Advances in Social Science, Education and Humanities Research, volume 287

1st International Conference on Education and Social Science Research (ICESRE 2018)

Learning Model Development With Technology Ethno-Pedagogy And Content Knowledge

Ani Rosilawati[1]
Post-Graduate Department
Universitas Negeri Semarang
Semarang, Indonesia
rusilowati@yahoo.com

Hartono[2]
Post-Graduate Department
Universitas Negeri Semarang
Semarang, Indonesia
Hartonno77@gmail.com

Intan Indiati[3]
Mathematics Education Dept.
Universitas PGRI Semarang
Semarang, Indonesia
Iin_indi@yahoo.co.id

Irkham Ulil Albab[4]
Mathematics Education Dept.
Universitas PGRI Semarang
Semarang, Indonesia
irkhamulil@upgris.ac.id

Muhammad Prayito[5]
Mathematics Education Dept.
Universitas PGRI Semarang
Semarang, Indonesia
prayito@upgris.ac.id

Sarwi[6]
Post-Graduate Department
Universitas Negeri Semarang
Semarang, Indonesia
arwimahmud@ymail.com

***Abstract*—The purpose of this study is to develop the learning model with technology, ethnopedagogy and content knowledge. The method used in this research is combined-method which emphasizes in the qualitative and quantitative collection of data. In this research, the writer uses embedded design which involves the testing activities. The type of the embedded design that is used is Embedded experimental model. Populatioan in this research is prospective teacher who will do college magang 3. the instrument used is an observation sheet for teacher and quastionnare sheet for student using teck model. The result of observations made on the learning process in the classroomin accordance with teaching skill and etnopedagogi, prospective teacher can apply the model teck. The result of questionnaires from student also obtained data that student like learning with the model TECK.**

Keywords— Model, Technology, Ethno-pedagogy, Content Knowledge

I. INTRODUCTION

The Indonesian people have a huge diversity and become a country with human wealth. These can be seen from the differences in ethnicity, culture, customs, religion, race, gender, social strata, and groups of political alliances, which are very clearly embedded in Indonesian society. Plurality into reality and must be accepted as the national wealth of the Indonesian people. In the midst of these many differences, as a national unity, the Indonesian people must live and get along so that national integration is maintained. Learning in higher education is the spearhead and part of the process of building a multicultural way of life to strengthen national awareness and appreciation of diversity, not to get stuck on the mastery of knowledge (knowledge) alone by letting affective (attitude) education. Multidimensional crisis in Indonesia a decade requires a solution based on evidence (evidence-based), especially from the humanities disciplines, including education and teaching, the background of the emergence of the idea of ethno pedagogy. Humanities have a central role in the appreciation of life values and their projections in the future [2]. Universitas PGRI Semarang has one of its visions of self-identity, to achieve a vision of identity, education character that integrated with courses [1] .

The Role of websites and computer devices to support the learning process until evaluation has begun. The ability of the website to conduct discussions and social interaction began to be applied in the learning process. This ability can be seen in figure 1.1. Thus, the capacity of the web to support online learning in general for discussion and social interaction. Learning design based on educational theory must pay attention to the components of learning that are important in designing materials with ICT [2]. Primary information or secondary information that exists as learning resources must be in accordance with the steps of learning with ICT. This is in line with the aims of Universitas PGRI Semarang. The development of institutional quality is carried out by following the development of higher education policy and the development trend of the Nation, which is heading towards cybernetics. To welcome the development of the Age of cybernetics, Universitas PGRI Semarang began developing cyber net technology in institutional management. One of the developments has been carried out is to implement an online-integrated computerized system [3].

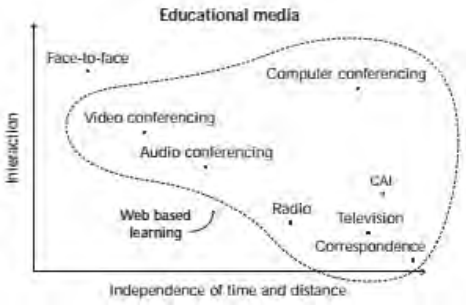

Figure 1.1. Website ability for learning

II. LITERATURE REVIEW

A. *Etno pedagogy*

[4]views ethno pedagogy as an educational practice based on local wisdom in various domains and emphasizes local knowledge or wisdom as a source of innovation and skills that can be empowered for the welfare of the community, namely local wisdom related to how knowledge is generated, stored, applied, managed and inherited. Education is deliberative in the sense that society transmits and perpetuates the idea of a good life that comes from fundamental public beliefs about the nature of the world, knowledge and values.

B. *Website*

The function of the internet is to provide enrichment learning environment and communication to students with teachers, fellow students, group members, or students with other resource persons. Therefore, the teaching role in this case is required to master the technique of finding information on the internet, guiding students to find that are relevant to learning materials, presenting material through the web that is interesting and desirable, serving guidance and communication through other internet skills required..

C. *Teaching Ability*

The ability to manage the teaching and learning process is the ability or proficiency of the Educators in creating an educational communication atmosphere between them and their students that includes cognitive, affective and psychomotor aspects, as an effort to learn something based on planning to the evaluation stage and follow-up in order to achieve the teaching objectives [4].

D. *Preliminary studies*

[5] have developed e-learning research for learning character mathematics in the classroom. The results of the research on the development of e learning for character learning mathematics show that learning using e learning is effectively used in teaching and learning in the classroom. In addition, students also gave a positive response to the use of e learning to help them in obtaining learning resources. [6] undertook the development of blended learning resources to improve soft skills and skills to pursue prospective teachers. The results of research on the development of blended learning resources to improve soft skills and the skills to pursue prospective teacher's shows that blended learning resources are valid and effective to be used in learning.

III. RESEARCH METHODOLOGY

The research used in this study is a mixed method, which emphasizes qualitative and quantitative data collection. In this research, embedded design will be used which involves trial activities [7]. The type of embedded design that will be used is embedded experimental model, where qualitative data is used in experimental design. The main priority of this research was developed from quantitative data, with experimental methodology, and qualitative data followed / supported the methodology. The research phase used by the researchers was the one-phase approach; this selection was based on the effectiveness of the time during the study. Researchers used this design to include qualitative data to answer research questions in broad quantitative studies. This design is used by researchers because researchers need to embed qualitative components in quantitative design..

A. *Research methodology*

The subjects of this research product trial were students of mathematics education programs and physics education at UPGRIS who took internship courses. The samples to be used were 4 classes consisting of 2 mathematics education classes and 2 physics education classes.

B. *Research Instruments*

In an effort to obtain accurate data, the instruments used are:

1) Validation Sheet. This Instrument Sheet is used to obtain data regarding the opinions of experts (validators) on product design (models and learning tools) compiled in draft I so that it becomes a reference or guideline in revising.

2) The assessment rubric is used as a measurement guideline used in the assessment and is a scoring tool that includes criteria for the execution of work or work (in the form of the ability to package learning material) .

3) Observation sheet the ability of lecturers to manage learning. This instrument is used to obtain data about the ability of lecturers to implement a web site -assisted ethno pedagogy learning model to improve the teaching ability of prospective teachers.

4) Student response questionnaire. This instrument is used to obtain data about students' opinions on learning using a web site -assisted ethno pedagogy learning model to improve teaching skills of prospective teachers

C. *Data analysis technique*

Data analysis techniques were performed on test and non-test data. In the non-test, data will be carried out descriptively based on the research instrument. While the test data aims to determine the effectiveness of the sensitivity of the test items to learning, as well as to find out the quality of the test and as input for revising the item .

IV. RESULT AND DISCUSSION

The construct validation of the website-assisted ethno pedagogy-learning model to improve teaching skills in prospective teachers includes main field-testing and operational product revision, namely testing in a class whose main purpose is to test the feasibility of implementing a model design. Furthermore, the third prototype was tested into the research subject in this case as a field test or field test. The population in this trial was the sixth semester students who took internship courses 3. Then the sample was taken based on purposive random sampling, namely the class with students from the mathematics education program, and physics education.

In this study, the data analysis of the comparative test used the Independent Sample Test and to determine the magnitude of the increase used the N gain test. And the results obtained can be seen in Table 1 below.

Table 1. Independent Samples Test

Tabel 1 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
nilai	Equal variances assumed	.049	.825	-4.767	100	.000	-11.510	2.414	-16.300	-6.720
	Equal variances not assumed			-4.767	97.448	.000	-11.510	2.414	-16.302	-6.718

By looking at the sig value in the Independent Samples Test table of 0.049 = 4.9%. The sig value is smaller than 5% then H0 is rejected, then there is a difference in variance between the website-assisted ethno pedagogy-learning model in the posttest and pretest.

Furthermore, by looking at the value in the sig (2-tailed) column the Independent sample t-test column of 0.000 <0.05 indicates that H_0 is rejected, meaning that the learning outcomes of the initial values and final values differ significantly. To determine which class has a higher average value, statistical group analysis can be seen in Table 2 below.

Table 2. Group Statistics

Tabel 2 Group Statistics

				eviation	ror Mean
nilai	1	51	74.63	13.142	1.840
	2	51	86.14	11.162	1.563

By looking at the average learning outcomes in the mean column, the Group Statistics table is obtained 74.63 for conventional models and 86.14 for the ethno pedagogical approached learning model with the website. These results indicate that learning outcomes after being subjected to an ethno pedagogical approached learning model assisted by the website are better.

Based on the average value of the pretest results = 74.63 and posttest = 86.14 and a maximum score of 100 then N-Gain is obtained = 0.45. Where 0.30 <0.45 <0.7. So that it can be concluded that the improvement of understanding of the concept of an ethno pedagogical approached learning model [8]with a website is moderate.

ACKNOWLEDGMENT

Our thanks go to the Directorate of Research and Community Service Directorate General of Strengthening Research and Development Ministry of Research, Technology, Higher Education, which has funded this research. LPPM Universitas PGRI Semarang, which has helped to conduct this research so that it runs well.

REFERENCES

[1] M. Ally, *Foundations of Educational Theory for Online Learning*. Canada Athabasca University, 2004.

[2] Subroto Suryo, *Proses Belajar Mengajar di Sekolah*. Jakarta: Rineka Cipta, 2002.

[3] Tim, *Pedoman Pendidikan Program Diploma (D3) dan Sarjana (S1) Universitas PGRI Semarang*. Semarang: IKIP Press, 2015.

[4] T. K. Alwasilah, A. C. Suryadi, K, *Etnopedagogi: Landasan Praktek Pendidikan dan Pendidikan Guru*. Bandung: Kiblat Buku Utama, 2009.

[5] I. dan P. Indiati, *Pengembangan Bahan Ajar Matematika Dalam Rangka Membentuk Karater Peserta Didik di Era Globalisasi*. Depok: Prosiding SNM 2014 UNIVERSITAS INDONESIA, 2014.

[6] dan S. Indiati,Muhdi,Warsito, *Pengembangan sumber belajar Blended Learning mata kuliah PPL 1 untuk Membekali Mahasiswa calon guru memiliki soft skills dan keterampilan mengajar*. Semarang, 2015.

[7] J. W. Cresswell, *Educational Research Planing,Conducting, and Evaluating Qualitative and Quantitative Approach*. London: Sage Plubication, 2008.

[8] A. Shimahara,N.K, Sakai, *Teacher internship and the culture of teaching in japan. In Thomas Rohlen & Christopher Bjork(Eda)*. London: Education and Teaching in Japan Vol. II. Routledge, 1998.