

การพัฒนานิยายโดยใช้เทคนิคการเล่าเรื่องเป็นเครื่องมือจัดการความรู้ เพื่อส่งเสริมการเรียนรู้ของผู้เรียนในรายวิชาการจัดการความรู้

THE DEVELOPMENT OF A NOVEL USING STORYTELLING TECHNIQUE AS A KNOWLEDGE MANAGEMENT TOOL TO PROMOTE STUDENT LEARNING IN KNOWLEDGE MANAGEMENT SUBJECT

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การวิจัยมีวัตถุประสงค์เพื่อ 1) พัฒนานิยายโดยใช้เทคนิคการเล่าเรื่องเป็นเครื่องมือจัดการความรู้ 2) ตรวจสอบการเรียนรู้ของผู้เรียนในรายวิชาการจัดการความรู้ กลุ่มตัวอย่างแบบเฉพาะเจาะจงคือ นิสิตระดับปริญญาตรีจำนวน 49 คน เครื่องมือคือ 1) นิยาย 2) แบบสอบถามความเหมาะสม 3) แบบทดสอบผลสัมฤทธิ์ทางการเรียน 4) แบบสอบถามความพึงพอใจของผู้เรียน สถิติวิเคราะห์ข้อมูลได้แก่ การวิเคราะห์เนื้อหา ค่าเฉลี่ย ค่าเบี่ยงเบนมาตรฐาน และสถิติทดสอบที (t-test) ผลการวิจัยพบว่า (1) ผู้วิจัยนำแนวคิดสำคัญจากนิยาย เทคนิคการเล่าเรื่อง การจัดการความรู้และหลักสูตรมาพัฒนาเป็นนิยายจำนวน 9 ตอน 66 หน้าครอบคลุมองค์ความรู้ในตนและเชิงประจักษ์เกี่ยวกับหลักสูตร ซึ่งการพัฒนานิยายมี 6 ขั้นตอนดังนี้ 1) เลือกหัวข้อเรื่อง 2) นำแนวคิดสำคัญมาจัดทำเป็นนิยายและใช้เป็นเนื้อหาในนิยาย 3) วางโครงเรื่องและแก่นสำคัญของเรื่อง 4) สร้างเหตุการณ์นำสู่เรื่องเล่า 5) นำเสนอตัวละคร และ 6) เขียนเล่าเรื่องในรูปแบบนิยาย ทั้งนี้ความเหมาะสมของนิยายได้รับการประเมินจากผู้เชี่ยวชาญว่าอยู่ในเกณฑ์เหมาะสม ($\bar{x} = 4.75$, S.D. = 0.22) ระดับมากที่สุด ด้านเนื้อหา โครงสร้าง และการนำเสนอ (2) สำหรับการเรียนรู้ของผู้เรียนในรายวิชาการจัดการความรู้ค่าเฉลี่ยคะแนนก่อนใช้อยู่ที่ 67.15 และหลังใช้อยู่ที่ 74.42 จากคะแนนเต็ม 100 คะแนนโดยค่าเฉลี่ยหลังใช้สูงกว่าก่อนใช้อย่างมีนัยสำคัญทางสถิติที่ระดับ 0.05 ความพึงพอใจของผู้เรียนอยู่ในระดับสูง ($\bar{x} = 4.12$, S.D. = 0.54) โดยผู้เรียนพบว่า นิยายเป็นวิธีจัดการความรู้ที่ดี แปลกใหม่ สนุกสนาน น่าสนใจและสอดคล้องกับความรู้สำคัญที่ทำให้เกิดการเรียนรู้ รวมทั้งเป็นรูปแบบการจัดการความรู้ที่ดี ผลวิจัยสรุปได้ว่า นิยายสามารถใช้เป็นเครื่องมือจัดการความรู้ที่ทรงพลังในการถอดแลกเปลี่ยนและถ่ายทอดความรู้ที่ง่ายต่อความเข้าใจและน่าสนใจที่จะเรียนรู้โดยผู้เรียนสามารถเรียนรู้ได้ดียิ่งขึ้น ส่งผลให้การเรียนรู้ดีขึ้นทั้งผลสัมฤทธิ์ และความพึงพอใจ

คำสำคัญ :

นิยาย, เทคนิคการเล่าเรื่อง, เครื่องมือการจัดการความรู้, การเรียนรู้ของผู้เรียน

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ABSTRACT

The purposes were to: 1) develop a novel using storytelling technique as a knowledge management tool, and 2) examine student learning in knowledge management subject after applying a developed novel. The purposive sample group was 49 undergraduate students. The research instruments were 1) a developed novel, 2) a questionnaire collecting expert opinions towards appropriateness of a developed novel, 3) pre-test and post-test towards student achievement, and 4) a questionnaire collecting student's opinions towards satisfaction. Statistical methods used were content analysis, mean, standard deviation and t-test. The research results were summarized as following: 1) A developed novel was based on the key concepts of novel, storytelling technique, knowledge management and curriculum. It consisted of 9 chapters with 66 pages covering tacit and explicit knowledge of curriculum. There were 6 main steps to develop a novel. First, the topic was chosen. Second, key concepts were used as content and design. Third, the plot and theme were planned. Fourth, the scenes were set. Fifth, the characters were introduced. Sixth, the story was written in a form of a novel. A developed novel was then verified by experts as appropriate ($\bar{x} = 4.75$, S.D. = 0.22) at a very high level in its content, structure and presentation. 2) For student learning in knowledge management subject, scores of student achievement before and after applying a developed novel was 67.15 and 74.42 of 100, respectively. The posttest scores were higher significantly than the pretest scores at 0.05 level of significance. Student satisfaction towards a developed novel was at a high level ($\bar{x} = 4.12$, S.D. = 0.54). Students found it as a new, fun, interesting, integrated with essential knowledge way to learn and it was also a good form of knowledge management in their opinions. In conclusion, a developed novel can be used as a powerful knowledge management tool to capture, share and transfer knowledge, which was easy to understand and motivating for students to learn in knowledge management subject. Students can perform better, which resulted in enhanced student learning both achievement and satisfaction.

Keywords : Novel, Storytelling Technique, Knowledge Management Tool, Student Learning.

Introduction

Student learning is important as it shows that learning objectives were accomplished and expected learning outcomes were achieved. Learning objectives are what learners are expected to think, be or to act while learning outcomes are what the learner are expected to demonstrate as a result of student learning. Student learning can be observed by changes in knowledge that result from teaching and knowledge must be

translated into skills to be successful (Van De Ven & Johnson. 2006). It can be said that knowledge is one of the key influence behind student learning and if knowledge is managed well, student learning will occur.

Education is about the creation and application of knowledge (Sallis & Jones. 2002). As a result, an effective knowledge Management can have high impact on student learning. There are many techniques to manage knowledge but storytelling as an information medium is heavily used today in education and training of all types (Andrew, Hull & Donahue. 2009) and instructional storytelling is increasing in frequency (Jenkins. 2006).

Storytelling is considered as a means of knowledge management, which creates experience in context and nurtures creativity (Schwartz. 2004). Knowledge Management can be improved by incorporating stories that are great examples of knowledge and the transfer of knowledge (Reamy. 2002). Stories tend to attract more attention than other forms of knowledge transfer, where the intention is clearly defined (Davenport et al.. 2000). The purpose of a story may range from entertainment to instruction, but all stories share a similar experiential approach to encapsulating information (Andrew, Hull & Donahue. 2009).

Storytelling has emerged as one such teaching method that has proven to be an effective teaching pedagogy and learning process (Eck. 2006). The four major instructional methods that are informed by, embedded in, or organized around a story structure are case-based, scenario-based, narrative-based, and problem-based instruction. Each method presents learners with a temporally ordered sequence of information and employs an attention-focusing mechanism. Uniting these methods through a common characteristic enables researchers to draw on one another's work for insights into the learning process (Andrew, Hull & Donahue. 2009).

A novel is considered as a narrative-based instructional method. In narrative-based instruction the problem and solution are also fixed but the learner is positioned within the narrator's context and control of information (Cobley. 2001). Emotional engagement or entertainment is a central purpose of narrative and sets it apart from the other methods. A narrative is multifunctional in the sense that it attempts to appeal to emotions, as well as recount facts and events (Martin. 1986). It need not be a real or actual experience (Chatman. 1978).

Therefore, a novel using storytelling technique as a knowledge management tool can be used as a powerful tool in knowledge management to promote student learning due to its benefits mentioned above because people learn things easily from stories and stories can be used as a technique to describe complex issues, explain events, understand difficult changes, present other perspectives, make connections and communicate experience (LeBlance & Hogg. 2006). As a result, stories are obviously a very powerful way to exchange knowledge and information (Groff & Jones. 2012). Stories are fundamental form of knowledge and communication and are particularly suited to knowledge management (MA & Keppell. 2004)

If students possess appropriate knowledge through the powerful tool of knowledge management that can help furnishing them with well-managed knowledge, they have great potentials to turn that knowledge into

skills and be successful in their learning. Especially for student teachers, knowledge of curriculum was necessary to be developed. All students should know and be able to connect curriculum to instruction before reaching their student teaching at schools as the knowledge of curriculum can guide their instruction and help them prepare learning experiences according to the curriculum. When equipped with the knowledge of curriculum that can help them understand what they would be teaching, students would become more knowledgeable of planning learning experiences to teach well at schools when reaching their student teaching in the future.

This research then aims to develop a novel using storytelling technique as a means to capture, share and transfer knowledge to promote student learning of student teachers who have to use the knowledge of curriculum for planning learning experiences at schools. It is anticipated that the results of this research will be useful for establishing an effective knowledge management by using the appropriate tool to increase student learning of student teachers for best quality of learning and equipped them with essential knowledge required to work at schools and live in a knowledge-based society.

Research Objectives

This research focused on the following

1. Develop a novel using storytelling technique as a knowledge management tool
2. Examine student learning in knowledge management subject after applying a developed novel

Scope of Research

Population and Samples

Population was 104 students of Business and Computer Education at Vocational Education, Faculty of Education, Kasetsart University.

Samples were 49 Business and Computer Education students who had to study Curriculum and Instruction subject and enrolled in the Knowledge Management Subject in one class selected by purposive sampling.

Variables

Independent Variable: A developed novel using storytelling technique as a knowledge management tool

Dependent Variables: Student learning in knowledge management subject in terms of student achievement and satisfaction

Content

Content covered storytelling technique as a knowledge management tool and the process of managing curriculum knowledge as a novel.

Research Methodology

The research was conducted in two steps to achieve the research objectives as following:

1. Develop a novel using storytelling technique as a knowledge management tool

1.1 Conduct a documentary review on theories and the related researches of a novel, storytelling technique, knowledge management and curriculum from books, articles, websites and journals.

1.2 Develop a novel using storytelling technique as a knowledge management tool with content of curriculum as Subject Matter Knowledge. because this subject was full of complex issues both theories and practices and it was also a mandatory subject that all student teachers should know what they were teaching and be able to use it for planning learning experiences according to the curriculum when reaching their student teaching in the future. Therefore, knowledge of the curriculum must be developed before connecting curriculum to instruction and using it to plan learning experiences at schools. The process of developing a novel with the knowledge of curriculum as content consisted of 6 steps as following

1.2.1 The topic was chosen from important content knowledge students needed to study under Business and Computer Education Curriculum at Vocational Education, Faculty of Education, Kasetsart University.

1.2.2 The key concepts from a documentary review on theories and the related researches of a novel, storytelling technique, knowledge management and curriculum were used as content and design.

1.2.3 The plot and theme were planned with a sequence of important events involving an attempt to solve a problem that affected every character in a story.

1.2.4 The scenes were set according to a sequence of important events to move the story forward, engage readers and set action for characters to solve a problem in the story.

1.2.5 The characters were introduced in the story through description and actions among different scenes in the story.

1.2.6 The story was written in a form of a novel through a sequence of important events with characters appearing in different scenes to tell the story according to the planned plot and theme.

1.3 Develop a questionnaire with Likert's Scale of 5 Levels in 3 dimensions, that is content, structure and presentation including one open-ended question for recommendation to collect expert opinions towards appropriateness of a developed novel.

1.4 Participants of 3 experts were given the developed novel and questionnaire to determine its appropriateness.

1.5 Data were collected and analyzed by using mean, standard deviation and content analysis.

1.6 Results were brought into consideration to improve a novel to be used in the next step.

2. Examine student learning in knowledge management subject after applying a developed novel

2.1 Develop a test to be used as pre-test and post-test before and after applying a developed novel. There were 10 items related to curriculum subject to evaluate student learning in terms of student achievement. In the scoring procedure, counts of pretest and posttest scores were compared. 10 point was given every time when students could give a correct answer and 0 if they could not.

2.2 Develop a questionnaire collecting student's opinions towards satisfaction. There were 13 items using five-point Likert Scales and 1 open-ended question to evaluate student learning in term of student motivation. All statements were rated ranging from 1 to 5, where 1 referred to very least, 2 least, 3 average, 4 high and 5 very high in satisfaction

2.3 Get verification of 2 instruments from 3 experts to determine the appropriateness of these instruments.

2.4 Participants of 49 students who had to study Curriculum and Instruction subject and enrolled in Knowledge Management subject were selected by purposive sampling. Students were given a test used as pre-test in class before receiving a curriculum self-study of novel reading assignment. A teacher ran normal classes of knowledge management subject for 15 weeks. At week 9, a teacher taught storytelling technique, the narrative method, as one of knowledge management tools. At week 10, a teacher introduced a developed novel using storytelling technique and gave example of short stories to instruct how to complete the assignment. Then, she assigned a curriculum self-study of novel reading assignment and gave four weeks for students to finish reading at their convenient time. She then uploaded a developed novel through the use of technology in form of an e-book and a link of pdf file for students to access. She sent a message to invite students to download so that they can read and work on a test and a questionnaire later. She asked students if they had problems downloading to ensure that every student had access to the developed novel. Students were given 4 weeks to finish the assignment. At week 13, she sent a message to remind students the assignment due date. At week 14, a test used as post-test and a satisfaction questionnaire were given in class.

2.5 Student learning in knowledge management subject was examined by using 2 instruments, that is, a test and a satisfaction questionnaire, at the end of week 4 or week 14 of normal classes.

2.6 Collect and check all instruments for completeness and accuracy.

2.7 Data were collected and analyzed by using mean, standard deviation and t-test. T-test was used to compare scores before and after applying a developed novel and mean and standard deviation were used for describing student satisfaction while content analysis was used to identify student recommendation on the developed novel.

Research Results

The research results were demonstrated as below

1. Develop a novel using storytelling technique a knowledge management tool

1.1 A developed novel using storytelling technique as a knowledge management tool was based on the key concepts of novel, storytelling technique, knowledge management and curriculum. It consisted of 9 chapters with 66 pages covering both tacit and explicit knowledge of curriculum. There were 6 main steps to develop a novel.

1.1.1 The topic was chosen from important content knowledge students needed to study under Business and Computer Education Curriculum at Vocational Education, Faculty of Education, Kasetsart University. In this step, the researcher checked for important content knowledge and found that curriculum and instruction subject was the next mandatory subject that students were expected to learn in the next semester. This subject itself was full of theories and practices with important content knowledge that students should know and be able to connect curriculum to instruction for planning learning experiences when reaching their student teaching at schools in the future. Therefore, curriculum part was chosen as the topic because it was necessary for students to know what they were teaching first and use it for planning learning experiences in their instruction at schools in the future.

1.1.2 The key concepts from a documentary review on theories and the related researches of a novel, storytelling technique, knowledge management and curriculum were used as content and design. In this step, the researcher researched from a variety of learning resources with multiple materials to capture both tacit and explicit knowledge of curriculum, share and transfer the selected key knowledge to students in forms of a novel. A researcher drew out six main steps of designing a novel using storytelling technique from learning resources and developed a novel according to those steps.

1.1.3 The plot and theme were planned with a sequence of important events involving an attempt to solve a problem that affected every character in a story. In this step, the researcher created the plot involving the attempt to solve curriculum problem at present by going back to the past to find out and fix what caused the curriculum failure around the theme of changing the past to make the better future along with a sequence of important events of how the characters tried to solve a problem related to curriculum problem and how all characters interacted between one another during the problem solving process.

1.1.4 The scenes were set according to a sequence of important events to move the story forward, engage readers and set action for characters to solve a problem in the story. In this step, the researcher set the scene around university settings to make a sequence of important events happen to show the consequences of curriculum problem at present and set action for the lead female character to find out

what caused curriculum problem in the past and tried to fix the problem with the help of the lead male character. By doing that, those two characters went through different scenes in the story to complete the duty.

1.1.5 The characters were introduced in the story through description and actions among different scenes in the story. In this step, the researcher introduced six main characters and described them through a sequence of actions among different scenes to tell the story of how the curriculum failed. One lead female character was assigned to find out how the curriculum failed and try to fix it with the help of the other male lead character while other characters helped or hindered her to complete or obstruct the mission.

1.1.6 The story was written in a form of a novel through a sequence of important events with characters appearing in different scenes to tell the story according to the planned plot and theme. In this step, a developed novel consisted of 9 chapters with 66 pages covering tacit and explicit knowledge of curriculum in a university setting to tell the story of how the lead female character tried to solve a curriculum problem with the help of the other male lead character from the start until the end of the story.

1.2 A developed novel was then analyzed by the experts for the appropriateness. ($\bar{X} = 4.75$, S.D. = 0.22) at a very high level in its content, structure and presentation.

Table 1 Means and Standard Deviation of Novel's Appropriateness according to experts' opinions

Appropriatenessv	\bar{X}	S.D.	Interpretation
1.content	5.00	0.00	Very High
2.structure	4.78	0.19	Very High
3.presentation	4.56	0.38	Very High
Total	4.75	0.22	Very High

The data analysis in Table 1 showed that mean was 4.75 and standard deviation (S.D.) was 0.22. This meant that the appropriateness of a developed novel using storytelling technique as a Knowledge Management Tool was at a very high level according to experts' opinions in terms of content, structure and presentation.

2. Examine student learning in knowledge management subject after applying a developed novel

Table2 Student Achievement before and after applying a developed novel

Test	Total Scores	\bar{X}	S.D.	t-test
Pre-test	100	67.15	28.86	5.14*
Post-test	100	74.42	26.93	

*the mean difference is significant at the level 0.05 level

According to Table 2, the analysis indicated that the probability significance of 0.0003 was less than 0.05, which meant that there were significant differences between pre-test and post-test scores. Student achievement after the application of a developed novel using storytelling technique as a knowledge management tool was higher than before, significantly different at 0.05.

Table 3 Means and Standard Deviation of Student Satisfaction towards a developed novel using storytelling technique as knowledge management tool

Student Satisfaction	\bar{X}	S.D.	Interpretation
1.It stimulates interest	4.39	0.63	High
2. It communicates knowledge clearly and easy to understand.	4.37	0.58	High
3. It helps understanding of the knowledge given	4.24	0.66	High
4. It is interesting form of knowledge management	4.17	0.70	High
5. It consists of components of content and knowledge management	4.15	0.61	High
6.It gives theories and practices of knowledge given	4.13	0.72	High
7. It helps transfer knowledge.	4.10	0.62	High
8. It stimulates learning in knowledge management	4.10	0.54	High
9. It captures, manage and share essential knowledge	4.05	0.44	High
10.It helps manage knowledge systematically	4.02	0.65	High
11. It is appropriate in telling stories and events	4.00	0.67	High
12.It gives important knowledge in the selected subject	3.95	0.55	High
13.It helps retain knowledge gained from a developed novel	3.93	0.52	High
Total	4.12	0.54	High

The data analysis in Table 3 showed that mean was 4.12 and standard deviation (S.D.) was 0.54. This meant that students were satisfied with a developed novel using storytelling technique as a knowledge management tool at a high level.

Results of student satisfaction from open ended answers were the application of a developed novel using storytelling technique as a knowledge management tool was considered as a new, fun, interesting, integrated with knowledge way to learn and it was also a good form of knowledge management in their opinions.

Conclusion

From this study, it revealed that a developed novel using storytelling technique as a knowledge management tool can be used as a powerful tool to capture, share and transfer knowledge, which was easy to understand and motivating for students to learning knowledge management subject with positive results. Students can perform better, which resulted in enhanced student learning both student achievement and satisfaction.

Discussions

The research results indicated that the developed novel using storytelling technique was considered as an effective means of knowledge management in a way that it attracted attention due to their appeal to emotions, emotional engagement or entertainment and promoted learning, which was in accordance with Gerrig (1993) who stated that the semantic structures and temporal ordering of information in a story act as an attention-focusing mechanism that aids in inquiry, decision-making, and learning and Davenport et al. (2000) who indicated that stories tend to attract more attention than other forms of knowledge transfer. It demonstrated that students performed better when the proper knowledge management tool was carefully selected according to learners' interest because the tool made knowledge easy to understand and motivating to learn.

Students were satisfied at a high level with this tool of knowledge management, which led to the better scores of student achievement, which was also in accordance with the research of Eck (2006) who examined the effectiveness of storytelling as a teaching pedagogy and learning method with 17 adult learners who are enrolled in the Supervisory Training program at a Wisconsin technical college and found that storytelling has a powerful impact on learning, especially as it relates to theories that espouse the experiential characteristics of storytelling and learner information retention. Moreover, it was interesting to find that when students were satisfied with this knowledge management tool, they learnt better as Arshad et al. (2013-2014) stated that students always complained lecturers for not being to share the knowledge in a way that they can accept it. Once the knowledge was given in a way students accepted, they felt more motivated to learn and their learning increased. Therefore, the results from this study supported the use of storytelling technique as a knowledge management tool to promote student learning in knowledge management subject for best quality of learning and preparation for their student teaching in the near future.

Recommendations

1. For next implementation, the effectiveness of applying a novel using storytelling technique as a knowledge management tool should be further explored with more time and given knowledge of the selected subject as a pre-requisite to convince that storytelling in a form of novel can be used as an effective knowledge management tool for better results.

2. This study can be extended to other subjects to evaluate the effectiveness of applying a novel using storytelling technique as a knowledge management tool and compare results with this study. It can also be expanded to other groups of participants outside the formal education to compare results in order to promote lifelong learning or encourage reading according to Thai policies.

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