7]. Qualitative data from questionnaires in small and large group trial, will be analyzed using data steps of data reduction, data presentation and verification [18]

3 Result and Discussion

This research applying the development method by Borg and Gall. The first step is the preliminary research stage, then continued with planning so an initial product could be prepared to be tested. Then continues with product revisions and trials to can be disseminated.

3.1 Preliminary Research

Preliminary research are needs analysis, library research and literature study. A needs analysis to see the extent to which case method-based teaching materials in early childhood education seminar courses to be developed, the analysis also to see the possibility of implementation the developing of teaching materials in terms of human resource and implementation time, the research was upcoming by small research to get through literature study. Literature study to find out several things that are considered to product being developed, preliminary research in this was analyzing the Semester Learning Plan in the play course for early childhood in medan state university, after that analysis was also through literature study and interviews with lecturers and students. The results of interviews with students who have taken early childhood education seminar courses show that most of the difficulties faced in this course are the difficulty of providing appropriate solutions to early childhood education problems in the field due to students' lack of ability to analyze these problems. Initial analysis needs to be carried out so that the research carried out is right on target [5].

3.2 Planning

The 2nd stage in this research is planning the objectives of the research. The purpose of this research is to create a case method based teaching material in early childhood education seminar courses.

3.3 Initial Product Development

This research was continued with Early Product Development which is included determine the product design being developing, the teaching material being developing include: (1) the nature of seminars and scientific activities other than seminars, (2) the design of a seminar activity, (3) procedures for seminars and discussing seminar participants, (4) early childhood education problems that can be presented in seminars and 5) preparation of scientific work that can be presented in seminars.

3.4 Initial Product Trial

The early product trial seeing expert opinions regarding the development of the early design of the teaching material preparing by the researchers, in this case the researcher design validation by involving experts who are experienced in developed teaching materials and experts have experience in early childhood education seminar learning, result the assessment was by experts, after that a validity test using the Aiken V formula. The results of this test can be explained through the table below:

Table 1. Validity Test Results

Indicator	V	Criteria	indicator	V	criteria
1	0,89	Valid.	8	0,78	Valid.
2	0,78	Valid.	9	0,78	Valid.
3	0,67	Valid.	10	0,89	Valid.
4	0,67	Valid.	11	0,56.	Valid.
5	0,89	Valid.	12	0,78.	Valid.
6	0,56	Valid.	13	0,89.	Valid.
7	0,78	Valid.	14	0,78	Valid.

The value of average validity test is 0.76, the value in the range of the valid category ($0.4 \leq V \leq 0.8$), based on thes results it can be explain that expert consistent giving the values, experts recommendations to improvement are obtained, namely Experts are of the opinion that improvements are needed in the presentation of cases in the discussion chapter on teaching materials, then an interclass correlation reliability test is caried out, the results of this test are below:

Table 2. ICC Analysis Results Expert Test

Cronbach's Alpha	Interclass Correlation
0,925	0,625

Based these results of the analysis, the alpha value is 0.925 which is more than 0.5 and the ICC value obtained is 0.625 which is greater than 0.5. These results indicated thre are agreement between experts in giving scores. This shows that the results are not too far from each expert in correcting the results of the module developed by the researcher.

3.5 Major Product Revisions

The major product revision focuses on improving the presentation of cases in the discussion chapter on teaching materials. This aims to make it easier for students to determine and analyze problems found in the field and present them in the form of a scientific work that can be presented. This is in accordance with several previous studies which explain the importance of revising products so that weaknesses in the product can be corrected properly [10]. The biggest improvement in this module is that the case presentation is not very detailed so that students are still a little confused when starting to analyze the cases presented in the module.

3.6 Key Product Trials

After completing the revision of the main product, Main product trials were conducted. At the primary product testing stage involving 7 sample people, the results of the primary product testing are shown in the table below:

Table 3. Product Trial Results

Rated aspect	Subject Assessment							Average	Information
	1	**2**	**3**	**4**	**5**	**6**	**7**		
Appropriateness of content	3,75	3,65	3,65	3,75	3,50	3,50	3,50	3,61	Good
Suitability of presentation	3,50	3,33	3,67	3,33	3,40	3,50	3,50	3,46	Good
Language	3,50	3,40	3,50	3,75	3,50	3,50	3,67	3,55	Good
Count	10,75	10,38	10,82	10,83	10,40	10,50	10,67		
Average	3,58	3,46	3,61	3,61	3,47	3,50	3,56	3,54	**Good**

Product trial assessment classification:
4 = very good
3.0-3.9 = good
2.0-2.9 = sufficient
1.0-1.9 = less

Build upon the test results of the primary product, the average value was 3.54 which is the good category, and part of the aspect assessed also reached the average to in the good category.

3.7 Revision of Main Products for Use

The revision focuses on the low average value and based on the trials that have been carried out, improvements need to be made to the presentation material in the module. What needs to be improved is the way students present cases based on the material and the steps in how they are carried out. The cases presented to students are made in detail according to the material, then several alternative solutions are written that students can choose according to the analysis carried out based on the stages written in this module. Detailed cases will make students independent to analyze problems in early childhood education and then be able to present many solutions to these problems. Then the existing solutions narrow down into one solution that will be implemented.

3.8 Trial Use

The trial use 23 students as sample who focused on appropriateness of language, assessing teaching materials on the aspects of appropriateness of presentation, appropriateness of content. Results of the trial use can be seen in the table below:

Table 4. Usage Trial Results

Aspect	Information of aspect	Sum	Average
Content Eligibility	Suitability of CPL/CPMK material	80	3,47
	Accuracy of Material	84	3,65
	Supporting Learning Materials	82	3,56
	Update of Material	85	3,69
Feasibility of Presentation	Presentation Techniques	86	3,73
	Presentation Support	86	3,73
	Learning Presentation	87	3,78
	Presentation Completeness	88	3,82
	Straightforward Language	85	3,69
	Communicative	84	3,65
	Dialogic and Interactive	86	3,73
	Suitability to Student Development Level	87	3,78
	Sequence and integration of thought flow	85	3,69
	Use of Terms and Symbols	84	3,65
	Average		**3,69**

Product trial assessment classification:
4 = very good
3.0-3.9 = good
2.0-2.9 = sufficient
1.0-1.9 = less

3.9 Final Product Revision

The average result of the final product developed reached 3.69 in the good category, so that final product revisions did not need to be could continue with the implementation and dissemination stages. This is in line with research which explains that there is no need for improvement if it has reached the good category [19]. In this final result, there are no further improvements that need to be made by the researcher. The developed module is ready to be used.

3.10 Dissemination and Implementation

Socialization and Dissemination to lecturers and students who already taken part in early childhood education seminar courses in the study program of early childhood education teacher, while students who have not taken, lectures will be socialized at following semester. This stage was carried out to disseminate the results carried out by researchers [2]. This stage will take place every time when there is an early childhood education seminar lecture. Implementation monitoring and analysis will be carried out by researchers so that it can be an action to prevent difficulties in implementing the early childhood education seminar module.

Based on the data analysis described above, the teaching materials at early childhood education seminars that have been produced in this research can be used in lectures. Teaching

materials that contain cases of problems in early childhood education will make it easier for students to analyze problems coherently. So that the solutions provided will be relevant to the existing problems. The product of this research are supported by several previous studies, including explaining that learning activities that use case method-based teaching materials are able to make students active in lectures [20]. Apart from that, other research explains that learning activities using the case method can make students think critically [6] and also make students think logically and openly [4].

Case-based teaching materials also allow students to study independently by forming groups. So, in the future, this early childhood education seminar teaching material product can enable students to study in groups to solve problems in early childhood education by referring to the teaching materials produced in this research. Teaching materials that are complete and contain real cases will make it easier for students than teaching materials that only contain theory [11]. The case-based teaching materials in this research, apart from making it easier for students, also help lecturers in carrying out lectures [8].

Case-based modules in early childhood education seminar courses can improve several student skills, including:

a. Improve critical thinking
   Critical thinking skills are the ability to critically analyze, evaluate and relate information to achieve better understanding. When using case-based early childhood education seminar modules, students are faced with various early childhood education problems and complex dilemmas. Students must identify relevant factors, construct evidence-based arguments, and formulate appropriate solutions. This process involves analytical, synthetic and evaluative thinking skills which will continue to develop over time. By practicing continuously through case analysis, students can improve their critical abilities to apply them in everyday life and their careers.
b. Improving reading literacy
   Reading literacy is the ability to understand and analyze texts critically. In the case-based early childhood education seminar module, students will be given a variety of case studies that require an in-depth understanding of the material and information presented. Through analyzing these cases, students must read, describe, and understand relevant information. By continuously practicing understanding complex texts, students can improve their reading and comprehension skills. Good reading literacy skills will have a big influence on their learning and research processes during college, as well as in the future when they are involved in various scientific literature.
c. Development of problem solving abilities
   Learning uses case-based modules in early childhood education seminar courses to encourage students to face situations that require creative and innovative problem solving. Through this process, students will become familiar with various challenges and various ways to face them. This will develop effective problem-solving abilities, which is an important skill in various aspects of life and the professional world.
d. Practical experience simulation
   Using case-based modules in early childhood education seminar courses, students will be faced with real situations that are similar to those they would encounter in real life or the professional world. This gives them the opportunity to experience real life without having to come face to face with real consequences. These simulations allow students to develop a deeper understanding of complex situations, so they are better

prepared when facing similar situations in the real world.

Higher education has an important role in shaping the quality of human resources in various fields. Students as the nation's next generation must have good critical skills and reading literacy to face the complexities of future challenges. Therefore, teaching materials are needed that can accommodate students to develop their skills. Case-based teaching materials have an important role in improving students' critical thinking and reading literacy. By providing case-based modules in the early childhood education seminar course, students can develop critical thinking skills, improve reading literacy, hone problem-solving skills, and gain valuable practical experience simulations. Thus, the use of case-based modules in higher education environments will contribute to the formation of a young generation who are ready to face the complexity of future challenges.

4 Conclusion

The average of the result validity test is 0.76 which this result is in the range of grade in the valid category ($0.4 \leq V \leq 0.8$) and continued with the interclass correlation reliability test with an alpha value of 0.925 which is more than 0.5 and the ICC value obtained is 0.625 which is greater than 0.5. These results show that there is confirmation between experts in providing grades. This means that the resulting case method-based teaching materials can be used to help students analyze problems in aerly childhood education problems. However, the suggestions given by experts require improving the presentation of cases in teaching materials.

Based on the results of trials on 23 students, the average result of the final product developed reached 3.69 in the good category, so the last product revisions do not need to be continued with the implementation stagesand dissemination for students who have taken or will take the course early childhood seminars. The product resulting from this research, namely a teaching module, can be one of the references used by lecturers in early childhood education seminar courses. This case-based teaching material also makes it easier for early childhood education students to analyze problems that can be raised as topics in student research proposals.

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