

DEVELOPING THE FACEBOOK-PROBLEM BASED LEARNING MODEL

(A Way of Improving the Geographical Solving-Problem Skills at Senior High Schools)

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ABSTRACT: The primary purpose of this study was to develop a model of learning based on Facebook-assisted learning to improve the geographic problem-solving abilities of high school students. Research and Development was the type of research entailed. Instructional System Design entailed was Plump consisting of (1) preliminary research (2) Prototype Phase (Prototyping phase); 3) Assessment stage. The product design stage investigates the validity and practicality with formative evaluations which include self-evaluation and one-to-one. The assessment stage uses summative evaluation which aims to assess the validity of the product in aspects of the organization, format, material and language. Practicality assesses the level of ease, the efficiency of time and benefits. As for effectiveness, it assesses student learning test results using the t-test. Exam questions are made in the form of essays and are assessed using an assessment rubric. Data is collected through discussions, observations, interviews, questionnaires and tests. The collected data were analyzed using descriptive and inferential statistics. The results showed that for the validity of the Model book and its support system (teacher's books and student books) met the valid criteria of > 3.20 while the ICC value of the model book was 0.987, the ICC of student books was 0.943 and ICC of the teacher's book 0.965. These figures indicate that the model and the supporting system according to the expert is appropriate. The practicality results obtained are very practical that is easy to use, understood, very helpful in the learning process, the use of adequate time, and fun for students to learn. Effectiveness test results enable students to solve Geography problems in High Schools. In conclusion, the Valid, practical and effective Facebook-assisted problem-based learning model can improve the geography problem-solving ability of high school students.

Keywords: Learning Model; Problem-Based Learning, e-Learning, Facebook

1. INTRODUCTION

The 21st Century Learning Partnership Framework contains several competencies/expertise that must be possessed by supported human resources (1), critical thinking and problem-solving skills, and systemic in accordance with the problem solution to the problem. To realize this expectation is realized in the education curriculum. The Indonesian Ministry of Education and Culture applies the 2013 curriculum which emphasizes that students can support, listen, see, read, listen, ask questions, reason, try, communicate their knowledge, and relate it to what they learn and look for what is obtained for students. This 2013 curriculum emphasizes learning processes that require higher-order thinking skills.

To achieve curriculum expectations and educational goals, it is needed a learning system based on reinforcement of reasoning, not just

memorization. It is intended that the way of thinking of students can change, ie always find out and make observations. Students are also directed to formulate problems not only solve problems. Students are also trained to think analytically, not mechanically. Such abilities are developed through the learning process of Geography. Learning Geography is not merely memorizing the name of a mountain city, lake, sea, sea, strait, ethnic groups, etc. without the ability to see and explain the functional relations of interrelation, interaction, and interdependence of the surface of the earth (space, area, region, region) it is with humans. But Geography is an analytic understanding [1].

However, the reality that was found based on the pre survey conducted by the writer in the 15 High Schools (SMA) Padang Padang the writer found that in the learning of teachers who

teach Geography subjects still tend to use the lecture method, question and answer in the form of lecture lectures. Learning does not mean anything other than just meeting the exam targets and the teacher is also very bound to the student worksheet (LKS). Learning conditions as mentioned above result in not creating learning that is conducive to the achievement of educational goals. Based on the above it is necessary for a teacher who teaches Geography to make efforts that can make students actively creative and able to think critically and have a high understanding and be able to solve problems. one way is to change learning models and strategies. The model that the authors consider suitable for overcoming the problem above is to use a problem based learning model (Problem Based Learning) The learning based model is an instructional model that challenges students to learn and realize good cooperation in groups to find real solutions to problems. This problem is used so that students' curiosity and exploration ability and initiative on subject matter can be provoked, meaning the word learning model Problem Based Learning (is a learning model that prepares students to think critically and analytically and seeks and uses appropriate learning resources to deal with a problem and can find solutions to new knowledge problems and can find solutions to problems, such as the results of research from [2] that there are significant differences in the learning outcomes of students who are taught with problem-based learning models compared to conventional learning models and the problem-based learning model significantly influences student learning outcomes. Further research from [3] shows that classes using Problem-based learning models have higher geographic problem-solving abilities if needed compare with conventional classes. This means that the class taught by using a model of problem-based learning is the ability of students to think naturally and exploit and express ideas and identify problem-solving is quite high. Besides the advantages of this model also has the disadvantage of difficulty solving problems when students do not have the interest and belief that the problem can be solved then also the time needed to prepare and the learning process takes a long time. To overcome the weaknesses of the problem-based learning model, the writer tries to develop a problem-based learning model that is no longer limited by space and time, the discussion can be done anytime and anywhere.

The problem-based learning (PBL) learning model that will be developed is by utilizing technological sophistication that is, by

using Facebook social media. Facebook is the most common media used by all groups not only as a social networking site but can be used as an online learning system platform. In the education community. Facebook has applications that support teaching and learning and significantly enhance the learning experience [4]. Researchers feel confident that this model is effective enough to add to the efficiency of learning in class and conduct discussions or add/look for information outside the classroom. And can improve students' ability to reason so that they are able to find solutions to a student's problem. Facebook as a social networking tool that learning with Facebook can encourage students to collaborate with colleagues and is innovative learning [5].

The steps or syntax of developing a problem-based learning model of learning are as follows: before problem-solving (discussion) is carried out, students first make friendships with Facebook geography teacher then the teacher confirms friendship after friendship is confirmed the teacher divides students into several groups. Each group consists of 4 up to 5 people, then proceed with the process, problem-solving. At this stage, students open the Facebook wall and see all the basic competency material and learning concepts as well as learning material and videos that have been uploaded by geography teachers. Then the discussion can begin with (1) presentation of concepts and materials. (2), problem formulation (3) analyze the problem. (4) organizing ideas systematically (5) creating goal formulations (6) seeking additional information from other sources (7) synthesizing and testing new information through other sources. and further learning can be done in class. In-class students sit in accordance with their respective groups and then each group presents the results of the report after the presentation of the other groups giving responses to questions or input and subject teachers will resume the results of the discussion. The next step is evaluation. Facebook-assisted learning is learning E-Learning, but e-Learning here is as a supplement (additional), namely students have the freedom to choose whether to use E-Learning or not. In this case, there is no obligation and obligation for students to access E-Learning material, even though it is optional, students who make use of it will certainly have additional knowledge or insight. Researchers feel confident that this model is effective enough to add to the efficiency of learning in the classroom and conduct discussions or add/look for information outside the classroom. The author names the model of learning based on Facebook-assisted learning. This problem-based

learning model is expected to enable students to be able to support the achievement of educational goals and renewal in the learning process. Facebook has features and menus that can be used for learning such as giving comments on the status of video links or images uploaded on Facebook or it can also use inbox. The learning theory used is the theory of constructivism, meaning knowledge cannot be transferred without understanding the context. Thus absolute knowledge must be interpreted by each person. E-Learning learning using Facebook has done a lot of research like [6] [7] states that the social networking site Facebook has the ability to change students from passive learners to active learners [8] which reveal that the learning climate in the classroom becomes more lively by learning to use social networks [9] revealed that Facebook is a tool that can improve student learning experiences Learning by using Facebook with the investigation method makes students try and work hard to find and solve problems, in this way students are able to reason every problem. a thought process carried out in a way to draw conclusions that produce a number of images of information, concepts before being communicated.

2. RESEARCH METHODS

This research was a Research and Development researching, developing, creating and testing a product. The product in this study is a learning-based problem learning model assisted by Facebook media to improve students' geographic problem-solving abilities in secondary schools above with supporting products (teacher books and student books) valid, practical and effective, the development design used is the [10] which consists of several stages namely: 1) Preliminary research (preliminary research); 2) Prototype Phase (Prototyping phase); 3) The assessment stage. Data analysis was done by descriptive qualitative and quantitative. To test the validity of the model and the products developed, expert judgment (judgment experts) is used. The validators/experts are asked for their opinions on the model and the product being developed. This developed validation includes construct validity and content validity. The practicality of the model is determined from the results of the assessment by practitioners, observers. Practicality in terms of the ease of use of the product, and understood in learning. Furthermore, the results of the validity and practicality provided by the practitioner/assessor, interclass correlation test or Interclass Correlation

Coefficient (ICC) was conducted using the SPSS program.

The analysis of the effectiveness of the Facebook-based problem-based learning (PBL) learning model was obtained from the students' Geography problem-solving abilities through the learning achievement test. Assessment of students' geography problem solving abilities by using assessment rubrics which are seen from 3 aspects namely; 1) Identifying the known elements of a problem, (2) making the formulation of the problem determining the right strategy and being able to provide the interpretation and problem given, (3) solving the problem systematically and analytically Problem is tested in the form of essays. analysis for the effectiveness of the product using the t-test. The trial subjects of this study were students of class X Middle School (SMA) No.15 Padang with the subject matter of the lithosphere The test group was randomly drawn from all research subjects or the study population. The population of this study was grade X students consisting of 9 classes. Data collection techniques used is observing, interviewing and Focus Group Discussions (FGD).

3. RESULTS AND DISCUSSION

Product validation

Based on the results of the validation carried out by five experts consisting of 3 material experts, 1 linguist and 1 technology expert from the validation of 5 experts indicated that the problem-based learning model was declared valid because it was > 3.20 . The Intraclass Correlation Coefficient (ICC) value for the model book is 0.987, the student book is 0.943 while for the teacher book ICC value obtained is 0.965. categorized teachers are very valid.

Practicalities

The practicality of the Investigation Group Learning Model assisted by Facebook

Based on the results of the analysis of the implementation of the problem-based learning model Facebook-assisted learning to improve students' geography problem-solving abilities in high school. From the observer consisting of 3 observers, the average score of all aspects in class X IPA of SMA Negeri 15 Padang was 4, 35 Thus, the implementation of the learning model determined is included in the category of very well implemented. While based on the intraclass correlation test on the results of the model's implementation with a value of 0.185 based on the criteria it shows that among assessors there is a small correlation in determining the model's feasibility, meaning that the model value can be implemented well already given by each validator

and there is only a sufficient correlation between validator in establishing the practicality of the model. Based on observations given by the observer, obtained information that the application of the problem-based learning model assisted by Facebook, the use of teacher books and student books in the learning process can be said to be practical in accordance with the established criteria.

Practicality of supporting products (Teacher's Books and Student's Books)

The results of the response / impression of students to the use of student books during the learning process that in general students provide a response/impression that is good, interesting, and fun using student books Facebook-based problem-based learning learning model. During the learning process students state that the student book used in the learning process is easy to use, while students' understanding of the material and questions given by students states that they still need help and more time to solve problems / problems. The overall assessment of student responses to student books is good, meaning that the student book is practical.

The Focus Group Discussion Phase (FGD).

The results of the FGD contained several suggestions and input as well as assessments from FGD participants. Suggestions obtained from FGD participants were the improvement in language usage / using language that is good or more scientific, the design on the cover needs to be improved as in student books and in model books, drawings used already supports the description. Overall, the results of this FGD agreed to provide a view that the book model/learning model of problem-based learning is assisted by Facebook and the teacher's book, and the student book as a support system of the model is good and worth using. The results of the revision of this product are called Prototype products. After being revised based on the results of the evaluation stages above and the results of the FGD stage, the product is refined again so that the final product/prototype final is finally obtained.

Effectiveness Test

Effectiveness is reviewed from the development, activities, through observation sheets and the development of students' problem-solving abilities, especially the lithographic material obtained through the test of learning outcomes. By using t-test analysis, the significance level of 0.01 is obtained. Based on

the student test results seen above, it can be obtained a significant value of $0.01 < 0.05$, thus the H_0 is rejected means that there are differences in the development of students' abilities in the experimental class and the control class.

From the results of the analysis of students' problem-solving abilities, there are differences in the development of problem-solving abilities between the experimental class and the control class in the learning process) that the problem-solving abilities of students who learn with problem-based learning models can develop better than students who do not apply problem-based learning models.

This shows that the problem-based learning model can improve students' geographic problem-solving abilities in litosfire material [19] [20]. With this problem-based learning model the ability of students to think, reason, exploit ideas in developing creative ideas can be improved and developed well. Thus Facebook-based problem-based learning model can be used/applied to the learning process in class X. specifically the Litosfir material. The results of this study are supported by opinions [11] [17] [18] critical thinking is applying rational, high thinking activities, which include analyzing activities synthesize, recognize problems and solve them, conclude, and evaluate. Problem-based Facebook-based learning encourages students to learn more actively and more meaningfully, meaning students are required to always think about an issue and they look for ways to solve it. The solution allows students to easily solve problems or find solutions to a geography problem, through Facebook students work together, share information on ideas, knowledge or concepts of learning concepts they state by sharing with fellow peers very helpful in the learning process through the internet in a group or groups they do not feel hindered from issuing their ideas in line with [12] [13] [14] [15] [16] . that 'all knowledge must be obtained by one's own observations, own experiences, own investigations by working alone.

4. CONCLUSION

Based on the results of research and development procedures and student learning outcomes tests carried out in high school (SMA) Negeri 15 Padang in class X with litosfire material geography subjects. The findings show that the problem-based learning model is Facebook-assisted learning to improve the ability to solve the problem is very valid, practical and effective by using this Facebook-based problem learning model. Students become more analytic and systemic, in developing ideas to find solutions to a problem comprehensively. students are easy to collaborate, share information, ideas. And exploring knowledge or learning concepts.

they stated that sharing with their peers really helped the learning process through the internet so that students could exploit their thoughts deeply.

5. REFERENCES

- [1] BSNP. Standar Isi. 2010
- [2] Collins. A Havelson. R. The Second Educational Revolution Rethinking Education in the Age Technology. *Journal of Computer Assisted Learning*, 26 (1) 18-27. 2010
- [3] Cress. U and Kimmerle, J. A Systemic and Cognitive View on Colobarative Knowledge Building with Wikis. *International. Journal of Computer Supported Colaborative Learning*. 3 (2). 105-122. 2008
- [4] Ellison, N. B, Steinfield, C and Lampe, C. The Benefits of Facebook "Friend". *Social Capital and College Students Use of Online Social Network Sites. Journal of Computer Mediated Communication*. 12 (4). 1143-1168. 2007
- [5] Maryani, E. Peran Pendidikan Geografi dalam Mitigasi Bencana Secara Kesenambungan. Keynote Speaker Seminar Nasional Pendidikan Geografi 2015. Prog Studi Magister S2 Pendidikan Geografi Program Pascasarjana UNP Padang. 2015
- [6] Iru, L and La Ode Safian Arihi. Analisis Pendekatan, Metode, Strategi dan Model-model Pembelajaran. Yogyakarta. Multi Presindo. 2012
- [7] Joyce, B., Weil, M., and Calhoun, E. *Model of Teaching* (6th Edition). Sydney. Allyn & Bacon. 2011
- [8] Joseph B.W. YEO, Ban Har Yeap. *Characterising The Cognitive Processes in Math Ematical Investigation*. National Institute of Education, Nanyang Technological University, Singapore, 2012
- [9] Kabilan, M.K. Ahmad.N. and Abidin.M.J.Z. Facebook Online enviroment for Learningion Of English in institusion of Higher Education?The internet and Higher Education 13(4),179-187. 2010
- [10]Koh, J.H.L, Hering, S.C, and Hew,K.F. Project Based Learning and Student Knowledge Construction During Asyinchronous Online Discussion. *The Internet and Higher Education*. 13 (4). 284-291. 2010
- [11]Mazer, JP., Murphy, RE.and Simonds, CJ. See You On "Facebook" The Effect of Computer-Mediated Teacher Self-Disclosure on Student Motivation, Afektiv Learning and Clasroom Climate Communication *Eduication*, 56 (1), 1-17. 2007
- [12]Hermon, D. *Mitigation and Adaptation: Disaster of Climate Change*. Sara Book Publication. India. 2019
- [13]Hermon, D. *Climate Change Mitigation*. Rajawali Pers (Radjagrafindo). 2017.
- [14]Hermon, D. *Mitigasi Perubahan Iklim*. Rajawali Pers (Radjagrafindo). 2016.
- [15]Hermon, D. *Geografi Bencana Alam*. Jakarta: PT RajaGrafindo Persada. 2015.
- [16]Hermon, D. *Geografi Lingkungan: Perubahan Lingkungan Global*. UNP Press. 2010.
- [17]Hermon, D. *Mitigasi Bencana Hidrometeorologi: Banjir, Longsor, Degradasi Lahan, Ekologi, Kekeringan, dan Puting Beliung*. UNP Press. Padang. 2012.
- [18] Piryasilpa, Y. See You and Facebook: The Effects of Incorporating Online Social Networking in The Language Classroom. *e Journal of Digital Enterprise*, 27. 2010
- [19]Plomp, T and Nienke Nieven. *An Introduction to Educational Design Research*. Netherland: SLO Publications. 2010
- [20]Ratneswary V. Rasiah *Transvormative Higher Educational Teaching And Learning: Using Social Media in a Team-Based Learning Environment*. *Procedia-Social and Behavioral Sciences* 123 (2014) 369-379. 2014