Jurnal Ilmiah PPI-UKM
Scientific Journal of PPI-UKM
Persatuan Pelajar Indonesia
Universiti Kebangsaan Malaysia
Selangor, Malaysia

Scientific Journal of PPI-UKM

Social and Economic Sciences

Vol. 2 No. 7
ISSN No. 2356 - 2536

Knowledge and Attitude of Lecturers Toward Usage of Multimedia in Teaching

Rinaldi[1,2*], Mohd Isa Hamzah[2], Norazah Mohd Nordin[2]

[1]*Politeknik Negeri Padang, West Sumatera, Indonesia*
Limau Manis Campus, Padang, Telp No: +62 751 72590, Fax No: +62 751 72576
HP No: +62 813 7287 9090, Email: r.rinaldi@ymail.com

[2]*Faculty of Education, Universiti Kebangsaan Malaysia*
43600 UKM – Bangi Campus, Selangor, Malaysia
Email: isa_hamzah@ukm.edu.my, drnmn@ukm.edu.my

Abstract
Lecturers' level of knowledge in multimedia and their attitude are expected influence to the usage of multimedia in teaching activities. This study aims to examine the relationship between knowledge and attitude of lecturers towards usage of multimedia in teaching and determined the contribution of each variable toward usage of multimedia in teaching. It was conducted on 250 lecturers covers Higher Learning Institution in West Sumatera, Indonesia. Data was collected by using Likert 5 points type survey questionnaires and analyzed by using Statistical Package for the Social Sciences 19.0 (SPSS version 19) through Multiple Regression Analysis and Pearson Product Moment Correlation Statistical.

Keywords: *Multimedia, Teaching, Higher Institution*
(Accepted: November 25th,2015., Published: November 30th, 2015)

1. Introduction

Multimedia covers hypertext, audio, video, animation, simulation and interactivity make the learning process cognitive practicable. Its presence stimulates the minds of the students in understanding the subject as can visualize the concepts of subjects that are difficult to understand when only apply the text book. Various multimedia merits encourage the study on usage of multimedia among lecturers as media presenter agents.

Usages of multimedia in teaching were conducted as well as in Malaysia and Indonesia. The studies were conducted by Said Draman (2001), Khadija and Zaib Ngah (2002), Abdul Wahab et al . (2006), Mohd. Izham and Gina Attan (2007), Wan Noor Hazlina and Kamaruzaman (2009). Their studies reveal that merits of multimedia as teaching aid and the usage of multimedia are still in low level. Recently, Mohd Aderi et al. (2013) identify the relationship between the attitudes of Islamic Education lecturers towards the usage and knowledge of multimedia in teaching. However, the study did not examine the effect of its variable. Thus, this study aims to examine the relationship between knowledge and attitude of lecturers towards usage of multimedia in teaching and determined the contribution of each variable toward usage of multimedia in teaching.

2. Statement of the Problems

Several problems are composed in this study:

a. Is there any relationship between lecturers' level of knowledge in multimedia and their attitude towards usage of multimedia in teaching?
b. How far the contribution of lecturers' level of knowledge in multimedia and their attitude towards usage of multimedia in teaching?

3. Research Hypotheses

The study will test the following hypotheses at 0.05 level of significant.

Null-hypotesis (Ho_1): There is no significant relationship between lecturers' level of knowledge in multimedia towards usage of multimedia in teaching.

Null-hypotesis (Ho_2): There is no significant relationship between lecturers' attitude towards usage of multimedia in teaching.

Null-hypothesis (Ho_3): There is no significant relative effect of lecturers' level of knowledge in multimedia towards usage of multimedia in teaching.

Null-hypothesis (Ho_4): There is no significant relative effect of lecturers' attitude towards usage of multimedia in teaching.

*Author correspondence should be sent

4. Research Methodology

The study adopted descriptive research design of ex-post facto type. This type is suitable for the independent variables not manipulated by the researcher. The data collected by using questionnaires method to conducted large sample of respondents. The population for the study total of 1,709 lecturers enrolled in Higher Learning Institution in West Sumatera including university, institute and high school. Sampling is conducted by a stratified random method. It due to population is heterogeneous form covers gender, lecturers' academic background, age, location of teaching, teaching experience and amount of workload. By using stratified random sampling, collecting data is more accurate and representative in each stratum (Brymer & Cramer, 2005). Therefore, this study selected 250 lecturers from all Higher Learning Institution in West Sumatera.

All data gathered were processed and analyzed using software the Statistical Package for the Social Sciences 19.0 (SPSS version 19). The Multiple Regression Analysis and Pearson Product Moment Correlation Statistical Tools were employed to analyze the data gathered.

5. Instruments

Research data was collected through questionnaire that divided into four parts of A, B, C and D. Part A contains item on demographic background. Part B contains 10 items that conducted to examine level of multimedia knowledge in teaching among lecturers. Part C contains 9 items that conducted to examine lecturers' attitude of multimedia in teaching. Part D contains 8 items that conducted to examine level of multimedia usage in teaching among lecturers.

All of the items were a 5-point Likert type scale of 5=strongly agree, 4=agree, 3= neither agree nor disagree, 2=disagree, 1=strongly disagree. The reliability was measured by Alpha cronbach as the coefficient of reliability (r). Part B, C and D showed the coefficient of reliability 0.81, 0.83 and 0.91 for level of multimedia knowledge, the attitude and multimedia usage among lecturers, respectively. The coefficient of reliability showed that all items in instrument were reliable and accepted as instrument.

6. Research Findings

The first null hypothesis (Ho_1) examines the relationship between lecturers' level of knowledge in multimedia towards usage of multimedia in teaching. Meanwhile the second null hypothesis (Ho_2) examines the relationship between lecturers' attitude towards usage of multimedia in teaching. The result is shown in Table 1.

Table 1. Test of significant relationship between lecturer's level of knowledge and their attitude towards usage of multimedia in teaching

Variables	N	Mean	SD	r	p	Note
Knowledge towards usage	250	34.8280	3.92684	0.296	0.000	Sig.
Attitude towards usage	250	40.0200	3.68373	0.000	0.994	N.S

SD = standard deviation, r = Pearson correlation, P = significance, N.S = not significant

Table 1 shows the mean score for lecturers' level of knowledge and their attitude towards usage of multimedia in teaching to be 34.8280 and 40.02 respectively.

A correlation value ($r = 0.294$, $p < 0.05$) indicates a significant positive correlation between lecturers' level of knowledge towards usage of multimedia in teaching. Higher level of knowledge, the higher usage of multimedia in teaching. The first null hypothesis (Ho_1) that stated" There is no significant relationship between lecturers' level of knowledge in multimedia towards usage of multimedia in teaching" is rejected. Conversely, the study observes there is no significant relationship between lecturers' attitude towards usage of multimedia in teaching. It is shown in the term of correlation value (r) of 0.000 and significance (p) 0f 0.99 ($p>0.05$). Thus, second null hypothesis (Ho_2) is accepted.

Table 2. Regression analysis of lecturers' level of knowledge and attitude towards usage of multimedia in teaching.

Model	Sum of square	Df	Mean Square	F-ratio	p
Regression	603.932	2	301.966	13.501	0.000
Residual	5524.612	247	22.367		
Total	6128.544	249			

$R = 0.314$, $R^2 = 0.099$, Standard error of estimation = 4.729

Table 2 shows that lecturers' level of knowledge and their attitude in multimedia usage correlate positively with usage of multimedia in teaching. It was revealed in the value of the multiple correlation coefficient ($R= 0.314$, F-ratio = 13,501, $p<0.05$) that implies the model of regression composed by lecturers' knowledge and attitude can predict the usage of multimedia in teaching. The coefficient of determination, $R^2 = 0.099$. It thus means that 9.9 percent of the total variance of usage of multimedia in teaching is influenced by the linear combination of their knowledge and attitude in multimedia. While 90.1 percent is influenced by other factors.

However, to examine the significance and contribution of each independent variable (knowledge and attitude) toward usage of multimedia in teaching, it was necessary to carry out a multiple regression analysis, whose result is shown on Table 3.

Table 3 shows that only lecturers' knowledge about multimedia in teaching made a significant contribution to the usage of multimedia in teaching (Beta = 0.332, t = 5.196, $p<0.05$). Thus, null-hypothesis (Ho3) states "There is no significant relative effect of lecturers' level of knowledge in multimedia towards usage of multimedia in teaching" is rejected. The lecturers' level of knowledge in multimedia contributes 9.89 percent to the usage of multimedia in teaching.

Conversely, attitude towards usage of multimedia in teaching does not make a significant contribution (Beta = 0.110, t = 1.720, $p>0.05$).

Table 3. The Relative contribution of independent variable to the usage of multimedia in teaching

Independent Variables	Unstandardized Coefficients		Standardized Coefficients (Beta)	t	Sig.	X
	B	Std. Error				
Constant	12.533	3.676		3.410	0.001	-
Knowledge about multimedia	0.420	0.081	0.332	5.196	0.000	9.89%
Attitude towards usage of multimedia in teaching	0.148	0.086	0.110	1.720	0.087	0.01%

X = contribution

It only contributes 0.01 percent to the usage of multimedia in teaching. Thus, null-hypothesis (Ho4) is accepted. As result, this study provides the model for predicting the usage of multimedia in teaching through the equation:

$$Y = 12.533 + 0.420X_1 + 0.148\ X_2 + 3.676 \qquad (1)$$

Where: Y = usage of multimedia in teaching
X_1 = lecturers' level of knowledge in multimedia
X_2 = lecturers' attitude of usage of multimedia in Teaching.

7. Conclusion

The study observes a significant relationship between lecturers' level of knowledge and their attitude towards usage of multimedia in teaching ($r = 0.294$, $p<0.05$). Conversely, no significant relationship between lecturers' attitude towards usage of multimedia in teaching ($r = 0.000$, $p>0.05$).

These are supported by multiple regression results that reveal lecturers' knowledge has significant influence towards usage of multimedia in teaching while attitude does not make significant influence. This study shows that the attitude is not booster for the lecturer to apply the multimedia in teaching. This study also reveal lecturers' level of knowledge in multimedia and their attitude only contribute 9.9 percent to the usage of multimedia in teaching.

Many factors can influence the usage of multimedia in teaching. Lack of infrastructure and equipment, multimedia equipment or the ease of access to technology is one of the major obstacles to the use of technology among lecturers. The problem is also reinforced by a study conducted by Hajar Mohd. Nor (2005), Sheingold & Hadley (1990) and Zuraidah Saidon (1998). They found that insufficient of facilities and infrastructure cause lecturers do not apply multimedia in their teaching.

Other factor is support of institutions that encourage lecturers to implement the multimedia (MSC 2007). This support can be in the term of providing sufficient multimedia facilities and infrastructure, the availability of rewards or incentives for lecturers who have applied multimedia. Lack of time and the amount of workload of lecturers also affect the use of multimedia (Cuban 1993; Marcinkiewicz 1995). Lack of time and a lot of the workload imply. No time for lecturers to prepare multimedia as teaching material aids. Internal factor can be self confidence of lecturer to apply the multimedia in classroom.

References

[1]. Abdul Wahab Ismail Gani, Kamaliah Hj. Siarap & Hasrina Mustafa. 2006. Penggunaan komputer dalam pengajaran-pembelajaran dalam kalangan guru sekolah menengah: satu kajian kes di Pulau Pinang. *Kajian Malaysia* XXIV (1&2): 2003-225.

[2]. Brymen, J. & Cramer, D. 2005. Quantitative *Data Analysis with SPSS 12 and 13: A Guide for Social Scientist*. Hove: Routledge.

[3]. Cuban, L. 1993. *How Teachers Taught: Constancy and Change in American Classrooms*. New York: Teachers College Press.

[4]. Hajar Mohd. Nor. 2005. Condition facilitating the implementation of information communication technology integration in the Malaysia smart school. Tesis Dr. Fal. Universiti Putra Malaysia.

[5]. Khadijah & Zaid Ngah. 2002. *Isu dan Cabaran Perlaksanaan Kurikulum Pendidikan Islam (KBSM)*. Dlm. Ab. Halim Tamuri et.al. (Pnyt). Kurikulum Bersepadu Pendidikan Islam Menghadapi Cabaran Era Globalisasi. Bangi: Fakulti Pendidikan UKM.

[6]. Marcinkiewicz. 1994. Computers and teachers: factors influencing computer use in the classroom. *Journal of Research on Computing in Education* 26(2): 220-237.

[7]. Mohamad Izham Mohamad Hamzah & Noraini Attan. 2007. Tahap kesediaan guru sains dalam penggunaan teknologi maklumat berasaskan komputer dalam proses pengajaran dan pembelajaran. *Jurnal Teknologi* 46(E): 45-60.

[8]. Mohd Aderi Che Noh, Rinaldi, Nur Hanani Hussin & Nor Hayati Fatmi Tali. 2013. The relationship between the attitudes of Islamic education lecturers towards the usage and knowledge of multimedia in teaching. Asian Social Science 9: 1-6.

[9]. MSC. 2007. Pengintegrasian kandungan bahan-bahan berasaskan ICT dalam pengajaran dan pembelajaran.

[10]. http://www.mscmalaysia.my/codenavia/portals/msc/images/img/rakyat/empower_your_life/empowering_learning/Geografi.pdf. [12 Jun 2010].

[11]. Said Draman. 2001. Pengajaran dan pembelajaran bahasa Arab berbantukan komputer: persepsi guru-guru bahasa Arab di Daerah Hulu Langat. Tesis Sarjana. Universiti Kebangsaan Malaysia.

[12]. Sheingold, K & L, M. 1990. *Accomplished Teachers Integrating Computers into Classroom Practice.* New York: Bank Street College.

[13]. Wan Nooraini Wan Kamaruddin & Mohammed Sani Ibrahim. 2010. Enhancing Malaysian polytechnic technical lecturer's competency through the identicifation of professional development programs. *Journal of Procedia-Social and Behavioral Sciences* 7: 446 – 454.

[14]. Zuraidah Saidon. 1998. Factor affecting the implementation of information technology in secondary schools within the Klang Valley. Tesis Sarjana. Universiti Malaya.