

Implementation of Schoology-based E-Learning to Improve the ANEKA-based Character

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Abstract. Indonesian lecturers are said to be professional educators and scientists, and it is expected that lecturers can actualize the ideal character of government employee incorporated in ANEKA. This research is intended to internalize the ANEKA character to students through Schoology-based e-learning in Physics courses. This study is using pre-experimental design with one-group pre-test and post-test design. It is found in the implementation of pre-test mostly on shallow interpretation and has the medium category. After conducting Schoology-based e-learning, the post-test score of most on interpretation is very high, the lowest on common interpretation, no students at low and deficient levels. From all indicators of the ANEKA characters, the students experienced high category on the character of quality commitment, and very high category on the character of accountability, nationalism, public ethics, and anti-corruption. There were 19 students which experienced high interpretation, six students with common interpretation, and two students with low interpretation.

Keywords: e-learning, schoology, characters, ANEKA, LMS.

1 Introduction

In today's new economy characterized by industrial change, the information technology revolution, transfer and knowledge sharing, traditional classroom education and training does not always satisfy lifelong learning. Learning is shifting from instructor-centered to learner-centered and should be undertaken anywhere, from classrooms to homes and offices. E-Learning, referring to learning via the Internet, provides people with a flexible and personalized way to learn [1].

The development and revolution of ICT have brought enormous changes to the progress of education. E-Learning is an ICT innovation that has a considerable contribution to change in the learning process. Teaching materials can be visualized in more exciting and interactive formats and designs so that the learner will be motivated to engage further in the learning process. Furthermore, social networking sites (SNSs) have been gaining popularity and influence in recent days. The application of using SNSs in an education field is likely to provide more benefits to teacher and student. Especially when used in the teaching and learning management. Treepuech made a comparison of SNSs: Facebook, Twitter, Google Plus, and Schoology in various features that related to the use and application of teaching and learning management [2]. The applying of Schoology that designed for "especially when used in the teaching and learning management is suitable to work together with online tools and can support the teaching and learning management more perfectly" [2].

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In educational contexts, the exploitation of the LMS platforms offers integrated solutions on the distribution of course material, student management and interaction between stakeholders. One platform of LMS that can be used as an integrated solution as described before is Schoology. It can facilitate the development of e-learning environments with social features through a user-friendly dashboard and a variety of education-oriented services [3], effective and interactive for students' learning [4].

Through character education and e-learning, students can know, understand, and interact with the world of information and communication technology. The primary value of the character is not only done in courses related to personality, but also into all courses, including in the subjects of Physics. As stated by Hindarto that each course has content that is very valuable and relevant to the values of character education [5].

Based on government regulation no. 37 of 2009, lecturers are said to be professional educators and scientists. Given the importance of lecturers' duties, it is expected that lecturers can actualize the five fundamental values of government employee incorporated in *ANEKA* professionally in carrying out their duties and functions. It aims to internalize these fundamental values to form an honest, fair, disciplined, integrated, professional person, prioritizing the interests of the state and society, can maintain the unity of the nation, and always faithful and obedient to the unitary state and government of the Republic of Indonesia.

Many researchers have researched character education and the use of e-learning media. Recent studies by Pala aims to provide guidelines for the elements need for practical and comprehensive character education, to emphasize the need of character education to help students develop good character, which includes knowing, caring about and acting upon core ethical values such as respect, responsibility, honesty, fairness, and compassion [6]. Kusumandari stated that character education essentially aims to form an active person, competitive, noble, moral, toleration, cooperate, patriotic spirit, develop dynamic science and science-oriented technology and religious [7]. Further research conducted by Maharani and Dewi results that website-based e-learning is helpful to instill character education and the nature of independence [8]. Other research shows that the effectiveness of product development of e-learning science learning oriented character education can improve learning outcomes [9]. Moreover, Mertasari stated that online media could increase students' confidence to ask or argue. Online learning media to facilitate integrated general character education can facilitate planned learning [10].

Regulation of Menristekdikti No. 44 year 2015 on SNPT, article 5 paragraph (1) states that the graduate competency standard is a minimum criterion of graduate qualification which includes attitude, knowledge, and skill stated in the formulation of graduate learning achievement. Attitudes referred to are correct and cultured behavior as a result of internalization and actualization of values and norms reflected in the spiritual and social life through learning processes, student work experience, research and community-related devotion of learning. Moreover, in Article 11 paragraph (1) states Characteristics of the learning process consists of interactive, holistic, integrative, scientific, contextual, thematic, effective, collaborative, and student-centered. Therefore, this research would integrate *ANEKA*-based character education to internalize the *ANEKA* character to the students through Schoology-based e-learning in Physics course.

2 Method

The research uses pre-experimental design with the one-group pretest-posttest design. Research subjects are students who are taking the Physics courses of even semesters of 2017/2018 which joined by 27 students. The place of this research is done in Electrical Engineering Study Program Faculty of Engineering, Universitas Muria Kudus. The data collection is conducted by using the instrument in the form of a questionnaire. This research uses data about the character of ANEKA as well as the successful implementation of Schoology-based e-learning. Data analysis using percentage and gain test to measure the increase of ANEKA-based character.

3 Results and Discussion

Implementation of e-learning Schoology in Physics courses is done three times meeting of the Electricity materials. Materials taken include Coulomb Laws, Electrical Current, and Electrical Circuits. The view of Schoology-based e-learning can be seen in Figure 1.

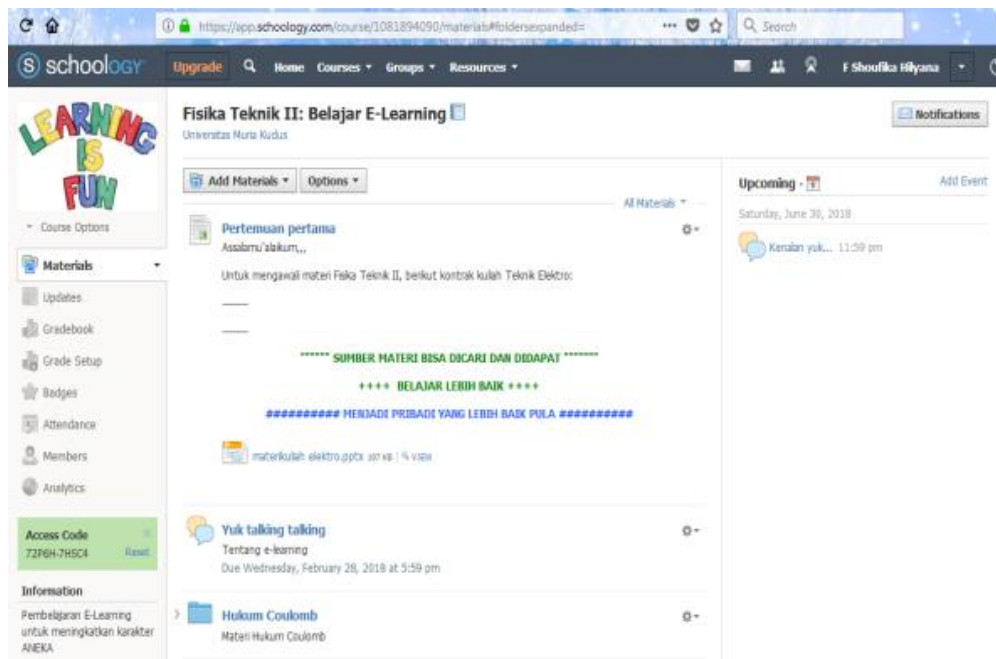


Fig. 1. Schoology-based e-learning in physics courses.

Schoology-based e-learning is done by integrating the ANEKA characters in the students with twenty indicators, which can be seen in Table 1.

Table 1. Integration of the *ANEKA*-based character in Schoology-based e-learning.

Characters	Indicators
Accountability	Can complete tasks as per responsibility No plagiarism in completing the task Can defend opinions as truth Can be active in discussion activities
Nationalism	Can practice religious values - answer greetings and pray Not distinguish one friend with another friend Can grow the love or proud of the state of Indonesia Can appreciate the opinions of other friends in discussion activities
Ethics Public	Be helpful and polite to the lecturers and other students Can keep the honor of self and others with mutual respect Can obey the rules of every lecture and assignment duties Speaks right words by the actions done and not sharing the tasks that are individual
Quality commitment	Can provide opinions according to the purpose of the discussion Can use a given time well Can provide innovative ideas to solve future challenges Always update in completing tasks and carrying out lecture/discussion activities
Anti- Corruptions	Can solve its tasks well without involving other friends Can earnest effort in completing tasks and conducting lectures Courageous in expressing opinions and performance Caring for Lecturers and Assisting friends in need

In the e-learning Schoology, there are various menus that we can make for the learning process. With the help of access code from Schoology, students can enter in the class that has been made by the lecturer. E-learning is almost the same as conventional learning, but more is online and based on Android. The menu on the look of Schoology that created contains teaching materials in the form of powerpoints made by the lecturer concerned for each meeting on the subject of Physics courses, accompanied by tasks or discussion activities as well as the process of learning in the classroom, member courses can be seen in Figure 2.

Lecturers provide various materials that can be downloaded and support materials that are linked URL that can be searching by students. One of the *ANEKA* character indicators that are internalized into e-learning Schoology can be seen in Figure 3. Students can access e-learning Schoology materials anywhere and anytime, in accordance with the target time specified by the lecturer, because in the Schoology there is also a menu to provide questions to be undertaken by students who are limited time, so that the clarity of target students with the consistent way of working on the problem can be met well. Students and lecturers can also interact in Schoology with status updates and discussions related to a particular topic that has been shared, and students can ask questions in the forum. Also, a student can interact with other students to discuss and to cooperate.

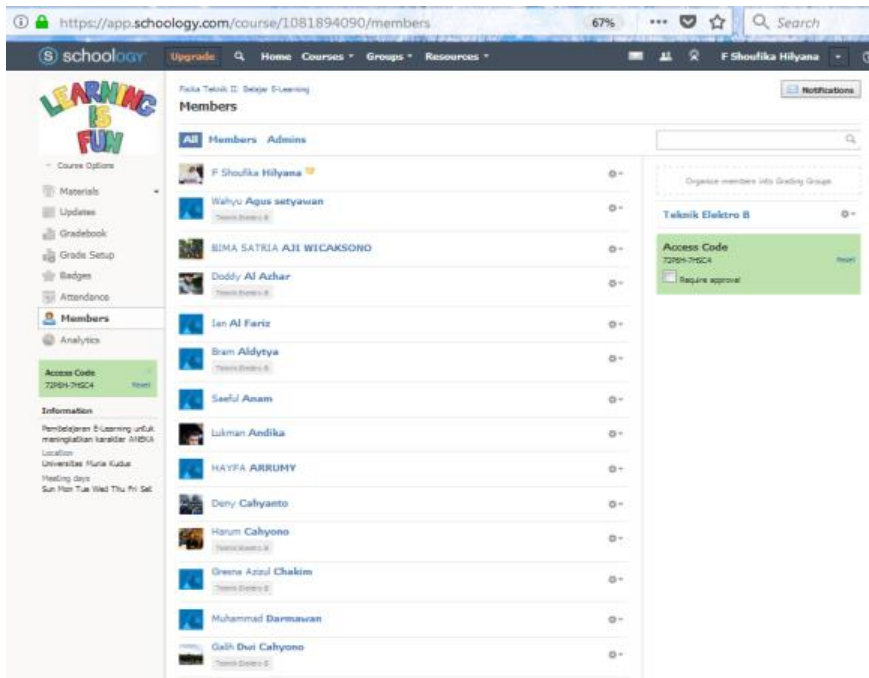


Fig. 2. Member course of Physics in e-learning Schoology.

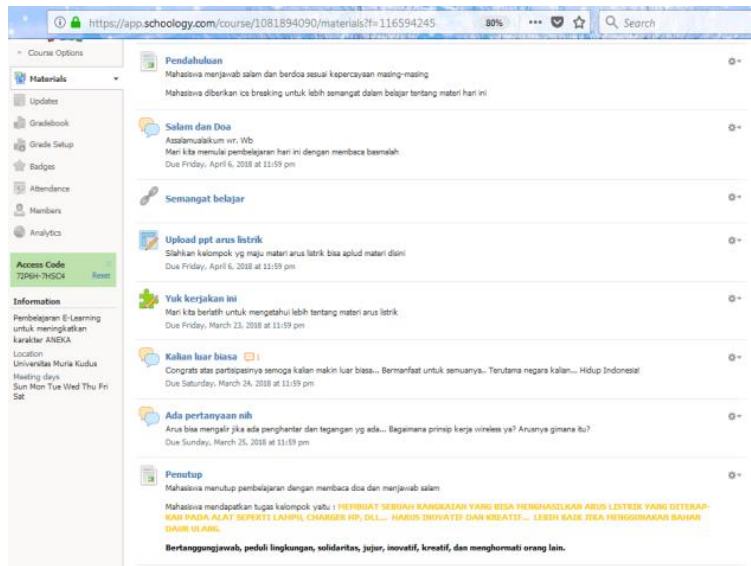


Fig. 3. Learning proses using Schoology with a character based on ANEKA.

In starting the lesson, a pre-test is performed to determine the student's ability in the mastery of the given material and the character's value initially. The maximum result of pre-test that can be obtained is 85, while the frequency distribution of the pre-test score is presented in table 2. It is known that the value of students in pre-test implementation is mostly (37%) at shallow interpretation, this is because the students do not know yet about the material to be studied. Moreover, the student score on post-test implementation gets dominant (85%) at very high interpretation. It indicates that students at this stage have achieved very high learning outcomes, no students are at low and deficient levels, and the lowest results are on a standard interpretation.

Table 2. Distribution of Frequency of Pre-test and Post-test Score.

Value	Interpretation	Pre-test		Post-test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
≥80	Very High	4	15	23	85
70-79	High	2	7	3	11
60-69	Medium	3	11	1	4
50-59	Low	8	30	0	0
≤49	Very Low	10	37	0	0
Total		27	100	27	100

The result on student character based on ANEKA can be seen in figure 4. Students at this stage before using e-learning Schoology with ANEKA character have average value at the medium category, and after using e-learning Schoology, at the end of the learning is done posttest to know the improvement of learning result and the increase of ANEKA character value to the students.

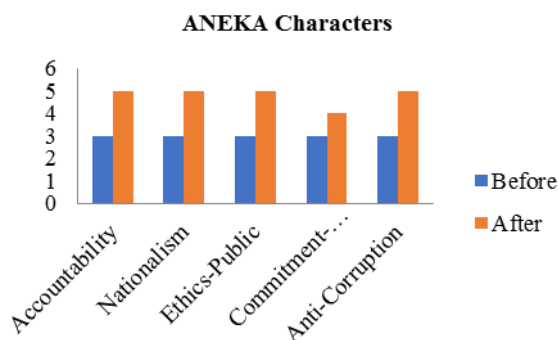


Fig. 4. The result of ANEKA-based character before and after using Schoology.

From all indicators of the average value of ANEKA characters, the students experienced a high category increase in the character of Quality Commitment because in this character the students less visible of improvement in providing innovative ideas to solve future challenges and always update in completing tasks and carrying out lecture/discussion activities.

Moreover, the category is very high on the characters value of Accountability, Nationalism, Public Ethics, and Anti-Corruption. After obtaining the initial and final values, then the gain test to determine the increase in the value of ANEKA characters obtained by students. The comparison of gain test results can be seen in table 4.

Table 4. Results Student Gain of ANEKA characters.

Gain Index	Interpretation	Frequency	Percentage (%)
$\geq 0,7$	High	19	70,4
$0,7 - \geq 0,3$	Medium	6	22,2
$< 0,3$	Low	2	7,4
Total		27	100

From all 27 students (table 4), there were 19 students (70,4%) who experienced great interpretation, six students (22,2%) were improved with common interpretation, and two students (7,4 %) has improved with low interpretation, and can be seen in figure 5.

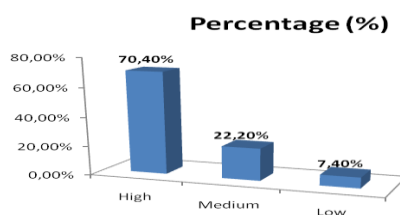


Fig. 5. Interpretation Gain index of ANEKA characters.

From the gain test, it can be seen that most of the students have ANEKA character improvement by using e-learning Schoology. The results of this study prove that by using learning e-learning based on the Schoology in the Physics course, proved to increase the value of ANEKA characters in the students.

4 Conclusion

Implementation of e-learning based on Schoology to increase the value of ANEKA character to the students is found in the implementation of pretest mostly on shallow interpretation and has the characters ANEKA in the medium category. After e-learning Schoology is committed, the post-test score of most students on interpretation is very high, the lowest outcome on common interpretation, and no students at low and deficient levels. From all indicators, the students experienced a high category improvement on the character of quality commitment, and very high category on the value of the character of accountability, nationalism, public ethics, and anti-corruption; and only a few students have improved in low interpretation. It can be said that using Schoology as LMS on the Physics course has increased the students' value on ANEKA-based characters.

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Appendix

ANEKA: Akuntabilitas, Nasionalisme, Etika Publik, Komitmen Mutu, dan Anti-Korupsi (accountability, nationalism, public ethics, quality commitment, and anti-corruption)

ICT: Information and Communication Technology

LMS: Learning Management System

SNPT: *Standar Nasional Pendidikan Tinggi* (National Standard of Higher Education)