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Curriculum development and message design in E-learning based contextual using animation for Determinant Matrix Course

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Abstract

Learning in the Covid-19 pandemic era tends to apply online learning both Synchronous and Asynchronous. Method of asynchronous learning such as using Edmodo, students meet with educators in online classes, where they discuss and do assignments and meet educators indirectly. Learning according to the IQF curriculum in tertiary institutions is skills oriented. Learning is designed based on learning outcomes. However, the reality of the outcomes produced by students has not been able to achieve maximum competence and the development of the times in the industrial era 4.0. The development of information and communication technology in the educational environment is very fast. For this reason, a contextual-based curriculum design is needed. Curriculum development design in this study has ODDE stages namely Observation, Design, Development, Evaluation. This stage is the development and analysis result of the PCMIE development design, namely Planning, Content and Method, Implementation, and Evaluation. The reason why the analysis stage was changed to observation because education and learning are changing quite rapidly. And the reason why the implementation stage was abolished because the development stage, competencies, materials, materials, media, and learning plans have been validated first. The attendance rate in the formative evaluation of the attitude assessment carried out for 8 meetings obtained an average attendance rate of 7.2 in the good category, while the attendance rate for 12 meetings in the summative evaluation averaged 12.8 in the Good category. The results obtained by the average student get a score of 67 in the sufficient category on cognitive assessment. This research is oriented to creating a product in the form of animation, video, or other media. Furthermore, assessment for skill is used to measure students' skills in designing a contextual product which is the result of learning each.

Keywords: Curriculum Development; Message Design; Contextual

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1. Introduction

1.1. Introduce the problem

Learning in the Covid-19 pandemic era tends to apply online learning both Synchronous and Asynchronous. Method of Asynchronous learning such as using Edmodo, students meet with educators in online classes, where they discuss and do assignments and meet educators indirectly. While Synchronous learning uses zoom, google meet and others, they meet face-to-face and lecturers can present materials directly. The weakness of synchronous learning is that educators must use a record menu so that the material described can be repeated and there is no synchronous discussion menu. Meanwhile, Asynchronous educators cannot meet face to face directly. Therefore, a learning design is needed so that it can combine Synchronous and Asynchronous learning at the same time, namely using Moodle.

The advantage of Asynchronous learning moodle is that it does not only display discussions but can display animation or videos and pictures. There needs to be a learning design so that learning becomes oriented towards learning objectives (Kasap,2019). Therefore, it is necessary to design learning in designing message design so that the learning objectives, assessment, and results can be in line. Moodle is a free open source application that is used for free that has a variety of plugins to make learning easier and is integrated with Zoom us.

Learning according to the IQF curriculum in tertiary institutions is outcome and output from skill oriented. So learning is designed based on learning outcomes. However, the reality of the outcomes produced by students has not been able to achieve maximum competence and the development of the times in the industrial era 4.0. The development of information and communication technology in the educational environment is very fast. For this reason, a contextual-based curriculum design is needed, namely a curriculum that can keep up with the times so that graduate results can be effective.

e-learning is needed to design learning effectively during the COVID-19 pandemic to overcome distance learning. Learning is not only studying theory but learning need for theory as a solution in life in the industrial era 4.0. Efforts that can be used are by connecting theory and practice using contextual methods. Learning in e-learning is not limited to synchronous but asynchronous. Synchronous contextual learning is carried out by using zoom or google meet with the lecture method which contains the application of the theory. While contextual learning with Ashnchronous uses various learning materials such as video media, animation and so on. The selection is based on how the material can display the message, concept, writing, sound and change of material. Learning material that can be used to design the learning is animation

Following the cone of Dale's Experience shows that students can remember a course by direct experience such as observation in a laboratory. overcome this limitation, contextual learning is used, which explains the practice or application of theory. There is a gap between theory and practice when learning is done face-to-face. Variations of learning materials cannot meet the adequacy of theory, therefore, learning materials that are designed contextually are needed. There are various ways of message design to create

learning materials, but the learning is still limited to short term memory theory. For this reason, contextual message design is needed using animation in e-learning learning so that students can remember or long term memory follow the Dale experience cone. The following is a picture of the cone of dale's experience.

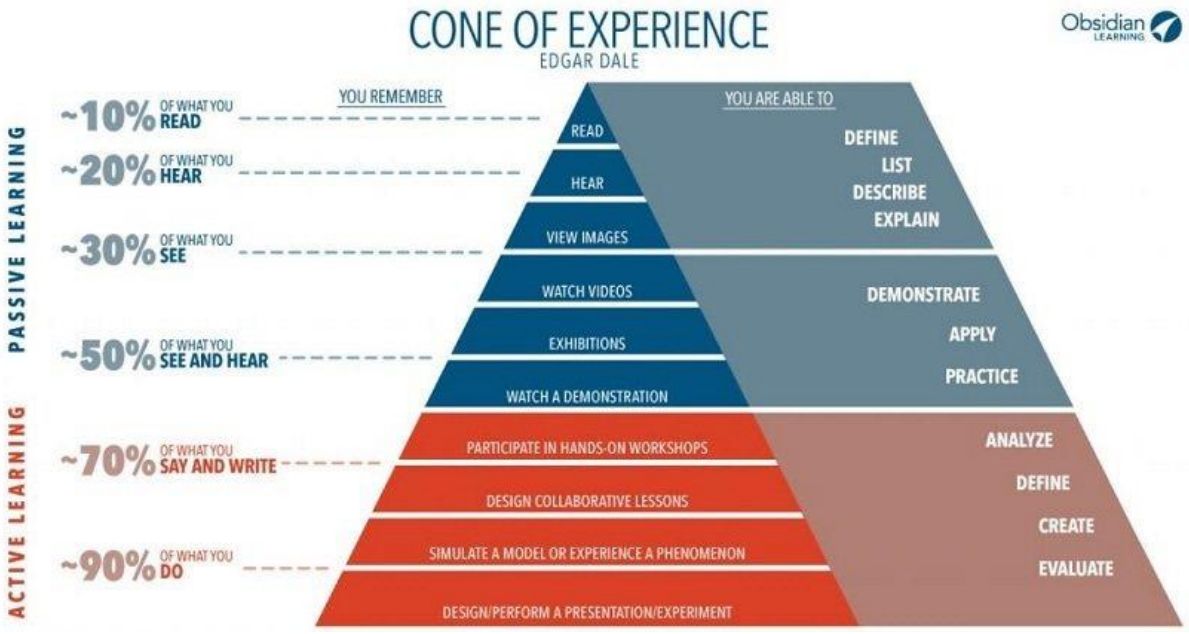


Figure 1. Dale Cone of Experience

The contextual-based curriculum begins with the observation, design, development, evaluation (ODDE). The observation stage is carried out to educational institutions that have A accreditation or are very good or superior, at the observation stage they produce various results of technological developments in learning. The results are in the concept map and competency map to proceed to the design stage. At the design stage, it is used to design attitudes, knowledge, and skills competencies. At the design stage, competencies are detailed and systematically arranged and structured from initial to final knowledge based on Anderson's revised Bloom taxonomy. At the design stage, it is also used to detail competencies during learning. Higher education institutions in Indonesia consist of 14 meetings for one semester. The design stage is also used to detail the semester learning plan (RPS) which is used as a learning guide for 14 meetings, then with learning per meeting. The difference between the Indonesian National Qualifications Framework Curriculum (KKNI) and the contextual curriculum is the contextual-oriented learning method using the ODDE (Observation, Design, Development, Evaluation) design. In this study, the curriculum was applied online or e-learning using animation applications. So at the design stage, message design animation is designed contextually. For this reason, it is necessary to analyze each animation frame based on competency maps and concept maps in a structural and systematic manner according to existing developments.

The development stage is used to design 1) various kinds of media, 2) develop learning steps, 3) develop assessment instruments, 4) evaluation or learning outcomes. The media used are animation and this curriculum is used in online learning systems or e-learning.

The learning steps begin 1) absent students, 2) explaining the material using animation, 3) dividing groups of 2-6 students, 4) analyzing the application of the material in everyday life, identifying developments and developing a product. 5) Develop an assessment instrument consisting of novelty technology, convenience, quality of material presented in the media, and analysis of media selection, 6) Analysis of competence or learning output with developed technology. The development stage produces a renewable product in an educational environment. Design Development ODDE is instructional design of development program in institution for see innovation. ODDE is develop of Design Development of PCMIE, and ODDE have stage for material validation so that media could be ready to be used in learning. The results of the validation used a reference that the media and learning to be applied.

The evaluation stage is used for 1) identification of competency results, 2) identification of concepts or materials, 3) identification of media and 4) identification of semester learning plans (RPS). Competency identification is used to identify students' initial abilities and final abilities based on a competency map. Concept identification is used to measure the message design in the media or the completeness of the concept, 3) Media identification is used to measure how the media can be used as an intermediary in explaining the concept. 4) Identification of Semester Learning Plans (RPS) is used as the basis for preparing learning steps. This research in this use for knowledge imation of media about novelty, attractiveness, convenience and message design of presentation technique.

According to Sukiyasa K and Sukoco, 2013: 128) explains the use of media in the form of animation that can visualize something abstract. Animation is one of the media that can present messages in the form of 1) moving images, and 2) sound at a certain rate. The use of animation consists of several frames at a certain time that displays images and sounds simultaneously. The use of animation and special effects is very good and effective to attract the attention of students in good learning situations. A Animation runs in the Moodle system so the arrangement is, 1) learning objectives, 2) Competency maps in the form of images or others, 3) Concept Maps in the form of images or others, 4) Animations, 5) Reference sources, chat discussions (Facebook, or others). Animation is used to measure the results of the competence of learning outcomes. Lessons that are visualized into animated images are more meaningful and interesting, easier to accept, understand, more motivating (Sukiyasa K and Sukoco, 2013: 128; Korkmaz & Mirici, 2021)

Reference sources in the Moodle application are used as the main material and support for animation. Moodle is an open source application used in e-learning. There are various kinds of plugins provided in Moodle, one of which is Zoom us and Facebook. Through this moodle learning is implemented. E-learning learning is oriented towards contextual learning whose outcomes produce a product. Online learning or e-learning itself actually emphasizes independent learning. Moodle is used as a learning management system, with moodle you can create online classes that are arranged in a systematic and structured manner.

Contextual-based curriculum can also be applied to traditional face-to-face learning, namely offline. The differences and similarities in the application of the contextual-based curriculum applied to offline and online learning are 1) in learning, animation is used as a medium with the help of presentations in the form of ppt or other, while in online learning,

animation is a medium and source of learning. 2) the contextual-based curriculum in offline and online learning can only be used for various fields of applied science. 3) For the basic theory, implementation is sought in everyday life. The use of Moodle or e-learning is due to the fact that during the pandemic, students are directed to study at home.

Curriculum development design in this study has ODDE stages namely Observation, Design, Development Evaluation. This stage is the development and analysis result of the PCMIE development design, namely Planning, Content and Method, Implementation, and Evaluation. The reason why the analysis phase was changed to observation of education and learning are changing quite rapidly. And the reason why the implementation stage was abolished is development stage, competencies, materials, materials, media, and learning plans have been validated first.

This learning is applied to the material of the determinant of the matrix in a contextual way a story that is done using the determinant of the matrix. Examples of story questions are as follows, Ani took English lessons for 6 meetings, Arabic lessons for 4 meetings, and Mandarin for 4 meetings. Meanwhile, Yudi took English lessons in 4 meetings, Arabic lessons in 5 meetings and Mandarin in 4 meetings. Meanwhile, Hadi took English lessons 3 times, Arabic 4 times, and Language 5 times. It is known that the costs incurred for English lessons are IDR. 20,000, - per meeting while Arabic lessons IDR. 12,000,-. And Chinese lessons per meeting IDR 16,000. How much did Ani, Yudi and Hadi spend?

Table 1. English Lesson , Arabic, and Mandarin

Lessons, day/Student	English lessons meeting/Monday	Arabic lessons meeting/ Saturday	Chinese lessons per meeting/ Friday
Ani	6	4	4
Yudi	4	5	4
Hadi	3	4	5
Cost/Meeting	IDR. 20.000,-	IDR.12.000,-	IDR.16.000,-

Change data from table into a matrix $\begin{bmatrix} 6 & 4 & 4 \\ 4 & 5 & 4 \\ 3 & 4 & 5 \end{bmatrix}$ Then put in the following formula system of linear equations $\times \begin{bmatrix} 20.000 \\ 12.000 \\ 16.000 \end{bmatrix}$ $\begin{matrix} 6x + 4y + 4z = 20.000, - \\ \{4x + 5y + 4z = 12.000, - \\ 3x + 4y + 5z = 16.000, - \end{matrix}$

Solving Step 1 convert to Matrix form $\begin{bmatrix} 6 & 4 & 4 \\ 4 & 5 & 4 \\ 3 & 4 & 5 \end{bmatrix}\begin{bmatrix} 20.000 \\ 12.000 \\ 16.000 \end{bmatrix}=$

$$\begin{bmatrix} 6 \times 20.000 + 4 \times 12.000 + 4 \times 16.000 \\ 4 \times 20.000 + 5 \times 12.000 + 4 \times 16.000 \\ 3 \times 20.000 + 4 \times 12.000 + 5 \times 16.000 \end{bmatrix}=$$

$$\begin{bmatrix} 120.000 + 48.000 + 64.000 \\ 80.000 + 60.000 + 64.000 \\ 60.000 + 48.0000 + 80.000 \end{bmatrix}=\begin{bmatrix} Rp.\ 232.000 \\ Rp.\ 204.000 \\ Rp.\ 188.000 \end{bmatrix}$$

So the costs incurred by Ani are IDR. 232.000,-, Yudi IDR. 204,000, -, and Hadi IDR. 188.000,-

The learning of matrix determinants is designed to use contextual concepts so that students can know the function and use of matrix determinants in everyday life. The results of the analysis of competency maps and concept maps on contextual-based curriculum development are explained in the following order. Competency map Students' attitudes can 1) pay attention to information described in 1a) Story information, 1b) Pay attention to animation, 1c) Pay attention to the composition of the formula, 2) receive information described in 2a) Concepts in real life, 2b Concepts make it easier to solve problems, and 3) carry out the use of the determinant of the matrix described in 3a) Using the concept in real life, 3b) The concept is used to determine the results applied in real life. Knowledge competencies include 1) knowing the determinant material, 1a) Order, 2) Columns and Rows, 3) Multiplication of Matrix Determinants. 2) Understanding story questions, 2a) the form of story questions, 2b) arranging story questions into a matrix, 2c) Multiplication of rows in one matrix with another matrix, 2d) Adding matrices in columns, 2e) explaining the results while the next competency is 3) applying the material in real life, 3a) The suitability of the story in everyday life, 3b) Seeing the suitability of animation with the story, 3c) Looking for its application, while the next knowledge competence is 4) evaluation, 4a) students can look for similar story questions, and 4b) working on story problems, while the last knowledge competence is 5) creating, 5a) competency map analysis, 5b) concept map analysis, 5c) Describing story questions into a synopsis, 5d) Changing the synopsis to a stroy board, and 5e) Creating a product in the form of animation or other media using a story board. The last competency in the contextual curriculum is the following skills 1a) Proficient in using formulas, 1b) Proficient in analyzing and making story questions, 1c) Proficient in making synopsis.

The concept map in this study is described as follows: 1) Determinant Matrix, 2) Arrangement of rows and columns in the determinant of the matrix, 3) the function of the determinant of the matrix, 4) Relationship of story questions and determinants of the matrix, 5) Types of story problems with determinants of the matrix, 6) Use of determinants matrices, 7) Determinants of matrices to linear equations, 8) Multiplication of matrices of a certain order. The use of competency maps and concept maps is used as a basis for designing animation in learning and is a step in developing a contextual-based curriculum which is then presented in the semester learning plan and validated. The instruments for material validation, competency maps, and semester learning plans are presented in the following diagram.

Table 2. Material Validation Instruments, Competency Maps and Semester Learning Plans (RPS)

Instrumental/Validator	Validato 1	Validator 2	Validator 3
Competency Map Order			
Achievable competencies			
Material Sufficiency to achieve Competence			
Quality of Material Presentation			
Learning Steps in the Semester Lesson Plan			

The instrument is used to measure competence based on materials, competency maps and semester learning plans. Through these instruments, the results will be obtained in the form of materials, competency maps and validated semester learning plans (RPS). Validation process is assessed by 3 validators who are competent in their fields

Table 3. Media Validation Instruments and Concept Maps

Instrumental/Validator	Validato 1	Validator 2	Validator 3
Concept Map Sequence			
Order of Material according to Concept Map			
Synopsis and story board quality			
Adequacy of Material in Animation			
Quality of Material Presentation			

The instrument is used to measure the quality of the concept map used to compose a media such as animation and video. So the result of this research is that students can produce a product that is contextual to the concept or theory presented. This instrument is assessed by 3 validators who are competent in their fields.

2. Method

. Any method used in this research, such as material, competence maps, and semester learning plans has test. This test aims to analyze the process starting from the material then derived from the resulting competencies and followed by the learning steps. The results of the test can be seen.

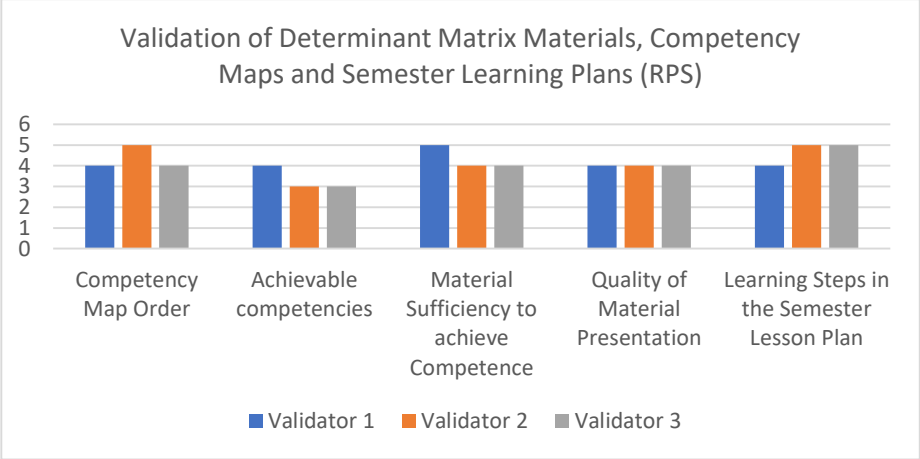


Diagram 1. Validation of Determinant Matrix Materials, Competency Maps and Semester Learning Plans (RPS)

Validation of Materials, Competency Maps, and Semester Learning Plans (RPS) is a curriculum design process starting from the planning stage to content and method (Kasap & Çelik, 2019). In addition to material validation, product validation is also carried out as a result of curriculum implementation. So when classified, the results of this study produce 1) the theory of ODDE curriculum development (Observation, Design, Development, and Evaluation), 2) In the form of products developed by students in the form of media. The results of media validation are presented in the following diagram.

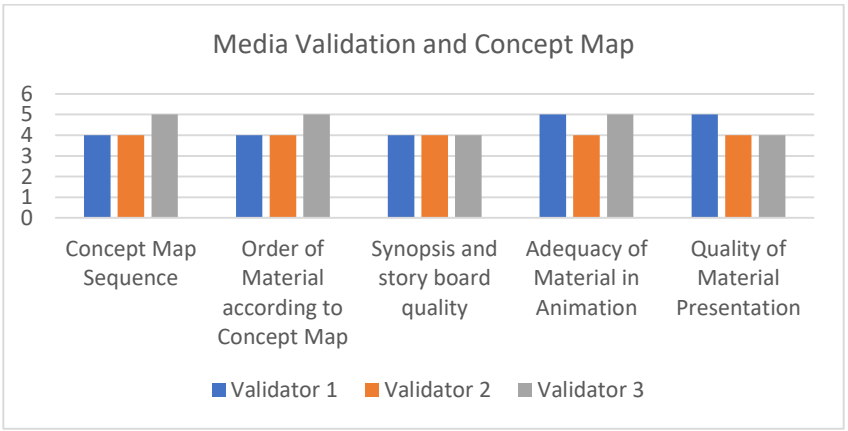


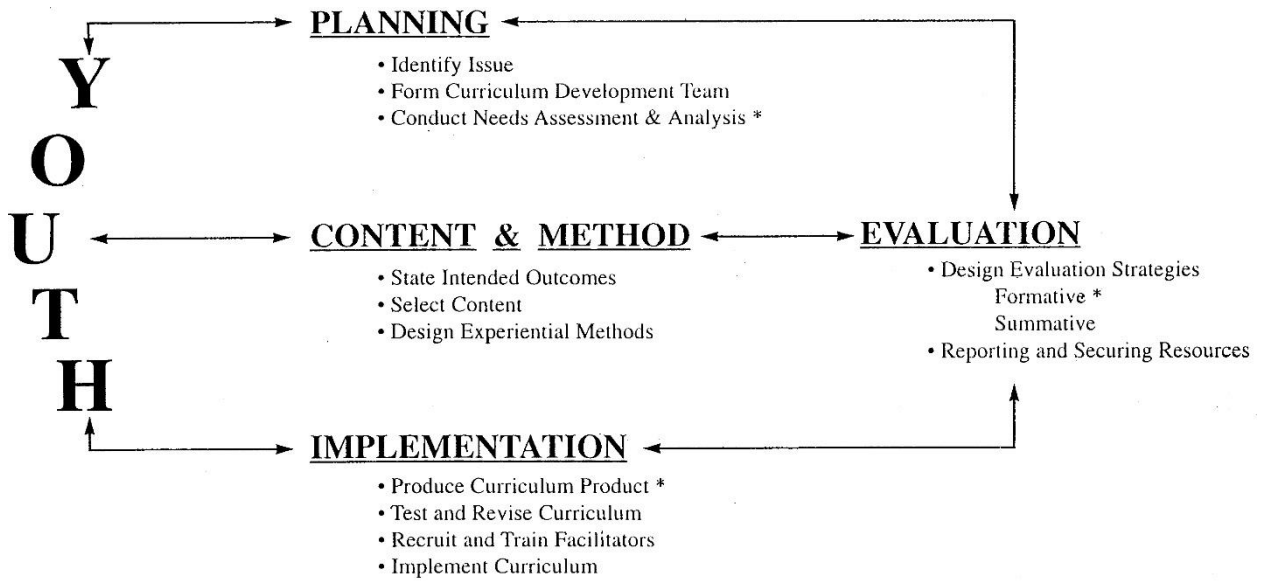
Diagram 2. Media Validation and Competency Map

The diagram above is the result of validation of the animation media used to explain the material contextually. The media here is the use of contextual-based curriculum media. The reasons for choosing animation media are 1) Novelty, 2) Interesting, and the combination of moving images and sound that presents a message. Media is designed based on a predetermined message design 1) The material, 2) The order of the material, 3) Transformation from material to story questions and developed into a synopsis and story board, 4) Frame and sound analysis or material adequacy and 5) Quality of message presentation in the media in the form of stories and demonstrations.

The two diagrams are compared to get optimal results or not. Based on the results of the comparison of the two diagrams, an average of 4.3 was obtained in the good category. So from the curriculum to the media that will be applied in the good category. The rating scale is 1) Very good = 5, 2) Good = 4, 3) Fair = 3, 4) Less = 2, 5) Very poor = 1.

2.2 Research methods

In this research, the curriculum development design is PCMIE with stages 1) Planning, 2) Content and Method, 3) Implementation, 4) Evaluation and Reporting. From the development design, they will find a new theory in designing the curriculum, namely ODDE (Observation in Institution, Design, Development and Evaluation. The stages of early curriculum development using PCMIE can be seen in the following figure.



Fogure 2. Curriculum Development Process PCMIE (Resources : www.fao.org)

In the first stage of the curriculum development process using PCMIE, namely 1) Planning which consists of 1a) Identifying Issues is the stage where the basic foundation of the curriculum is designed. At this stage, various kinds of issues that develop are selected and developed based on learning theory, b) the Form Curriculum Development Team stage is a stage where the curriculum is prepared by experts in one or several teams which will

consist of material, media and curriculum experts whose results will be in the form of competence and part of competence, 1c) followed by the Conduct Need Assessment and Analysis stage, which is the stage where the curriculum is assessed by experts and an analysis is carried out on the competency results or putcomes. In the second stage, 2) Content and Method is used to choose various methods to implement the curriculum. This stage begins with 2a) State Intented Outcomes, namely the results that a country wants. This stage explains that the curriculum will produce outcomes according to the needs of the country. In addition, at this stage a curriculum feasibility test was carried out which had been tested at the National Education Standards Agency (BSNP), if in Indonesia it consisted of 8 standards. 2b) Select content is the stage for selecting materials or subjects or fields of study that will be used to achieve outcomes, while 2c) the experiential method design stage is the stage of how the curriculum is tested using certain methods. The part at this stage is the selection of the learning method that will be used.

Implementation stage is the stage where the curriculum is applied in various institutions . The selection of institutions is chosen randomly and in clusters. At stage 3) implementation will produce, 3a) Produce curriculum product, 3b) Test and curriculum revision, 3c) Recruit and Train Facilitator, 3d) Implement curriculum. The next stage is 4) Evaluation which consists of 4a) Strategic Design Evaluation based on content and method and outcome. 4b) Formative evaluation in learning to measure students' initial abilities. 4c) submative evaluation to measure the final capability in the form of output and outcome. The last stage of the evaluation, namely 4d) Reporting and Securing Resources is a report that is presented in a descriptive or numerical manner using a certain scale such as the Likert scale and others to explain the results of the outcome. This stage is usually presented in the form of a diploma and transcript.

From this variety, the title of curriculum development research was chosen. There are several things that became the basis for choosing the title, namely the development of information and communication technology in the educational environment growing so fast. To overcome this we need a theory in the application of contextual learning that can minimize the gap between theory and field reality. Therefore, the title "Curriculum Development and Message Design in E-learning based on Contextual Using Animation" was chosen.

3. Results

The results are based on Formative and Sumative Evaluations which consist of an assessment of Attitudes, Knowledge and Skills. Attitude assessment uses indicators 1) accept, 2) pay attention, 3) perform, while knowledge assessment uses indicators 1) knowing, 2) understanding, 3) applying, 4) evaluation, 5) create. Furthermore, skills using indicators 1) use formulas, 2) analyze and create story questions related to matrix determinants, 3) make synopsis and prototypes, 4) make story boards, 5) create animated media in the form of moving images and sound recordings. Assessment of skills oriented to Production or media creation from start to finish. The results of the attitude assessment are presented in the following table.

Table 4 Attitude Assessment (Accept/come, Pay Attention, Do)

Indicator/	(Accept/com,Pay Attention, Do)														Formative	Sumative
student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Evaluation	Evaluation
1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	7	13
2	1	0	1	1	1	0	1	1	1	1	0	1	1	1	6	11
3	1	1	1	1	1	1	1	1	1	1	1	1	0	1	8	13
4	1	1	0	1	1	1	1	1	1	0	1	1	1	1	7	12
5	0	1	1	1	1	0	1	1	1	1	1	1	1	1	6	12
6	1	0	1	1	1	1	0	1	1	1	0	1	1	1	6	11
7	1	1	1	1	1	1	1	0	1	1	1	1	1	1	7	13
8	1	1	1	1	1	1	1	1	1	1	1	0	1	1	8	13
9	1	1	1	1	1	0	1	1	1	1	1	1	1	1	7	13
10	1	0	1	1	1	1	1	1	1	1	1	1	1	1	7	13
11	1	1	1	1	1	1	1	0	1	0	1	1	1	1	7	12
12	1	1	1	1	1	1	1	1	1	1	1	0	1	0	8	12
13	1	1	1	1	0	1	1	1	1	1	1	1	1	1	7	13
14	0	1	1	1	1	0	1	1	1	1	1	1	1	1	6	12
15	1	1	1	1	1	1	0	0	1	1	0	1	1	1	6	11
16	1	0	1	1	1	1	1	1	1	0	1	1	1	1	7	12
17	1	1	0	1	1	0	1	0	1	1	1	1	1	1	5	11
19	1	1	1	1	0	1	1	1	1	0	1	1	1	1	7	12
20	0	1	1	1	1	1	1	1	1	1	1	1	1	1	7	13
21	1	1	1	1	1	0	1	1	1	1	1	1	1	1	7	13
22	1	1	1	0	1	1	1	0	1	0	1	1	1	1	6	11
23	1	1	0	1	1	1	1	1	1	1	1	1	1	1	7	13
24	1	0	1	1	1	1	1	1	1	1	1	1	0	1	7	12
25	1	1	1	1	1	0	1	1	1	1	1	1	1	1	7	13
26	1	1	0	1	1	1	1	1	1	1	0	1	1	1	7	12
27	1	1	1	1	1	0	1	1	1	1	1	1	1	1	7	13
28	1	0	1	1	1	1	1	1	1	1	1	1	1	1	7	13
29	1	1	1	1	1	1	1	1	1	1	1	1	0	1	8	13
30	0	1	1	1	1	0	1	1	1	1	1	1	1	1	6	12
31	1	1	1	1	1	1	1	1	1	1	1	1	0	1	8	13
32	1	1	1	1	1	1	1	1	1	1	1	1	1	0	8	13

Information

Gutman scale (Yes, No) with folowing

Yes (Students receive/come, pay attention, and do)

No (Students do not accept, pay attention, and do

Yes = 1

No = 1

From the table above, it can be analyzed that the level of attendance in the formative evaluation of the attitude assessment carried out for 8 meetings obtained an average attendance rate of 7.2 in the good category, while the attendance rate for 12 meetings in the summative evaluation averaged 12.8 in the Good category. This shows that students have an attitude in the good category in participating in online learning. Furthermore, the knowledge data is shown in the following tabletable.

Table 5 Knowledge/cognitive Competency Assessment

Indicator/ Student	Implementation of Story Problems	Creating Media Products (Animation, Video)	Tasks / Discussion	Evaluasi Formative (UTS)	Evaluasi Sumative (UAS)	Evaluasi Sumative TOTAL
Number	**Bobot 15 %**	**Bobot 30%**	**Bobot 10 %**	**Bobot 15%**	**Bobot 30%**	**Bobot 100 %**
1	12	30	10	10.5	10.5	73
2	9	24	10	11.25	10.5	64.75
3	9	30	8	10.5	10.5	68
4	9	30	10	10.5	10.5	70
5	12	30	10	10.5	12	74.5
6	9	24	8	12	11.25	64.25
7	9	30	8	11.25	10.5	68.75
8	9	24	8	10.5	11.25	62.75
9	9	24	8	10.5	10.5	62
10	9	30	8	11.25	11.25	69.5
11	12	30	10	10.5	11.25	73.75
12	9	30	8	10.5	10.5	68
13	9	30	8	10.5	12	69.5
14	12	24	10	10.5	10.5	67
15	12	30	10	11.25	10.5	73.75
16	12	30	10	11.25	10.5	73.75
17	9	30	8	12	10.5	69.5
18	0	24	10	10.5	12	56.5
19	12	24	10	10.5	11.25	67.75
20	12	24	10	11.25	11.25	68.5
21	12	30	10	10.5	12	74.5
22	15	24	10	11.25	10.5	70.75
23	9	24	10	12	10.5	65.5
24	9	30	10	11.25	10.5	70.75
25	9	30	10	11.25	10.5	70.75
26	12	24	10	10.5	12	68.5

27	9	30	10	11.25	10.5	70.75
28	12	24	8	10.5	10.5	65
29	9	24	10	10.5	11.25	64.75
30	12	24	8	10.5	10.5	65
31	12	24	8	10.5	11.25	65.75
32	9	24	8	11.25	11.25	63.5

The table above describes the knowledge assessment using the theory of HOTS (High Order Thinking Skill) which is directed to apply, evaluate and create a media product. The results obtained by the average student get a score of 67 in the sufficient category on cognitive assessment. This research is oriented towards creating a product in the form of animation, video or other media. Furthermore, the skills assessment is presented in the following table

Table 6 Skills Assessment

Indicator/ Student	Using Formula	Analyze and Create Story Problems related to Determinant Matrix	Make Synopsis and Prototype	Make Storyboard	create animated media in the form of moving images and sound recordings
1	4	3	3	3	3
2	3	4	3	3	3
3	4	3	3	4	3
4	4	4	4	3	4
5	3	3	3	3	3
6	4	4	3	4	3
7	4	3	3	3	3
8	3	3	3	3	3
9	4	3	3	3	4
10	4	4	3	4	3
11	3	3	3	4	4
12	4	4	3	3	3
13	3	3	4	3	3
14	3	3	3	3	3
15	4	3	4	3	3
16	3	3	3	4	3
17	4	4	3	3	3

18	3	3	4	3	3
19	3	4	3	3	3
20	4	4	3	4	3
21	3	3	3	3	4
22	3	3	4	3	3
23	4	3	4	3	3
24	3	3	4	4	3
25	4	3	3	3	3
26	3	3	4	3	4
27	3	4	3	4	3
28	3	3	3	4	3
29	3	3	3	3	3
30	4	4	3	3	4
31	3	3	4	4	4
32	3	3	3	3	3
33	3	4	3	3	4
34	3	3	3	3	4
35	3	3	4	4	3

Information

Very good = 5

Good = 4

Enought = 3

Low = 2

Very Low =1

Skills assessment is used to measure students' skills in designing a contextual product which is the result of each face-to-face learning. The results of the assessment showed an average of 3.6 with a sufficient category. So learning is not only result oriented but also on making a product. Result of normality data using SPSS with method Kolmogorov Smirov **can be seen with count data 32 student. With data Kolmogorov Smirnov next will search t test.**

Table 7. Kolmogorov Smirnov and T-test

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Hasil Belajar	32	100.0%	0	0.0%	32	100.0%

Descriptives

			Statistic	Std. Error
Hasil Belajar	Mean		68.1563	.73204
	95% Confidence Interval for Mean	Lower Bound	66.6632	
		Upper Bound	69.6493	
	5% Trimmed Mean		68.3368	
	Median		68.5000	
	Variance		17.148	
	Std. Deviation		4.14104	
	Minimum		56.50	
	Maximum		74.50	
	Range		18.00	
	Interquartile Range		5.75	
	Skewness		-.523	.414
	Kurtosis		.539	.809

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		32
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	3.01076956
Most Extreme Differences	Absolute	.097
	Positive	.079
	Negative	-.097
Test Statistic		.097
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
CP Semester	32	68.1563	4.14104	.73204
Curriculum	32	83.1250	7.75695	1.37125

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CP Semester	93.105	31	.000	68.15625	66.6632	69.6493
Curriculum	60.620	31	.000	83.12500	80.3283	85.9217

From data we can analyze that result data Kolmogorov Smirnov 0.200 > 0.05 which shows Normal Distribution, whereas t-test shows different data of 32 or N = 32.

4. Discussion

Curriculum Based Contextual and message design in Elearning using animation can attract students' learning styles 1) Visual, 2) Auditory, 3) Auditory-Visual, with the indicator that animation is an engineered form of message consisting of 1) GIF format images presented on slides that can attract the attention of students' visual learning styles, 2) Text containing basic concepts or theoretical foundations along with their explanations presented on slides that can attract the attention of students' visual learning styles, 3) Selection of attractive templates on slides students ' visual learning styles, 4) The combination of words, pictures, templates and sounds arranged in seconds can attract the attention of students' visual auditory learning styles, 5) Sounds that are adapted to the movement of gif format images. The use of the curriculum has an impact on learning outcomes and outcomes, namely creating contextual products. The results of the research are in the form of stages in implementing the curriculum, namely ODDE (Observation, Design, Development, and Evaluation). This stage does not have implementation because research is always applied in an educational environment. With the existence of a contextual-based curriculum in e-learning, it can later reduce GAP or the gap between the learning environment and the institutional environment. Many people say that education

is oriented to theory, with this curriculum later the curriculum will not be based on theory alone but its application as well.

5. Conclusions

The use of the curriculum based Contextual is expected to add insight for students in implementing the knowledge gained into the real world. The use of curriculum is useful in explaining a series of theories that occur in the real world. While the use of message design is used in designing messages in online learning. Animation is used to explain theoretical concepts contextually oriented to contextual products. Learning in e-learning should use various media such as animation as an intermediary in the delivery of contextual messages. This requires in-depth, systematic and structured planning. Each meeting should contain animations that can attract 1) Visual, 2) Audio Visual, 3) and Auditory learning styles. It aims as an introduction to courses that must be understood by students before having face-to-face meetings with lecturers synchronously with zoom meetings so that educators know the extent of knowledge gained by students. and through animation media it can be entertaining to make learning fun without feeling that students have learned some knowledge. It is necessary to carry out a

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