ปัจจัยที่ส่งผลต่อการเกิดพลวัตการเรียนรู้ของครู
ในสังกัดสำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน
Factors Affecting the Learning Dynamics of Teachers
under the Office of the Basic Education Commission

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     งานวิจัยนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาพฤติกรรมการใช้เครือข่ายสังคมออนไลน์ของครูในสังกัดสำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน และ 2) ศึกษาปัจจัยที่ส่งผลต่อการเกิดพลวัตการเรียนรู้ของครูในสังกัดสำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน กลุ่มตัวอย่างที่ใช้ในการวิจัย ได้แก่ ครูในสังกัดสำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน กระทรวงศึกษาธิการ ทั่วประเทศ จำนวน 414 คน จากกำหนดขนาดกลุ่มตัวอย่างจากสูตรของ Yamane และแบ่งกลุ่มตัวอย่างด้วยการสุ่มแบบกลุ่ม เครื่องมือที่ใช้ในการวิจัย ได้แก่ แบบสอบถามที่มีค่าความเที่ยงทั้งฉบับเท่ากับ 0.85 วิเคราะห์ข้อมูลด้วยค่าความถี่ ค่าร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และการวิเคราะห์ถดถอยแบบพหุคูณแบบขั้นตอน ผลการวิจัยพบว่า ตัวแปรที่ได้รับการทำนายสูงสุด 11 อันดับ ได้แก่ 1. ประสบการณ์ในการใช้เครือข่ายสังคมออนไลน์มากกว่า 10 ปี 2. มีประสบการณ์การใช้เครือข่ายสังคม

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ออนไลน์ 3. ระดับการศึกษาระดับปริญญาโท 4. มีเพื่อนในเครือข่ายสังคมออนไลน์ จำนวน 101-150 คน 5. ค้นคว้าหาความรู้จากสิ่งแวดล้อมรอบตัว 6. มีเพื่อนในเครือข่ายสังคมออนไลน์ จำนวน 201-250 คน 7. ค้นหาความรู้จากแหล่งอื่นๆ 8. ใช้เครือข่ายสังคมออนไลน์ สัปดาห์ละ 1-3 ครั้ง 9. ใช้เครือข่ายสังคมออนไลน์เพื่อติดต่อกับบุคคลที่รู้จัก 10. กลุ่มสาระการเรียนรู้ภาษาต่างประเทศ และ 11. กลุ่มสาระการเรียนรู้ศิลปะ

คำสำคัญ: เครือข่ายสังคมออนไลน์, ครู, พลวัตการเรียนรู้

ABSTRACT

This study aimed at 1) exploring the online social network use behavior of 414 teachers under the Office of the Basic Education Commission from all regions of Thailand, selected through Yamane formula and divided by cluster random sampling, and 2) examining factors affecting their learning dynamics. Questionnaires with validity of 0.85 were used to collect data which were later analyzed using frequency, percentage, mean, standard deviation , and stepwise multiple linear regression. The data analysis revealed 11 highest predictive variables as follows: 1) over 10 years of social network use experiences, 2) social network use experiences, 3) master degree holdings, 4) a number of 101-150 friends on social network, 5) abilities in searching for knowledge available in surrounding sources, 6) a number of 201-250 online social network friends, 7) abilities to retrieve knowledge from other sources, 8) one to three times per week of social network use, 9) usage of social network for communicating with acquaintances, 10) foreign language skills, and 11) arts knowledge and skills..

Keywords: online social network, teacher, learning dynamics

Introduction

The education reform for the second decade (2009-2018) issued by the Ministry of Education has a vision to encourage Thai people to pursue quality lifelong learning by using projects that connect and enhance bodies of knowledge which can develop the quality of learners, employing knowledge sharing processes as tools to create activities to develop learners, and forming knowledge sharing networks and projects that maximize the benefit for the learners (Komolmak, 2013). Those projects provide activities that aim for fulfilling the quality of learners both in the academic area and outside-the-classroom activities, allowing the learners to apply what they have learned in real life situations, developing personality, self-discipline and adaptation to the surroundings, developing abilities, interests, and aptitude of each learner to progress in the way the will best benefit themselves and the society, improving creativity and decision making, providing relevant knowledge for future careers, and training them to spend their free time effectively. The projects also complement inclass activities and allow learners to enjoy learning from real-life practice, collaborate with others, learn by themselves according to their own potential, be more assertive, and have creative thinking skills.Therefore, education administrators and teachers are important people who should be developed to be fully capable in all aspects with co-operations from various parties to be learning people in learning organizations who can truly work together towards predetermined objectives.

One important factor that can develop potential of personnel in a learning organization proposed by Marquardt is learning dynamics, which is the characteristic that encourages people to learn continuously and sustainably. It consists of level of learning, types of learning, and learning skills. To develop an organization into a learning organization, personnel in the organization must be broadly knowledgeable because knowledge is the key factor. Beside the level of learning, types of learning, and learning skills are also important components of learning dynamics. The types
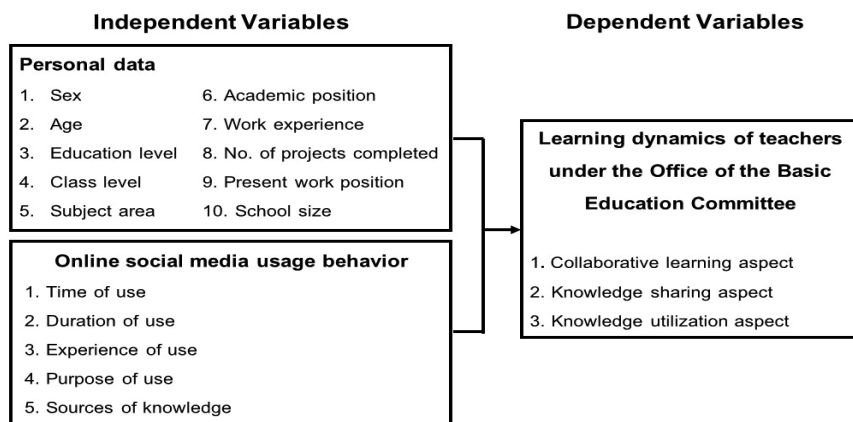
of learning is the methods a learner use in the learning process. There are four types of learning namely: 1) Adaptive learning, 2) Anticipatory learning, 3) Deutero learning, and 4) Action learning. Learning skills are the elements that encourage people in the organization to have continuous and sustainable learning which can be divided into: 1) System thinking, 2) Personal Mastery, 3) Team Learning, 4) Mental models, 5) Shared vision, and 6) Dialogue.

Nowadays, the online social network plays an important role in changing the behavior of people in all aspect, especially in the area of communication. Technology can also be an effective factor that enhances knowledge sharing processes. Integration of the information and communication technology into the knowledge sharing processes will improve sharing of knowledge application, promote participation among parties in the knowledge sharing processes, especially the knowledge sharing on the network. However, the very high rate of Internet technology development suggests that users need to acquire some skills in order to use it effectively in self learning and lifelong learning. The researcher was therefore interested in studying the online social network usage behavior of teachers under the Office of the Basic Education Commission and factors affecting the learning dynamics of teachers under the Office of the Basic Education Commission in order to provide basic information which can be used for developing dynamic knowledge sharing skills among teachers under the Office of the Basic Education Commission efficiently and effectively.

Research Objectives

1. To explore the online social network usage behavior of teachers under the Office of the Basic Education Commission.

2. To investigate factors affecting the learning dynamics of teachers under the Office of the Basic Education Commission

Conceptual Framework

Independent Variables   **Dependent Variables**

Personal data

1. Sex	6. Academic position
2. Age	7. Work experience
3. Education level	8. No. of projects completed
4. Class level	9. Present work position
5. Subject area	10. School size

Online social media usage behavior

1. Time of use
2. Duration of use
3. Experience of use
4. Purpose of use
5. Sources of knowledge

Learning dynamics of teachers under the Office of the Basic Education Committee

1. Collaborative learning aspect
2. Knowledge sharing aspect
3. Knowledge utilization aspect

Research Methodology

This research is a quantitative research aiming to explore the factors affecting the learning dynamics of teachers under the Office of the Basic Education Commission. The details are as follows:

The population and samples

The population of this study is the teachers under the Office of the Basic Education Commission nationwide, the total of which is 355,206 people. The sample size, determined by using Yamane's formula at a confidence level of 95% and allowable error of 4%, was 447 people. The sample was divided by cluster random sampling method into equal groups from different regions of the country.

The Research Instruments

The instrument used in this study was a questionnaire divided into three parts as follows:

Part 1 Basic information of participants, consisting of 11 check-list items.

Part 2 Online social network usage behavior of teachers under the Office of the Basic Education Commission, consisting of 14 check-list items.

Part 3 Opinions on the learning dynamics of teachers under the Office of the Basic Education Commission, consisting of 50 rating scale items.

The researcher has verified the validity and reliability of the instrument. The content validity was verified by 5 experts. Each item had an IOC value between .6-1.00. After the questionnaire had been edited according to the experts' recommendations, it was tried out with 30 representatives from the sample groups to obtain Alpha coefficient using Cronbach's method (Cronbach alpha coefficient). The overall reliability of the questionnaire was 0.85.

Data Collection

447 questionnaires were sent to the participants by mail or e-mail according to each participant's request. 298 questionnaires were collected (66.67%). Data collection took 2 months.

Data Analysis

1.   The basic information of participants and the behavior of using the online social network of teachers under the Office of the Basic Education Commission were analyzed using frequency, percentage, mean, and standard deviation.

2.   The factors affecting the learning dynamics of teachers under the Office of the Basic Education Commission were analyzed using stepwise multiple regression analysis with statistical significance level of .05.

Conclusion

Behavior of using the online social network of teachers under the Office of the Basic Education Commission

The results showed that most of the sample group (95.97%) have used the online social network. The most favorable social network used by the sample group was Facebook (69.57%). Most of the sample group have used the online social network for more than 10 years (36.24%).

As for the time and duration of online social network use, it was found that the sample group used the online social network daily (59.51%). The interval of time they most used the online social network was from 18.01 – 24.00 (67.34%), and the duration of each use was not more than 1 hour (57.94%)

Regarding the equipment and location the sample group used the online social network, the results revealed that 90.60% of the sample group used mobile phones to access the online social network. The location most of them used the online social network was their residence (87.25%). The language used in the online social network was Thai (55.70%).

The top three rated purpose of using the online social network by the sample group are: 1) to contact people at work (85.46%), 2) to search for information on the Internet (83.22%), and 3) to contact friends and acquaintances (77.40%). The source of knowledge the sample group used to search for information is the Internet, which accounted for 91.05%. The top three rated problems and obstacles in using the online social network are: 1) slow Internet connection (77.40%), 2) lack of proficiency and skills in using the online social network (51.68%), and 3) outdated equipment and devices (46.09%).

Opinions on the learning dynamics of teachers under the Office of the Basic Education Commission

The opinions were divided into three aspects as follows:

1. Collaborative learning aspect:

The results showed that the sample group thought that the learning dynamics of teachers under the Office of the Basic Education Commission is at high level ($\bar{x}$=4.01, S.D.= 0.50). When examining the opinions in each item, it was found that the sample group had the opinion on learning dynamics by using online social network for participation at work the most ($\bar{x}$= 4.12, S.D.= 0.72), followed by using online social network for searching for information ($\bar{x}$= 4.11, S.D.= 0.71), and using online social network to develop their own work quality ($\bar{x}$= 4.12, S.D.= 0.72)

successively.

    2.   Knowledge sharing aspect:

The results showed that the sample group thought that the learning dynamics of teachers under the Office of the Basic Education Commission is at high level ($\bar{x}$= 4.01 S.D.= 0.51). When examining the opinions in each item, it was found that the sample group had the opinion on learning dynamics by using online social network for communication and knowledge sharing with other teachers the most ($\bar{x}$= 4.10 S.D.= 0.68), followed by using online social network to develop their own thinking processes ($\bar{x}$= 4.08, S.D.= 0.68), and using online social network to develop their skills to work with other teachers ($\bar{x}$= 4.12, S.D.= 0.72) successively. Knowledge utilization aspect:

The results showed that the sample group thought that the learning dynamics of teachers under the Office of the Basic Education Commission is at high level (= 4.02, S.D.= 0.51). When examining the opinions in each item, it was found that the sample group had the opinion on learning dynamics by using online social network for participation at work the most ($\bar{x}$= 4.12, S.D.= 0.72), followed by using online social network for searching for information ($\bar{x}$= 4.11, S.D.= 0.71), and using online social network to develop their own work quality ($\bar{x}$= 4.12, S.D.= 0.72) successively.

Factors affecting the learning dynamics of teachers under the Office of the Basic Education Commission

Using stepwise multiple linear regression to analyze factors affecting the learning dynamics of teachers under the Office of the Basic Education Commission, the results revealed the 11 most predictor variables as follows: 1. having more than 10 years of experience in using online social network; 2. having experience in using online social network; 3. having master's degree; 4. having 101-150 friends in online social network; 5. having ability to search for knowledge from the surroundings; 6. having 201-250 friends in online social network; 7. having ability

to search for knowledge from other sources; 8. using online social network 1-3 times a week; 9. using online social network to contact friends and acquaintances; 10. belonging to subject area of foreign languages; 11. belonging to subject area of arts. Table 1 shows correlation coefficient from stepwise multiple regression of variables that affect the learning dynamics of teachers under the Office of the Basic Education Commission.

Table 1

Predictor variables	b	Std.e	B	t	p
1. Having more than 10 years of experience in using online social network	0.181	0.048	0.177	3.799	0.000*
2. Having experience in using online social network	0.172	0.047	0.168	3.640	0.000*
3. Having Master's degree	0.163	0.047	0.160	3.481	0.001*
4. Having 101-150 friends in online social networks	0.151	0.047	0.148	3.232	0.001*
5. Having ability to search for knowledge from the surroundings	0.134	0.047	0.131	2.858	0.004*
6. Having 201-250 friends in online social networks	0.137	0.047	0.134	2.925	0.004*
7. Having ability to search for knowledge from other sources	0.142	0.047	0.139	3.036	0.003*
8. Using online social networks for 1-3 times per week	0.133	0.047	0.130	2.850	0.005*
9. Using online social network to contact friends and acquaintances	0.133	0.047	0.130	2.854	0.005*
10. Belonging to subject area of foreign languages	0.135	0.046	0.132	2.919	0.004*
11. Belonging to subject area of art	0.142	0.046	0.139	3.072	0.002*

*$p < .05$

Discussion

The results of the study on online social network usage behavior of teachers under the Office of the Basic Education Commission has shown that most of the sample group have used the online social network and the online social network they used most is Facebook. They had over 10 years of experience in using the network and used it every day. Facebook was the most popular online social network among general users as well as business sectors. It could support the needs for communication among friends and acquaintances, and acted as a public platform for information sharing which was available for access from any place at any time, consistent with the finding from a study by Pumnuch (2011), which indicated that education personnel use Facebook as online social network the most and the study by Phuangphae (2016) which explored Social Media usage behavior of preservice teachers ,Faculty of Education, Silpakorn University, and found that most of preservice teachers used Facebook as well.

The interval of time they most used the online social network was from 18.01 – 24.00, and the duration of each use was not more than 1 hour. The sample group accessed the online social network mostly at their residence because that time was after working hours, so most of them were already at home and most convenient for spending on using online social network, in line with Pumnuch (2011)'s research which studied the behaviors in using online social network to study the performance of educational persons in Nakhon Pathom, and also found that most education personnel accessed online social network between 18.01 and 24.00. The sample group used mobile phones to access the online social network as they were convenient to use all the time everywhere, and the mobile Internet service nowadays is very efficient.

Regarding the purposes of using online social network, it was found that the first three most important purposes were to contact people at work, to search for information on the Internet, and to contact friends and acquaintances. The result

agreed with a study by Jitsaranyukul (2010) which found that the most activity that employees of True Corporation public company limited did on mobile social network was conversing using messaging app on mobile phones. This showed that online social network is a favorable tool for interpersonal communication.

The sample group had opinions on the learning dynamics of teachers under the Office of the Basic Education Commission at high level in all three aspects, namely: collaborative learning aspect, knowledge sharing aspect, and knowledge utilization aspect. This showed that those teachers valued the learning dynamics and preferred to learn collaboratively with colleagues to enhance the work efficiency as well as their personal knowledge, consistent with the research of Sirirat (2008), which found that education personnel had significantly higher learning behaviors as a team at .05 through collaborative learning on the Internet network, which was a learning resource and a tool for information presentation and knowledge sharing without space and time constraint. This study also found that using information technology as a tool for communicating and collaborative knowledge sharing among teachers helped develop thinking processes and collaborative skills, conforming to a work by Wimolseste. (2014), which studied the knowledge sharing behavior on website for increasing efficiency of educational technology operation method: Case of Health Science Network in Mahidol University Phayathai Campus, and found that the sample group efficiently used website for: discussion, interaction among members, knowledge sharing, giving opinion through the knowledge sharing system on website, sharing work experiences, sharing knowledge through the knowledge sharing system on website, and working together to find solutions to problems at work. Moreover, it was found that teachers thought that using online social networks helped to promote learning dynamics. They can apply new knowledge to improve their work and use it for self-improvement effectively.

The analysis of factors affecting the learning dynamics of teachers under

the Office of the Basic Education Commission using stepwise multiple linear regression revealed that the highest rated predictor variables were: experience in using online social network, level of education, number of online social network friends, purposes of using online social network, frequency of using online social network, and subject area they belong to, consistent with Pumnuch (2011)'s research, which indicated that the online social network usage of education personnel was for the purpose of work development. This study also suggested that the use of online social network for communication should be both intra-group to create interaction within the group, and inter-group to facilitate knowledge sharing which would extend their knowledge and keep themselves updated. The findings were in accordance with SECI's Model of Nonaka and Takeuchi (1995), which suggested that collaborative knowledge sharing both within a group and among different groups was the process of changing the tacit knowledge and explicit knowledge continuously, causing changes in knowledge through social processes, exporting knowledge, integration of knowledge, and importing knowledge, which resulted in learning dynamics infinity.

Suggestion

Suggestion for implementation

Teachers should develop and improve their skills in using online social network and the Internet to have better access to information and knowledge resources for continuous enhancement of their potentials.

School administrators should encourage teachers to use online social network more to support their work so that teachers can communicate, share knowledge, and work together more conveniently. To develop personnel to have knowledge and to be able to build on their knowledge is the way of sustainably developing human resources.

Administrators should allocate budget to procure and upgrade tools and equipment for the Internet system in their schools to provide more facilities for teachers to use in their work and for self-development.

Suggestion for future research

Other studies on the behavior of teachers through various activities by using online social networks should be considered.

There should be more research on development of online social network usage models of teachers under the Office of the Basic Education Commission in other areas.

Reference

Komolmak, J. (2013). **Management of Student Development Activities In Muang Ang Thong Municipal Schools**. (In Thai). Master's Project, M.ED. (Educational Administration). Bangkok: Graduate School, Srinakharinwirot University.

Wimolseste, N. (2014). **Knowledge Sharing Behavior on Website for Increasing Efficiency of Educational Technology Operation Method: Case of Health Science Network in Mahidol University Phayathai Campus**. (In Thai). Independent Study of Master of Education in Educational Technology, Graduate School, Silpakorn University.

Nonaka, I., Takevchi, H.(1995). **The knowledge-creating company: How Japanese companies create the dynamics of innovation,** Oxford: University Press, Oxford.

Sirirat, N. (2008). **The Development of a Knowledge Sharing via Network Model Based on the Self-Directed Learning Approach to Create Team Learning of Educational Personnel**. (In Thai). Dissertation of Doctor of Philosophy in Educational Technology and Communications, Faculty of Education, Chulalongkorn University.

Jitsaranyukul, P. (2010). **Behavior of Online Mobile Social network of Company employee: A Case Study of True Corporation Public Company Limited**. (In Thai). Thesis of Master of Business Administration, Program of Entrepreneurship. Graduate School. Silpakorn University.

Phenphanor P,. (2016). A Study of Behavior for Using of Social Media of preservice teachers, Faculty of Education, Silpakorn University. (In Thai). **Veridian E-Journal, Silpakorn University. International Humanities, Social Science and Arts**. 9(2), 946-956. Retrieved 20 March 2018, from https://www.tci-thaijo.org/index.php/Veridian-E-Journal/article/view/66965/54683

Pumnuch, T. (2011). **A Study of Behaviors in Using Online Social Network to Study the Performance of Educational Persons in Nakhon Pathom Primary Educational Service Area Office**. (In Thai). Independent Study of Master of Education in Educational Technology, Graduate School, Silpakorn University.