

Development of guided inquiry-based accounting learning module to improve creative and disciplin character

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ABSTRACT: This study aims at producing a guided inquiry-based accounting learning module to improve students' creative and discipline character and to know its effectiveness. This research belongs to research and development which refers to Borg & Gall model. The subject of this research is the eleventh grade accounting students at a public vocational school in Karanganyar, Indonesia. The subject is divided into three: subject for preliminary test consisted 10 students, subject for field test consisted of 25 students who do not involve in the initial test, and subject for operational field tests consisted of 36 students. The product of this study is a guided inquiry-based accounting learning module. The results show that the developed accounting learning modules is feasible according to material experts, media experts and learning experts with excellent rating categories. Accounting learning module is considered effective because the results of t test on the creative character for 4,854 and the discipline character of 1,926 greater than t table that is 1,999 so it shows there is a significant difference of creative character and discipline between students who follow the learning with the developed module of accounting learning and those who do not.

1 INTRODUCTION

Education is a conscious and planned effort undertaken by a person to develop his potential to be beneficial to his life interests. Education is also one of the factors that affect the existence of a nation. By means of education, the next qualified generation will be born to contribute to the development of the nation's life.

As one effort to improve the quality of education, the Indonesian government develops the Curriculum 2013 which is expected to equip the nation's next generation to increasingly competitive competition. The objective of the development of Curriculum 2013 is to prepare the human resources of Indonesia to be faithful, productive, creative and innovative individuals as well as citizens and to contribute in the life of society, nation, state and civilization (Permendikbud No. 67 Tahun 2013). The development of curriculum 2013 emphasizes character-based education and competence.

Character education is expected to create dignified nation, prestigious community and competitive people to compete in global competition. Character education in Curriculum 2013 aims at improving the quality of education processes and outcomes, which lead to the formation of noble

character and noble morals of the students as a whole, integrated and balanced, in accordance with the Graduate Competency Standards in each education unit (Mulyasa 2014).

Furthermore, curriculum 2013 is expected to form a strong character in students. Character is a particular characteristic of someone which distinguishes him from others (Bohlin 2005). The characters within a person can shape a person's morale, a good character will form a good moral as well as the opposite (Nucci & Narvaes 2008). However, in reality the character of students today is still very weak, especially in terms of creativity and discipline. The students' creativity decline can be observed from the learning process; they lack the initiative to ask questions and to generate new ideas. The students' discipline is also fairly low; being late and undisciplined to the classroom order are the examples.

The development of creative and disciplined character can be started from the behavior of students in schools that can be integrated to the learning process in school. Therefore, it takes a learning media to accommodate the application of student character. Learning media will greatly assist teachers in transferring knowledge to students. Furthermore, Chetty et al. (2003) state that module

can act as an instructional aid and helps not only in understanding the fundamental concepts but also in providing a greater appreciation of the applications of EM theory.

Based on an interview conducted to an accounting teacher of the eleventh grade at the participated public vocational school on June 7, 2016, it was found that the teacher did not develop instructional media, such as guided inquiry-based module, to build his students' character. The current learning process uses only teacher books and student books distributed by the government. The result of need analysis in the participated school, shows that there is no teaching materials to be used to develop students' skills in thinking critically and creatively, thoroughly and integrated. Students' understanding on a concept is merely to memorize the material rather than integrate it to their own skill. A learning process requires the integration of the three aspects of skills, cognitive, affective and psychomotoric, in order to achieve the purpose of learning. However, the current learning process tends to only prioritize students' cognitive aspect, while affective and psychomotoric aspects that emphasize the formation of student attitudes have not been maximized.

The low creative character and discipline of the students at the participated school, especially the eleventh grade accounting students, must be addressed. Then it requires a learning media with approach of character education-integrated learning model. A suitable learning model to embed the character's value is guided inquiry. Integrating guided inquiry-based accounting module is expected to improve students' understanding on learning material and to increase their creativity and discipline.

Guided inquiry learning is the use of the relevant way to gather information and to use logical analysis through some investigation as well as investigating surrounding phenomena with guidance of guiding questions, so that students solve problems based on facts they find (Joyce & Weil 2011). Guided inquiry is an inductive learning method. It presents the surrounding phenomenon into the class, with the result that students are encouraged to construct their knowledge through an interaction between their experiences and the surrounding phenomena (Rusche & Jason 2011). Guided inquiry learning enables students to build on their knowledge and helps them develop their comprehension of a concept (Pandey et al. 2011, Minner et al. 2010, Wilson et. al. 2010).

Based on the problems found in the participated

school, it is necessary to develop an accounting learning module to encourage students to think more critically. The module should be based on one of the active learning approach models which is suitable for the material of career in finance and corporate, that is guided inquiry integrated to character education. The guided inquiry-based accounting learning module has several advantages including: 1) Providing students a base to be actively learning to build concepts, cooperate, understand and solve problems; 2) Facilitating students to build skills throughout their lives; 3) Training students' critical thinking skill; 4) Being useful for teachers in delivering learning material to students; 5) Encouraging students to be more creative to establish more interesting learning activities; And 6) Providing students opportunities to learn independently.

2 METHOD

The development model in this research follows the design of Borg & Gall (1983) consisting of 10 steps. The steps are: (1) gathering information and conducting preliminary form of product (4) development and in-formation collecting; (2) planning; (3) developing preliminary form of product;) Preliminary field testing, (5) revision to main product re-vision, (6) main field test- ing, (7) revision of test result product Operational field revision, (8) operational field testing, (9) final product revision, and (10) dissemination and implementation (dissemination and implementation). A guided inquiry-based accounting learning module product first validated by media experts, material experts, practitioners and linguists then revised.

The subjects of the experiment in this study are the eleventh grader students accounting major at a public vocational school. Preliminary test subjects sebananyak 10 students and field trials as many as 25 students from one class. Subjects for testing lapanagan operations in the experimental class as many as 35 students, and control class as many as 36 students the other class.

Data collection in this research uses interview technique and observation sheet for product assessment guidance to get data about validity of learning module from material expert and learning media expert. The validation sheet is used to determine the effectiveness of the resulting learning module. In addition, rating scale is also used to observe the creative and disciplinary characters that appear in students in the learning process during field trials and field tests based on direct

observation. This rating scale uses Likert scale with five scale criterion.

Data analysis technique used is quantitative descriptive data analysis conducted to analyze data of observation result. The quality of the draft learning device was prepared and analyzed by the materials experts, character experts and evaluation experts prior to the initial test, field trials, and field trials. Based on the three test results obtained a number of quantitative data. The data is then analyzed to obtain the final research product that is expected, namely in the form of guided inquiry learning accounting module to build creative character and discipline.

Analysis of feasibility data of learning module is done by changing the assessment in the form of qualitative become quantitative with the provision of score 5 for very good criterion, score. Analysis of the improvement of creative and disciplinary characters is done to determine the difference of the use of learning modules viewed from the pre-test and post-test results through student character observation. The rating scale of creative and disciplinary characters filled by the observer yields the average score to be analyzed. The resulting average score will be converted to scale four.

Analysis of differences in creative and disciplinary characters was also done to determine differences in the improvement of creative and disciplinary characters in the experimental class and control class. The prerequisite test that must be met before t test is the normality test and homogeneity test. Normality test was performed using kolmogorov-smirnov test and homogeneity test of creative character and discipline was done using F test with 5% significance level.

3 FINDINGS AND DISCUSSION

3.1 *Validation of the final product*

Based on interviews with the teachers, obtained information includes still difficulties in improving the student's character. At the time of the observation, the students did not have their own initiative to ask. In the literature study phase, the researcher conducted a study on the theory of learning module, guided inquiry learning, and character education. The activities are to analyze the books and journals. Study analyzed the book is about learning module, guided inquiry learning model and character education.

Based on the results of interviews to the teachers of the eleventh grade accounting students at the

participated school, it was found that the teachers are still difficult in improving the character of students. At the time of the observation, the students did not have their own initiative to ask. In the literature study phase, the researcher conducted a study on the theory of learning module, guided inquiry learning, and character education. The activity is done by analyzing the books and journals. The study of the book analyzed is about learning module, guided inquiry teaching model and character education.

Based on the preliminary study results, it can be concluded that the teacher needs a guided inquiry based learning module to improve the character of the students, especially the creative character and discipline. Improvement of creative character and discipline begins with habituation in school which can be done by integrating character values in every learning activity. Therefore, this research is focused on developing learning accounting module based on guided inquiry to improve the creative character and discipline of students of the participated school.

3.2 *Expert validation*

Data from the result of product assessment of accounting learning module conducted by material experts, media experts, practitioner experts can be seen in Table 3, Table 4 and Table 5. Based on Table 3 it can be concluded that the accounting learning module according to the expert material is very valid or usable without revision. Based on Table 4, the accounting learning module according to the learning media expert is very valid or can be used without revision. Learning module according to the learning media expert is valid or can be used with small revisions. According to Table 4, the learning accounting module according to the learner practitioner is very valid or can be used without revision.

3.3 *Analysis of preliminary test*

The preliminary test was conducted in Accounting Class XI with the subject number of 10 people. Selection of this subject is done randomly with attention to differences in students' abilities. The results obtained in the initial trial in the form of data effectiveness of learning modules. Measurement of the effectiveness of learning modules is done by giving the scale of teacher response to the implementation of learning module and the scale of student responses to the implementation of learning, filling observation sheet of student character by observer.

Table 3. The Assessment of the Learning Module by Expert

No	Aspect	Percentage	Categories
1	Content	84,52	Extremely Valid
2	Presentation	75,00	Valid
3	Language use	91,66	Extremely Valid
4	Learning Assessment	75,00	Valid
5	Learning Approach	81,25	Valid
6	Guided inquiry learning activity	75,00	Valid
7	Evaluation process	96,32	Extremely Valid

Table 4. The Assessment of the Learning Module by Learning-Media Expert

No.	Aspect	Percentage	Categories
1	Module size	75,00	Valid
2	Cover design	86,11	Extremely Valid
3	Content layout	84,21	Extremely Valid

Table 5. The Assessment of the Learning Module by Practical Expert

No.	Aspect	Percentage	Categories
1.	Language Assessment	88,46	Extremely Valid
2.	Content advisability	92,86	Valid
3.	Presentation	96,67	Extremely Valid
4.	Presentation of Inquiry learning	97,92	Valid
5.	Language assessment	92,86	Valid
6.	Benefit	95,83	Valid

Table 6. The Assessment of the effectiveness of Learning Module on Preliminary Test

No.	Aspect	Average	Percentage	Categories
1	Teachers' Response	29	82,85	Good
2	Students' Response	28	80,00	Good
3	Assessment of Creative Character	30	85,71	Very Good
4	Assessment of Disciplined Character	28	80,00	Good

Based on the results table assessment of effectiveness of accounting learning module in the initial test above shows that the accounting learning module proved effective in developing creative character and discipline. This is evident from the teacher's response to the category of good effectiveness, student responses with excellent effectiveness categories, and the results of creative and friendly character assessment with good effectiveness categories.

3.4 Analysis of Field test

Field test was conducted in the XI SC classroom with the number of subjects of 8 students who had not been subjected to trials in the initial trial. The purpose of field trials is to implement product revisions and evaluations based on initial test results. The results of the assessment of the effectiveness of learning tools on field trials can be seen in Table 7. The table shows that the accounting learning module has proved effective in developing creative and disciplinary characters. This is evident from teacher responses with good effectiveness categories, student responses with good effectiveness categories, creative character appraisal results and discipline characteristics with good effectiveness categories.

Table 7. The Assessment of the effectiveness of Learning Module on Preliminary Test

No.	Aspect	Average	Percentage	Categories
1	Teachers' response	29	82,85	Good
2	Students' Response	31	88,57	Very Good
3	Assessment of Creative Character	30	85,71	Very Good
4	Assessment of Disciplined Character	28	80,00	Good

3.5 Analysis of operational field test

Operational field trials were conducted in the XI A class of 20 students and XI C classes of 10 students as experimental class. There is a difference of creative character and discipline of students before and after learning by using guided inquiry based accounting learning module. The data of character observation in operational field trials are as follows. The results of the assessment of the effectiveness of the learning module on the operational field trials can be seen in Table below.

Table 8. The Assessment of the effectiveness of Learning Module on Preliminary Test

No.	Aspect	Average	Percentage	Categories
1	Teachers' response	29	82,85	Good
2	Students' Response	30	85,71	Very Good
3	Assessment of Creative Character	28	80,00	Good
4	Assessment of Disciplined Character	31	88,57	Very Good

Based on the above table shows that the learning module proved effective in developing creative character and discipline. This is evident from the teacher's response to the category of excellent effectiveness, student responses with excellent categories of effectiveness, the results of the assessment of creative characters and the character of discipline with the category of good effectiveness.

3.6 *Difference between character improvement before and after experiment*

The purpose of developing this learning module is to improve the creative and disciplinary characters. In this study also studied the difference of creative character and discipline of students before and after the implementation of learning by using guided Inquiry learning Accounting module. To determine whether or not there is an increase in creative and disciplinary characters, a paired sample test is performed as shown in Table 8.

Table 8 shows that the data of paired sample test shows that the acquisition value of creative and discipline character significance is less than 0.05 ($p: 0,000 < \text{sign } 0.05$) then based on the conclusion there is a significant increase of creative character And student discipline before and after attending learning with guided inquiry based accounting learning module.

3.7 *Difference between Creative and Disciplined Character Improvement on Experimental Class and Control Class*

In this study also studied about the difference of creative character result and student discipline using guided inquiry self-based instructional module. To determine whether there is a difference between the control class and the experimental class is an independent sample t-test.

Table 9. Analysis of the achievement of Creative and Disciplined Character in Experimental Class (EC) and Control Class (CC)

N	Creative		Disciplined	
	CC	EC	CC	EC
p (Condition)	0,05	0,05	0,05	0,05
p (Achievement)	0,000	0,000	0,000	0,000
Note	Significant		Significant	

Based on the above table shows that the results of independent t test (independent sample t-test) acquisition value of creative character significance and discipline less than 0.05 ($p: 0,000 < \text{sign } 0.05$). So based on the conclusion there is a significant

difference of creative and disciplinary characters of students who use learning with guided inquiry-based learning module.

4 DISCUSSION OF FINAL PRODUCT

The final product of this development is a guided inquiry-based accounting learning module to build creative and disciplined characters for the eleventh grade accounting students at the participated school. This guided inquiry-based accounting learning module is prepared by considering the completeness of the components contained in the education law (Permendikbud) No. 70 year 2013 on the basic framework and structure of the vocational school curriculum.

The guided inquiry-based learning accounting module is a systematically organized learning material which contains a series of teaching and learning activities in accounting subject that emphasizes students' activeness to solve problems through inquiry based on the existing guidance.

Based on the observations of creative and disciplined characters in the experimental and control classes showed the increase of the higher experimental than the control class. This shows that there is a significant difference of the average increase between the creative and disciplined character of students who follow the learning process using guided inquiry -based learning accounting module that has been developed to the students who do not. This shows that the use of guided inquiry-based module brought positive influence to the students' character improvement. This is in line with the opinion Stedje (2010) that character of students will be more developed and formed in accordance to the frequency of students' activities based on the character values.

Based on the results of operational field tests, the guided inquiry-based learning module could improve the creative character of the students. The increase was caused of the design of learning activities which support the learning environment that influence students to be more creative. This is in accordance with the opinion Tan (2007) that one of the factors that encourages students to be more creative is environmental factors. Therefore, this developed guided inquiry-based learning module supports the appearance of environment to enhance the creative character. This developed guided inquiry-based learning module is established to create a conducive learning environment for improving the students' character.

Furthermore, by means of guided inquiry-based accounting learning module cause the improvement of the student's creative character also supported. Learning by applying guided inquiry-based accounting learning module enables students to be active in scientific activities so as to demand students' creativity in solving problems. This is in line with the Development of Cultural Education and National Character (Baitbang 2010a) which explains that creative character is thinking and doing something to produce new ways or results from the existing ways or results.

Learning by applying guided inquiry model trigger students to learn more independently and more create to solve problems. The application of guided inquiry-based learning accounting module requires students to construct their knowledge through conducting investigations individually or in groups to find the answers to the problems presented. Therefore, the developed guided inquiry-based accounting learning module can enhance the creative character of the students.

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