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Smartphone Based Authentic Learning Design Model by Paying Attention to the Characteristics of Learners in Increasing the Ability to Write, Communicate, and Learners' Creativity

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Abstract: Designing learning is oriented towards real / authentic things, to be synergized with the information structures that students already have. Everything related to information / messages to be conveyed is always associated with real experiences or events in the field which will give students more challenges to be able to find out more about what they already know and even experience. The message / information to be conveyed is of course not only done face-to-face, but also by using learning media. Communication media that are easy to use and fun and can be done at any time are the main part of this research design. Today, smartphone media is no longer a luxury item and is even a necessity for every individual. This learning design uses a smartphone as a communication tool between learners and learners, between learners and learners, and between learners and other learning sources. This research will facilitate learners' willingness to learn by considering the characteristics of the learners and the ease with which learners participate in the learning process, so that the learning process will not be boring and have fun. Other characteristics in this study will be considered such as achievement motivation and learning styles.

This research is a type of development research that refers to the development research steps of Borg & Gall (2003). Meanwhile, the steps in developing a learning design model refer to the Dick & Carey (2001) development design.

The results of product validation found that the attractiveness of the learning design model presentation program for students was found to be 90% said it was feasible, the relevance of the material studied said 95% said it was feasible, the benefits of smartphone application media and the material studied said 95% was feasible, the suitability of the material being studied with easy access to the material says 90% feasible, and Communications in online tutorials by learners say 95% feasible.

The conclusion obtained after the implementation in the field is that authentic learning products can be used by lecturers and teachers in designing learning at schools and colleges

Keywords: Authentic Learning Design, Smartphone, Student Characteristics, Communication Ability, Writing Ability, Creativity.

PRELIMINARY

The habits inherent in the learning process are always visible in a rigid classroom, the material is presented in the form of a plus lecture (plus power point media, plus monotonous discussion). This habit places students in a passive (behavioristic) individual position, the drill method (habituation) always appears. Strong behavior will emerge when reinforcement is given and will disappear when punished.

Learning is not just a writing activity on a whiteboard or a lecture with the concept of transferring knowledge, but learning is a lifelong adventure, a journey of endless exploration to create our own personal understanding. Learning is a process of interpreting new information by linking it with the information structure that is owned by the learner. Cognitive theory describes what happens in a person when individuals learn. Cognitive theory focuses on internal events. Arrangement of conditions is not a cause of learning, but only how to make learning easier, it is the activeness of learners that can determine the success of learning. How can students learn in the best way, so that students can grow and develop according to their potential? This problem cannot be separated from the potential of learners in designing their learning.

Starting from the background of this problem, this study aims to find a solution, how to make it easier for learners to develop learning design models easily, not complicated, and have high motivation in designing their own learning according to the characteristics of the subjects being taught.

Designing learning is oriented towards real / authentic things, to be synergized with the information structures that students already have. Everything related to information / messages to be conveyed is always associated with real experiences or events in the field which will give students more challenges to be able to find out more about what they already know and even experience. The message / information to be conveyed is of course not only done face-to-face, but also by using learning media. Communication media that are easy to use and fun and can be done at any time are the main part of this research design. Today,

smartphone media is no longer a luxury item and is even a necessity for every individual. This learning design uses a smartphone as a communication tool between learners and learners, between learners and learners, and between learners and other learning sources. This research will facilitate learners' willingness to learn by considering the characteristics of the learners and the ease with which learners participate in the learning process, so that the learning process will not be boring and have fun. Other characteristics in this study will be considered such as achievement motivation and learning styles.

Learning with fun, of course, cannot be separated from what media does not make it difficult for students to access it. This means that the provision of media must be able to meet the needs of individual learners as well. The rapid development of internet media which can now be packaged not only on computers or laptops, but now it is browsed on mobile phones with all the sophistication of applications. Whatever the form of the media, the learning media is all the sources needed to communicate with students (Martin & Briggs, 1986). In choosing learning media, you should consider how the strategy for delivering learning content to learners such as the level of interaction it can generate, the level of ability it has, the level of motivation that can be generated and the level of costs required.

The results of the survey conducted on students, all students have cellphones / smartphones that have applications such as WhatApps, Line, Instagram, Messenger, e-mail, and Facebook. However, this application is only used a small part in the learning process. And in using it to communicate only at a level that is not packaged systematically in the learning process.

To find out whether the authentic learning model assisted by smartphone applications has effectiveness, efficiency, and attractiveness of learners, so that it has an impact on improving the ability to communicate, write, and creativity, a trial will be carried out as an implementation of the learning design model. From the results of the analysis, it will be used as a book on how to design a model of its own learning according to the characteristics of the subject. Furthermore, after the compilation of this book, training and assistance will be carried out in compiling / designing authentic learning and how to design innovative and creative learning.

Based on the topic of strategic planning research, learning that should have been expected for a long time is how learning is innovative, creative, and fun as well as the application of a new curriculum that there are not many learners in its implementation. From the survey results, the tendency of learners in designing learning is also mostly done by copying and pasting from colleagues who have designed it before. So that the fact is that there is an inability of learners to design their learning and the implementation of the learning process that still uses the method, the old boring strategy is still being carried out.

This study aims to develop an innovative learning design model, which is based on the ease of learning for students, and meets the needs of students, so that the learning design model is not boring. The final goal of the learning design model is a guide book on how to design authentic learning by paying attention to the characteristics of learners who are fun, making it easier to learn so that learning behavior arises. Furthermore, this research was carried out in stages.

The learning device will be validated to see the feasibility of implementing it in the field. Then there will be dissemination / testing of limited scope (small scale) products and evaluation and revision of the product.

The findings in this study are expected to have an authentic based learning design model. The learning process is designed by considering the characteristics of learners by identifying characteristics in terms of cognitive style, achievement motivation, and learning styles. From the results of the survey that has been conducted, it is described that the findings in the field, learners in the learning process use a model / method without looking at the characteristics of learners, characteristics of the subject. Even though several methods are used, the methods are used individually. The lecture method is used as the main method which is accompanied by the use of power point media. To determine the student's learning progress, learners conduct evaluation with old methods such as objective tests and subjective tests. The test principles advocated in the new curriculum are not being met. The class discussion is still carried out in a monotonous model, and each group is doing the same task. It is clear that in the learning process, learners in general still use the old boring methods, and the ability to design learning is still minimal.

The outputs in this study are: (1) Books on how to design authentic learning for learners (both teachers and lecturers), the product of the results of this research is entitled "Smartphone-Based Authentic Learning Design Model" (Improving the Quality of Learning by paying attention to the characteristics of fun learners) ; (2) Authentic-based module books in the teaching field of the educational profession in the implementation of a complete authentic learning process which is a package with a smartphone application assisted learning design model; (3) Internet application-based learning blog or web that can be accessed easily on a smartphone. In storing material from learners it is done with some content that can be accessed by learners very easily.

In improving the quality of learning, of course, it is determined how the learning design is designed by learners. In this study, researchers in the learning design model will be based on cognitive theory, which is a theory that views the learning process that links new knowledge to the knowledge structures already possessed by learners. A good learning design always involves all the variables that affect learning. In the authentic learning design model, the researcher identifies and analyzes all the variables both theoretical and empirical that affect learning. The variables that influence the learning behavior are learning conditions, learning methods, and learning outcomes (Degeng, 2008). Furthermore, Degeng emphasized that the conditions in learning include all

variables that cannot be manipulated by the designer and must be accepted by the learning content, the limitations of learning resources, and the characteristics of the learners.

In designing learning, the learning method should include all the means used to achieve learning objectives under certain conditions such as strategies for organizing learning content, strategies for delivering learning content, and strategies for managing learning. Learning outcomes include all the consequences that arise from using certain methods, such as effectiveness, efficiency, and attractiveness of learning.

So, the essence in designing learning is how to determine the optimal learning method to achieve the desired learning outcomes. In designing learning, it is emphasized on how to choose, determine, and develop the learning method variables. Selection of learning methods must be based on an analysis of conditions and learning outcomes. The analysis will show how the learning conditions and the expected learning outcomes are, after which only determining and developing learning is carried out, so the steps to determine and develop learning methods are carried out after the learning design has information about the real conditions that exist and the expected learning outcomes.

The authentic learning design model of this study will combine several strategies that support authentic learning as an innovation in the learning process strategy. Students in completing their assignments can investigate the answer by constructing the knowledge they already have from several sources both books and the internet. In determining the optimal method, researchers in designing learning hold the principle that there is no superior method for all objectives or conditions, different methods / strategies have different and consistent effects on the results, and different learning conditions also have a consistent effect on the results. learning.

The authentic learning design model in this study is essentially a cognitive theory that is consistent with what should be done in the learning process. From several cognitive theories in designing authentic learning, these theories will be synergized into one unit with a multimetode concept. However, the design that the researcher developed pays close attention to the characteristics of learners (cognitive style, achievement motivation, and learning style) to be taken into consideration in designing authentic learning. The concept of authentic learning will implement learning by prioritizing the needs of learners in learning. Face-to-face meetings in class are not mandatory, but can be done outside the classroom as a more open form of learning. Gagne (1979) states that a learning process is needed that is more open, more conducive to independence and a better attitude towards schools, teachers, and themselves. In this context, by learning openly, students learn in many classrooms with a freer and informal atmosph \Learning media are all the resources needed to communicate with learners (Martin & Briggs, 1986). In choosing instructional media, it should be able to consider how much the level of interaction is generated, how much motivation is generated and the costs required. In the use of learning media that is no less important is paying attention to the characteristics of learners. This means that the closer to the differences in the characteristics of learners in choosing media, the higher the level of motivation that will be generated by the media. Heinich, Molenda, & Russell (1985) in Degeng (2008), states that "if instructional media are to be used effectively, there mus be a match between the characteristics of the learner and the content of the learning material and its presetation".

The interaction between learners and the media is an important component in designing learning strategies. Besides online media which is used to access information from sources, it is also used to communicate with other learners and learners (Smaldino, Lowther, Russell, 2011). Computers / laptops have the ability to convey any information, so students and learners can access electronic documents to enrich their studies, and the most important thing is that students can interact with online learning by providing an interactive environment.

For the purposes of the learning design model in this study, the media will be packaged into two categories, namely media intended for students to enrich their studies in completing tasks that are easy to access. While the second media is a smartphone with its application. Students will be given the freedom to use applications that they like and master in communicating between peers, with learners, or with experts or anyone who learners will ask about completing their learning tasks. This application will be appreciated by other learners and learners for online discussion events (online tutorials) in the form of WhatsApp, Facevbook, Instagram, Blog, Slideshare, and the time provided of course after face-to-face class meetings (face-to-face tutorials).

In this research, the researcher identifies the variables of student characteristics about the characteristics of cognitive style, achievement motivation, and how to learn about learners. Cognitive style is one of the characteristics of learners in receiving information, namely how to think and remember information in solving a problem. Keefe (1987) states that students' cognitive styles in receiving information, their attitudes towards information, and their habits related to their learning environment. This cognitive style is relatively still attached to the learners, so that learners can design strategies in providing guidance to learners. The cognitive style of experts divides these characteristics into the field dependence cognitive style and the field independence cognitive style (Fatirul, 2012). The field dependence cognitive style and the field independence cognitive style are related to the perception of differences between global and analytical ways of understanding a particular object and situation (Witkin, 1976).

To find out whether students have a field dependence cognitive style and a field independence cognitive style in this study, this study was conducted using the GEFT (Group Embedded Figure Test) measuring instrument. Keefe (1987) states that individuals

who receive information starting with active analysis are called the individual having a field dependence cognitive style, while individuals who receive information do not perform active analysis are called field independence cognitive style. Fritz (1992) also states that individuals who have a field independence cognitive style will use an active way of thinking that includes cognitive structuring skills, while individuals who have a field dependent cognitive style tend to use passive thinking in the context of learning.

Previous research on cognitive style has proven that there is a difference between learners who have a field independence cognitive style and those who have a field dependent cognitive style and there is an interaction between cognitive style and learning strategies (Globerson, 1990). Leader & Client (1994) in their research concluded that students who had field independence cognitive style had a significantly higher post-test score than students who had field dependence cognitive style in searching data based on hypermedia. Ratumanan (2004) states that learners who have a FI cognitive style have better learning outcomes than students who have an FD cognitive style. Prastiti (2006) stated that the ability to communicate mathematics and solve story problems was significantly different between the field independence cognitive styles (higher) than the students who had the field dependence cognitive style (lower). Sahartian (2007), found differences in learning achievement between groups of FI and FD students, and also obtained the results of the interaction between team assisted individualization versus individual learning methods and cognitive styles on learning achievement. The learning achievement of PGSD S-1 students in learning and learning courses between groups of students who have a field dependence cognitive style and field independence shows a difference. The learning achievement of students who have a field independence cognitive style is higher than students who have a dependent field cognitive style (Fatirul, 2012).

Achievement Motivation is the desire of individuals to achieve achievement. Achievement motivation is one of the characteristics inherent in learners. Every individual whoever always wants his / her desire to achieve maximum learning goals, meaning that the individual will try to get his wishes according to predetermined standards?

Students in carrying out their learning tasks in achieving achievement always want to get satisfying learning achievements. However, each student with their uniqueness sometimes has strong achievement motivation (high achievement motivation), and there are students who have low achievement motivation in themselves.

In the opinion of Keller, Kelly, and Dodge (1978) that have been cited by Degeng (2008), there are six characteristics of achievement motivation that seem consistent to be found in the school context, namely individuals who have high achievement motivation tend to prefer to be involved in situations where there is a risk of failure, meaning that the individual likes success but with a challenge, highly motivated individuals will work hard to achieve success regardless of the rewards that will be given when successful, highly motivated individuals tend to make realistic choices or actions to suit the tasks they are doing, individuals who highly motivated individuals will assess and make judgments or make their own decisions, highly motivated individuals also have far-reaching perspectives, and highly motivated individuals do not always show high achievement values because values are influenced by extrinsic factors..

How to learn learners in question is how learners learn about the teaching material provided by learners. This method of learning is explicit, such as how learners follow the learning process, take notes, make summaries, obtain new information related to the teaching material they are studying, organize their learning schedule, and last but not least is a place to learn.

This learner characteristic is very attached to the learner, and cannot be manipulated. The characteristics of this learner are very unique, this uniqueness is because these characteristics are inherent in the learner. This way of learning is closely related to the characteristics of the learner's cognitive style and student achievement motivation. Students who have a high field dependent learning style tend to take part in the learning process and will only record the most important parts compared to students who have a field dependent cognitive style who tend to follow the learning process to record all the teaching materials given (without sorting out the parts urgent.

Students who have high achievement motivation tend to always follow the learning process diligently and more frequently than students who have low learning motivation. And more importantly, students who have high achievement motivation, tend to look for more learning resources, compile their own lecture notes and are tidy with good quality. Students who have low achievement motivation do not have this tendency.

METHOD

This research is a type of development research that refers to the development research steps of Borg & Gall (2003). Meanwhile, the steps in developing a learning design model refer to the Dick & Carey (2001) development design.

The research design was carried out in several stages as follows: The data collected through this study were in the form of data collection on:

(1) The attractiveness of the learning design model presentation program for students,

(2) The relevance of the material being studied,

(3) The usefulness of smartphone application media and the materials studied, and

(4) the suitability of the materials studied with the easy access to the materials and
(5) communication in online tutorials by students.
Data in the form of numbers is processed / analyzed using descriptive statistics which are presented in the form of a percentage. While the presentation of qualitative data is in the form of exposure and explanation of the data.

RESULTS

1. Overview of Needs Analysis Results

No.	Components to be Evaluated	Assessment categories	Assessment
1	The appeal of the module offerings	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	4
2	The ability to provide motivation	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	4
3	Clarity of instructions in carrying out learning assignments	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	5
4	Ease of task to understand	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	5
5	The operationality of the formulation of competencies	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	5
6	Clarity of material exposure	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	4
7	Clarity of examples presented	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	3
8	Clarity of assignments	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	5
9	Suitability between assignments and materials	a. Very inappropriate	5

		b. Not quite right c. quite right d. Exactly e. Very precise	
10	The accuracy of the contents of the summary with the presentation material	a. Very inappropriate b. Not quite right c. quite right d. Exactly e. Very precise	4

The survey in the study was carried out through a needs analysis using a questionnaire to 46 students of Physical Education. The questionnaire contains questions about: students' interest in software in cyberspace / the internet that has been developing so far, the needs of learners about the learning process associated with the internet in educational introductory courses, the use of learning

Process software related to the internet world, the relationship between learning material with the world of the internet. Survey analysis data through needs analysts about the interest in the internet-assisted distance learning process needs to be developed or not in the learning process. The results are shown in the percentage below:

Table, 1: Overview of Needs Analysis Results

No.	Information	Answer	College Student	Percentage
1	Are you familiar with internet-assisted learning?	a. Know b. Do not recognize	27 3	85% 15%
2	Would you agree if internet assisted learning was developed?	a. Agree b. Disagree	29 1	98% 2%
3	Do you think that lecturers and students can use internet-assisted learning?	a. Use b. Don't use	25 5	95,5% 4,5%
4	Would you agree if the existing courses were developed to enrich the material in the internet world?	a. Agree b. Disagree	29 1	98% 2%
5	Does the material for each course need to be focused on authentic problems in the field?	a. Need b. No need	26 4	87% 13%

2. An overview of the results of expert studies in the field of study

The total score of experts in the field of study is 44, so the percentage is 88%, which is obtained from the total score divided by the maximum number of scores and multiplied by 100%. If the score is converted into a five-scale benchmark reference rating, then the expert judgment in the field of study is in the very high category.

Table, 2: Overview of Experts in Field of Study Teaching Results

3. Description of Small Group Trial Results

The trial was carried out on students with the number of respondents 12 students. All components are assessed in the range of values 1-4, namely the value 1 = very poor / appropriate / attractive, 2 = not good / appropriate / attractive, 3 = good / appropriate / interesting, and 4 = very good / appropriate / attractive. Each aspect was assessed using the percentage descriptive technique as follows:

$$\frac{\text{Answer x The weight of each option}}{\text{Voters x Highest weight}}$$

With the following criteria:

Table, 3: Criteria

Very not good / appropriate / interesting	Not good / appropriate / interesting	Good / appropriate / interesting	Very good / appropriate / interesting
0% - 55,0%	56,0% – 65,0%	66,0% - 80,0%	81,0% - 100%

The resulting data is criticism, input, and general suggestions from respondents to the components being evaluated. An overview of the trials in small groups is shown in table 2 below:

Table, 4: Overview of Small Group Trial Results

No.	Components to be Evaluated	Percentage of Each Component
1	The appeal of the module offerings	87,5%
2	The ability to provide motivation	83%
3	Clarity of instructions for doing assignments learning	83%
4	Ease of task to understand	75%
5	The operationality of the formulation of competencies	83%
6	Clarity of material exposure	79%
7	Clarity of examples presented	62,5%
8	Clarity of assignments	75%
9	Suitability between assignments and materials	83%
10	The accuracy of the contents of the summary with the presentation material	75%

4. Overview of Test Results

The design that was evaluated on the basis of information during the small group trial was revised and then tested in the actual group / field trial on PKO students class 2018 in the first semester with 24 student respondents. All components in the range of values 1-4 are the values 1 = very poor / appropriate / attractive, 2 = not good / appropriate / interesting, 3 = good / appropriate / interesting, and 4 = very good / appropriate / interesting. Each aspect was assessed using the percentage descriptive technique as follows:

$$\frac{\text{Answer x Weight of each choice}}{\text{Highest x weight selector}}$$

With the following criteria:

Table, 5: Criteria

Very not good / Very not Very not good / appropriate / interesting	Not good / appropriate / Not good / appropriate / interesting	Good / appropriate / Good / appropriate / interesting	Very good / appropriate / Very good / appropriate / interesting
0% - 55,0%	56,0% – 65,0%	66,0% - 80,0%	81,0% - 100%

The results of the field trials get an overview of the results of field tests as presented in table 6 below:

Table, 6: Overview of Field Trial Results

No.	Components to be Evaluated	Percentage of Each Component
1	The appeal of the module offerings	96%
2	The ability to provide motivation	94%
3	Clarity of instructions in carrying out learning assignments	96%
4	Ease of task to understand	88%
5	The operationality of the formulation of competencies	85%
6	Clarity of material exposure	96%
7	Clarity of examples presented	94%
8	Clarity of assignments	96%
9	Suitability between assignments and materials	88%
10	The accuracy of the contents of the summary with the presentation material	96%

DISCUSSION

A. Discussion

1. Needs Analysis

Based on the results of the needs analysis questionnaire in table 1, it can be explained as follows:

a. Students who already know are 85% about internet learning in learning.
b. Students who expect that internet-assisted learning need to be developed are 98%
c. Students expect lecturers and students to be able to use internet-assisted learning as much as 95.5%.
d. Students expect that to enrich the material in learning taken from the internet as much as 98%
e. Students expect that the learning material is directed at authentic problems in the field as much as 87%

Based on the results of the student's needs analysis on the design of using the internet in the learning process in educational introductory courses, it needs to be followed up to be developed.

2. Field Experts Trial.

Based on the results as in table 2, the trials conducted by experts in the field of study can be explained that in the assessments categorized as ranging from 1 to 4, then from the results of the study of experts in the field of study the total score of experts in the field of study is 44, so the percentage is 88% obtained. of the total score divided by the total maximum score and multiplied by 100%. If the score is converted into a five-scale benchmark reference assessment, then the expert judgment in the field of study is in the high category.

Thus the teaching materials developed can be applied in the learning process of introductory education courses in the 2018 semester 1 Physical Education study program, Faculty of Teacher Training and Education, PGRI Adi Buana University Surabaya.

3. Small Group Trial

From the test results shown in table 4, it can be explained as follows:

a. From the presentation materials and software as a means of communication between students and students and students and lecturers, students have an interest / attraction, namely 87.5%, so that the presentation in this learning process will be able to motivate students in the process of activities. Learning. However, to get maximum results, at this point it still requires revision.
b. In the learning process which is equipped with internet communication tools and teaching materials, students have a sense of wanting to learn, meaning that students are motivated by internet / online media because it is adjusted to what the students are good at, namely 83%. However, this point also needs revision to balance other factors.
c. Clarity in the instructions in following the learning process gets 83%, which says about the clarity of the instructions, so that students can easily answer problems in doing the given assignment. This point will also be revised to get results that are near perfection.
d. Ease of the task in the sense that the assignment given is adjusted to authentic problems in the field, getting a percentage of 75%, this means that the task given arouses students' interest in being able to solve their learning problems. However, in the predetermined targets this point requires revision.
e. The clarity of competence that is expected after participating in the learning process is quite easy to understand and understand by students who get a score of 83%, so that students are always aware of what to do in learning after everything is finished. However, this point requires revision to balance it with other materials in order to achieve perfection.
f. Clarity of material exposure accompanied by instructions that lead students to what to do produces a percentage of 79%, so it can be said to be quite understood. However, the teaching materials still need improvement in clarifying what is expected.
g. The clarity of the examples presented is rated 62.5%, this means that at this point the presentation still needs to be revised.
h. Clarity in the assignment given scores 75%, this means that this section still needs a little revision.
i. The conformity between the tasks and the presentation material gets a score of 83%, meaning that in this section it can actually be said to have achieved a little perfection in its implementation, but the researcher thinks there is a need for improvement.
j. The summary presentation of each material presentation gets a score of 75%, this means that at this point it gives a fairly high assessment but still needs improvement so that the summary presentation can represent the presentation of the material as a whole.

4. Field Trial

From the test results shown in table 4, it can be explained as follows:

a. From the presentation materials / materials and software as a means of communication between students and students and students and lecturers, students have an interest / attraction of 94%, so that the presentation in this learning process will be able to motivate students in the learning process activities.

b. In the learning process that is equipped with internet communication tools and modules, students have a sense of wanting to learn, meaning that students are motivated by internet / online media because it is adjusted to what the students are good at, namely 96%. So that this point can be said to meet the requirements.
c. The clarity of the instructions in following the learning process gets a portion of 94%, which says about the clarity of the instructions, so that students can easily answer problems in doing the given assignment.
d. Ease of assignment, in the sense that the assignment given is adjusted to authentic problems in the field, gets a percentage of 88%, this means that the assignment given arouses students' interest in learning to be able to solve their learning problems.
e. The clarity of competencies expected after participating in the learning process is quite easy for students to understand and understand (85%), so that students are always responsive to what must be done in learning after everything is finished.
f. Clarity of material exposure accompanied by instructions that lead students to what to do produces a percentage of 96%, so it can be said to be quite understood. So that this point has been said to be sufficient and does not require improvement
g. The clarity of the examples presented gets an assessment of 94%, meaning that at this point in the presentation it can be implemented to know the overall learning program.
h. Clarity in the assignment given gets a score of 96%, this means that at this point the presentation can reach perfection and can be applied in the learning process.
i. Conformity between assignments and presentation material gets a score of 88%, meaning that this point has met the criteria to be applied.
j. The summary of each material presentation gets a score of 96%, this means that at this point it gives a high enough rating so that it can be applied.

CONCLUSIONS AND SUGGESTIONS

A. Conclusion

The conclusion obtained after the implementation in the field is that authentic learning products can be used by lecturers and teachers in designing learning in schools and colleges. In connection with the research objectives and the results obtained in this study, it can be concluded:

1. From the survey results through a needs analysis about the need to develop an internet-based / online learning model, it is found that students really need this learning model, so that the learning process in this course is designed on an internet basis.
2. In research to expedite the internet-based learning process, teaching materials that are equipped with instructions for studying teaching materials have also been developed and an outline of the learning program contains the distribution of teaching material with reference to the expected competencies. The material developed contains only core parts with the hope that students can develop and enrich the material in the form of assignments given by enriching material in cyberspace / the internet.
3. In this study also developed the use of software that supports online tutorials, which are intended for students' interests in communicating / asking questions about completing assignments or material that has not been understood via e-mail, SMS, telephone, Facebook, WhatsApp, or Twitter.

B. Suggestions

1. The results of this development research need an in-depth study that is focused on the study of how much individual involvement in the group, which will later act as a control in the assessment of each individual and collaborative group.
2. It needs to be further developed, equipped with learning scenarios, in which there are steps in the learning process.
3. Any media that is used as a learning tool or teaching material will not function optimally if the delivery of the material is not followed by the right learning strategy. Therefore, it is necessary to include what methods or strategies will be used in the learning process with existing tools / media to achieve the learning progress of each student.

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