Development of 21ˢᵗ Century Lecture Model

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Abstract. In the 21st century, lectures are changing as an adaptation to the times, mastery of skills such as study skills, something that students need to prepare for their future. This study aims to develop a lecture model called the 21st century lecture model, this model implements team-based projects, case methods and off-campus learning experience programs into the KKNI curriculum which is identical to blended learning, flipped classrooms and six types of assignments, as an effort to improve 21st century skills. This research uses research and development methods created by Borg and Gall. The results of this study are the creation of a valid 21st century lecture model, based on the validity test to experts found an average the average score of 0,95 in the very high category, and the score of the ICC test results is 0,571 indicating an understanding between experts in validating.

Keywords: Letcure Model, 21st Century Skills.

1 Introduction

In today's global development, 21st century skills are very important, these skills must be mastered properly so that college can face their future, 21st century skills are learning skills, literacy skills, and life skills, lectures in the 21st century need to consider the relevance of lectures to future needs so that they can be useful for students, lectures need to improve students' thinking skills at a higher level as well as their discipline, not only that, students must also master the skills to implement their knowledge, such as when working in groups each student must understand their respective responsibilities and consequences. lecturers in educating are not providing as much information as possible but educating students to master the skills of how to learn. lecturers must also be able to guide students over misunderstandings about how the world works, current lectures require an environment that fosters creativity, involves the latest technology and is based on collaboration.[1].

In this century, students must be skilled in learning, students must be able to think critically, namely thinking clearly and rationally to determine what to do and what to believe, to be critical thinking students should be able to understand the relationship between logic and ideas so that they can form an argument and can build ideas as a solution to a problem accompanied by logical considerations and values, In critical thinking skills and abilities of reason assessment are needed [2]. Critical thinking skills must of course be supported by creativity, this ability supports students to create with innovation. collaboration in facing challenges is the key to accelerating in developing ideas, creating solutions, developing a prototype, etc. creativity will produce progress in the future and will indirectly provide progress at the level of creativity itself, but in the future creativity is faced with a direction of development that needs to be questioned about its values and responsibilities [3].

The ability to collaborate must also be balanced with the ability to communicate so that an effective exchange of information can occur, communication is the key to success in creating a positive environment in learning so that learning success is influenced by communication [4]. learning skills (Critical thinking, Creativity, Collaboration, and Communication) or often also called "the four C's". In addition to these skills, students need to improve skills literacy in information, media and technology, literacy is not just an activity of reading, speaking, listening and writing, but in its development literacy is interpreted as a deep understanding of information, media, technology, literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts [5].

Information literacy is concerned with finding and using information in everyday life. Media literacy is related to the ability to access, analyze, evaluate and communicate information in various forms of media, and Technological literacy is the ability and skill to use, manage, assess and understand technology. literacy and learning skills must be developed by universities with lectures, these skills are even better if they are equipped with life skills such as flexibility, leadership, initiative, productivity, and social skills. learning skills, literacy skills and life skills are called 21st century skills, the changing world which is increasingly modern provides challenges for education so that adaptation is needed, but the most important part in adapting is knowing the purpose of adaptation, not just following what is the current world trend [6]. lectures in early childhood education study programs, Unimed apply the KKNI curriculum (Indonesian National Qualification Framework), KKNI is a statement of the quality of Indonesian Human Resources whose qualifications are based on the level of ability stated in the formulation of learning outcomes [7].

This curriculum is implemented through blended learning methods and flipped classrooms as an effort to provide a better learning experience than before, this curriculum also assigns students with six types of assignments, namely routine assignments, critical book reports, critical journal reviews, idea engineering, projects and mini research. In improving the quality of curriculum implementation, the team project-based lecture method and the case method are implemented. team based project is a lecture method that gives assignments to students in groups to carry out a project, and the case method is a lecture method that seeks to present cases that occur in everyday life as topics of discussion in lectures.

In addition, the MBKM program also provides experiences for students to study outside campus through student programs and activities so that students are able to apply skills from campus to the community and gain new experiences from their implementation. These methods, programs and curriculum are efforts made to improve students' 21st century skills, and the form of implementation of methods, programs and curriculum needs to be well designed into the lecture model

2 Method

This research was carried out by applying the research and development (RnD) method by borg and gall[8] which seeks to create or develop a product, namely the 21st century lecture model, in the implementation of this research through (1) potential and problem analysis to find out the supporting factors of the research as well as the things that can be an obstacle to the research, (2) data collection as a reference in developing products, (3) product design and (4) design validation by expert, the research stopped at the fourth stage due to the unsupportive covid 19 pandemic situation, to continue product trials, research will be continued in 2022 to improve product quality through product trials and implementation tests, where lectures with

the new normal begin. this research was conducted at the early childhood education study program, Unimed in June – August 2021, data collection was carried out by literature studies and interviews and then analyzed descriptively qualitatively.

3 Result and Discussion

This research begins with an analysis of potential and problems, this research supports potential such as the implementation of the KKNI which is not new so that the understanding of researchers, lecturers, and students is the same, besides that campus policies to implement and improve the quality of their implementation are supporting factors for the development of lecture models, factors.
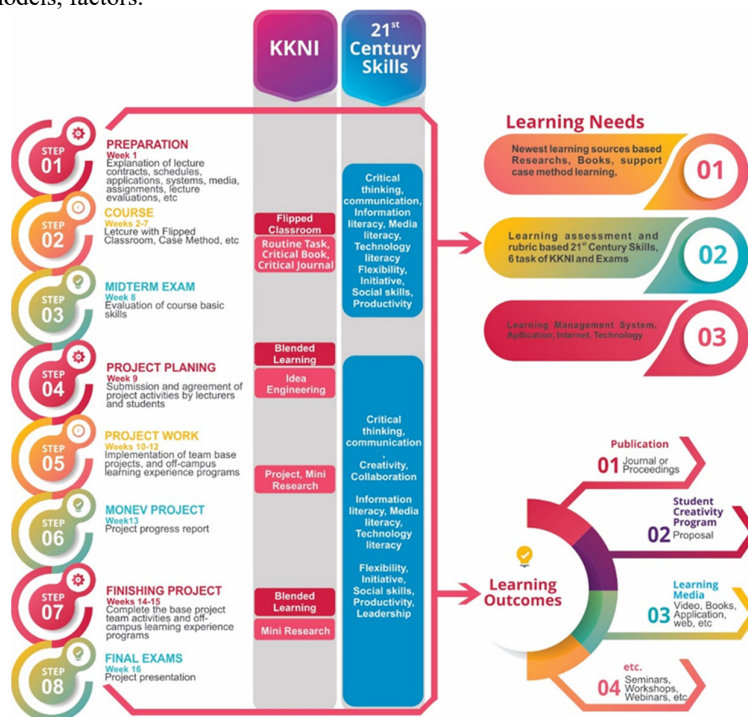

Fig 1. 21st Century Lecture Model Flowchart

Another supporter is the presence of expert curriculum developers so that the direction of development is better, but besides that, an inhibiting factor is found, namely the Covid -19 pandemic situation which limits it to gathering students to carry out product trials so that development can only be carried out on a limited basis and only reaches the design validation stage by experts. in the next stage the researchers collected data related to the development of the KKNI curriculum so that the method of implementing blended learning and flipped learning as well as six tasks was obtained, besides that data related to the team base project and case method were needed as a basis for developing lecture models, information about the concept of 21st century skills, learning programs outside campus and student center learning are needed so that these components become the hallmark of this model.

At the next stage the development of the lecture model is continued by compiling product designs by taking into account the week of lectures, curriculum, campus policies and other things, the lecture model can be described as Fig 1.

From the picture above, it can be seen that the 16-week course maximizes mastery of 21st century skills by taking into account the needs and learning outcomes, the stages in the implementation of the lecture model are.

a. The first week begins with preparation by explaining lecture contracts, schedules, applications, systems, media, assignments and evaluations to students, at this stage students have begun to develop the form of learning activities and projects that will be carried out.

b. Week 2-7 to master the basic material where in this week the material that uses the flipped classroom method students learn earlier the material to be discussed in class, it is better to provide digital-based material to develop learning materials where in addition the application of the case method requires preparation of cases that will be used in lectures. this week students have mastered the basic skills of the courses so that they can be used as the basis for carrying out projects.

c. Week 8 midterm exam is conducted to measure the basic skills of the subject, preferably using an application that is able to support the improvement process (formative) and is based on mastering several 21st century skills

d. Week 9 continued with project preparation, this week lecturers and students agreed on the project, schedule and implementation procedures, the project was carried out in groups.

e. Week 10-12 is carried out using the blended learning method where at this time students have carried out their project activities and are supervised by lecturers through their daily logbook applications, students can conduct learning experience programs outside of campus so that they can apply knowledge on campus to the community

f. Week 13 carried out monitoring and evaluation to see the progress of the projects carried out by students, monitoring and evaluation was carried out through presentations so that it could be seen how far the progress of the project, problems faced, and solutions were taken.

g. Week 14-15 do the finishing project so that the project activities can be completed in its entirety, this week the lectures are carried out with blended learning where groups of students complete their final reports and project outputs.

h. Week 16 the final exam will be conducted through the presentation of student project results.

Through all of the above stages, students are expected to be able to produce publications, student creativity program proposals, learning media, etc. Therefore, lecturers need to prepare the latest learning resources based on research results, and support the implementation of case methods, learning assessments and assessment rubrics based on the achievement of 21st century skills, design assignments and exams, learning management systems and supporting applications and this model is called the "21st century lecture model".

This initial design needs to be validated by experts, validation is done through a test using the Aiken V formula, and followed by a reliability test with ICC, the results of the analysis can be seen in the two tables below.

Table 1. Content Validity Test Results 21st Century Lecture Model Design by Experts

Indicator	V	Criteria	Indicator	V	Criteria
1	1,00	Valid	12	0,92	Valid
2	0,92	Valid	13	1,00	Valid
3	1,00	Valid	14	0,92	Valid
4	1,00	Valid	15	1,00	Valid

5	1,00	Valid	16	1,00	Valid
6	1,00	Valid	17	1,00	Valid
7	1,00	Valid	18	1,00	Valid
8	0,67	Valid	19	0,92	Valid
9	1,00	Valid	20	1,00	Valid
10	1,00	Valid	21	0,92	Valid
11	0,67	Valid			

Table 2. Results of Expert Test ICC Analysis

	Intraclass Correlationb	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.571a	.361	.766	6.333	20	60	.000
Average Measures	.842c	.693	.929	6.333	20	60	.000

Based on table 1, it can be seen that the average score for the Aiken v validity test is 0.95, the result is greater than 0.3 so that the content validation can be declared valid, then the ICC reliability test in tabel 2 is carried out to see the consistency of experts in assessing the 21st century lecture model and obtained a score of 0.571, the score is higher than 0.5 so it can be stated that there is a common perception in providing an assessment.

4   Conclusion

The conclusions of this study are found a valid 21st century lecture model, by implementing blended learning, flipped classroom, six types of assignments using the team-based project and case method, as well as an off-campus learning experience program, so it can be suggested to continue the development of the model so that later it can be mass produced and implemented in lectures.

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