

Knowledge Management in Enhancing the Teaching and Learning Innovation

Sugunah Supermane¹

Institut Pendidikan Guru Kampus Temenggong Ibrahim Johor, Malaysia

Email: sugunah559@gmail.com

Lokman Mohd. Tahir²

Faculty of Education, Universiti Teknografi Malaysia, Malaysia

Email: lokmantahir@gmail.com

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Abstract

This study focused on the influence of knowledge management and innovation of teaching and learning activities in Malaysian institutes of teacher education. A cross-sectional survey design was used to collect the data from 100 randomly selected respondents. The respondents were academic lecturers from the teacher education institutes within southern Malaysia. Closed-ended questionnaires using five point Likert scale were used to collect the primary data from all the 100 respondents. The collected data were analyzed using *SPSS Software Version 22.0*. The Pearson's correlation coefficient was used to test the existence of relationship between knowledge management and innovation of teaching and learning activities. The findings revealed that knowledge management was significant in enhancing innovation of teaching and learning activities. Knowledge management had a moderate but positive linear relationship as proved statistically by a correlation coefficient value of 0.624. The results indicated that a rise in knowledge management practices create more opportunities for the lecturers to enhance innovations in teaching and learning activities. Therefore, the researcher recommends a comprehensive module outlining knowledge management processes should be circulated and innovative leaders needed in guiding the lecturers in executing the practice widely in teacher education institutes.

Key words: Knowledge management; Teaching innovation; Learning innovation; Teacher education institute.

1.0 Introduction

As the main focus of economic revolution is based on innovation and knowledge, academic staffs especially teachers, play prominent role in educating and guiding future leaders to be innovative (Karavas-Doukas, 1995). Therefore, teachers training institutions should foster a culture of excellence by equipping potential teachers with all the skills required to face the new millennium (Liu, Baker & Milman, 2014). This will create opportunities for lecturers in teachers training institutions to think creatively and critically in planning and executing teaching

and learning activities. Each variety produced in teaching and learning activities is a new experience that can increase knowledge and improve teaching skills of the lecturers. Malaysian Institute of Teacher Education has took a gradual initiative in replacing traditional methods of teaching and learning with the innovative methods such as self-regulation learning, evidence-based learning, timely learning, distributed learning environments, individual-based learning and 21st century learning skills (Malaysian Institute of Teacher Education, 2011). All the above mentioned methods will be ideally engaged by the lecturers for reasons of cultivating innovation.

Despite all the above innovative teaching and learning methods, technological and information advances will definitely help the lecturers to integrate innovation in pedagogical teaching, curriculum and providing learning support to all the pre-service teachers. Therefore, all the higher education institutions including institutes of teacher education are urged to developed knowledge management as one of the information technology competencies (Yeh et al., 2012) to ease the process of innovation in teaching and learning. Knowledge management is a process of knowledge generation, knowledge storage, knowledge transfer and knowledge application (Alavi & Leidner, 2001). Although knowledge management was first introduced in the 1980s, the interest in this area just began to grow extensively when it was identified as one of the main factors in influencing the global economy (Calvo-Mora et. al., 2015; Syed-Ikhsan and Rowland, 2004).

Knowledge management is best known for its effectiveness in solving knowledge hoarding and limited expertise problems in educational institutions. Typically, knowledge management is aligned to the objectives of educational institutions in order to achieve expected outcome through integration with innovation to strengthen capabilities of the lecturers and qualities of teaching and learning activities. The truth is that realizing effectiveness and significance gains requires continuous effort of the lecturers in executing knowledge management in their teaching and learning activities. Such practices generate positive outcomes in producing various knowledge and new ideas to develop innovation in teacher education.

2.0 Materials and Methods

This study is meant to highlight the relationship between knowledge management and innovation of teaching and learning activities in teacher education institutes. It was mainly focused on the southern part of Malaysia. Knowledge management and innovation of teaching and learning activities are considered as independent variable and dependent variable respectively. The study was conducted in February 2017. It was carried out based on knowledge management model by Alavi and Leidner (2001) and past studies on innovation in teacher education from the year 2009 until 2015.

Generally, knowledge management is a process of managing knowledge and expertise in an organization. The available knowledge will be compiled and enriched as a value added

source to produce better outcomes. Despite various knowledge management models, the four dimensional of knowledge management model by Alavi and Leidner (2001) was chosen in this study as it was the first model incorporating information technology. On the other hand, the above mentioned model is widely used among academics because of its concise and easily understood by the academic experts (Peachey et al., 2007).

A cross-sectional survey design was employed in this study. Creswell (2012) has pointed out that a cross-sectional survey is the most popular design used in education as it is very suitable to examine current practices. The population of this study comprised all the lecturers in teacher education institutes in southern part of Malaysia. The random sampling technique was used to select 100 respondents. Then, survey questionnaires based on five point Likert scale was distributed to collect the data.

2.1 Apparatus

The correlation between knowledge management and the innovation of teaching and learning activities was identified by analyzing the primary data which was collected using close-ended questionnaires. The Pearson correlation coefficient was used to know the extent of the above two variables. A Cronbach coefficient alpha test was conducted to establish the reliability of the survey items. The reliability of knowledge management items and innovation of teaching and learning activities were 0.907 and 0.932 respectively. The closer the Cronbach's value to 1.00, the more reliable the instrument. Since the measured value were greater than 0.75, the items in the questionnaire were acceptable (Mertens, 2014).

3.0 Results and Discussion

The primary data has been analyzed using *SPSS version 22.0*. The interpretation of the data is shown in Table 1 and Table 2. The demographic profiles based on frequencies and percentages are clearly presented in Table 1. The profiles are categorized according to gender, age, qualifications, position and working experiences in teacher education institutes.

As for gender category, 53 percent of male respondents indicating the dominance of male teacher educators in teacher education institutes. In terms of age, most of the respondents (39 percent) are above 50. Majority (89 percent) of the respondents are postgraduates. Most of the lecturers are possessing master's degree (76 percent), followed by PHD holders (13 percent). The number of senior lecturers (30 percent) is relatively lower than novice lecturers (70 percent). This was supported by working experience data, too. Those have just started (0-5 years) their profession in teacher education institutes are the most (30 percent) compared to experienced lecturers.

Table 1: The Demographic Profiles of Respondents

Profiles	Classification	Frequency	Percentage (%)
Gender	Male	53	53
	Female	47	47
Age	20-29	1	1
	30-39	22	22
	40-49	38	38
	50 above	39	39
Qualification	Certificate	1	1
	Bachelor	10	10
	Master's	76	76
	PhD	13	13
Position	Lecturers	70	70
	Senior lecturers	30	30
Working experience	0-5	30	30
	6-10	24	24
	11-15	24	24
	16-20	4	4
	Above 20	18	18

The existence of the relationship between knowledge management and the innovation of teaching and learning activities was tested by using Pearson's correlation coefficient. Table 2 specifies the existence of the relationship between the above mentioned variables.

Table 2: The Pearson's Correlation Coefficient of Knowledge Management and Innovation of Teaching and Learning Activities

Variable		Knowledge Management	Innovation of Teaching and Learning Activities
Knowledge Management	Pearson Correlation	1	0.624
	Sig. (2-tailed)		0.000

The result shows a moderate positive relationship as indicated by the correlation coefficient value of 0.624. This proves that there is a significant linear relationship between knowledge management and the innovation of teaching and learning activities. Therefore, the significantly positive relationship is able to emphasize the role of knowledge management in enhancing innovation of teaching and learning activities in teacher education institutes.

4.0 Discussion

Specifically, this study achieved the aim to find out whether there is any significant relationship between knowledge management and innovation in teaching and learning activities. The findings revealed the existence of a moderate but significantly positive relationship between the two variables and it is tend to be same with the findings of a few past studies. Budiarta (2015) from his survey of 289 lecturers has found a positive influence of knowledge management in developing the innovation in teacher education institutions. The study pointed out the usage of tacit knowledge as main idea in making innovations in teaching and learning activities. Technology used in knowledge management to uphold knowledge sharing among lecturers had given a wide space to enrich the process of teaching and learning by considering the feedbacks from peers and students in teacher education institutes (Turcsányi-László Szabó, 2012).

Knowledge management practices create opportunities for the lecturers to plan interesting and creative teaching and learning activities. According to Rahim et al. (2013), knowledge management is the key drivers in enhancing innovation compared to other variables. The positive significance of the four dimensions of knowledge management towards the competitiveness of an organization were also proven in a few comprehensive studies (Ologbo & Nor, 2015; Ferraresi, 2012; Alavi & Leidner, 2001). The systematic practice of knowledge management promotes a greater rate of innovation development. Acknowledging the effectiveness of knowledge management, Singapore National Institute of Education has fully utilized the acquired knowledge to develop innovation in order to be more competitive (Chong, 2014). Therefore, the practice of knowledge management among lecturers is essential to develop innovation and eventually enhance the quality of the teacher education.

5.0 Conclusion

In conclusion, the variables of knowledge management and innovation of teaching and learning activities had a moderate positive relationship with a correlation coefficient value of 0.624. The study showed that knowledge management has a great influence in developing innovation. It can be accustomed as a strategy to uphold the innovations in education sector. Therefore, a comprehensive module outlining knowledge management processes should be circulated widely in teacher education institutes to encourage the practice among lecturers. Despite the circulation of the module, briefing and training workshops needed as detailed guidance for the lecturers in practicing knowledge management. Creative and innovative leaders play important role of guiding lecturers in executing the knowledge management processes. Thus, a comprehensive working framework incorporating leadership and knowledge management should be prepared to enhance innovation of teaching and learning activities in teacher education institutes.

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Corresponding Author

Sugunah Supermane

Institut Pendidikan Guru Kampus Temenggong Ibrahim,

Jalan Datin Halimah,

80500 Johor Bahru, Malaysia.

Email: sugunah559@gmail.com

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