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Developing The Innovative Leaders Center Of Curriculum And Learning For Supporting An Inquiry, Research, And Potential Development In Curriculum And Instruction

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Abstract

The objectives of this research were to develop and evaluate the effectiveness of Innovative Leaders center of Curriculum and Learning (LCCL) supporting the utilization in three aspects which included the curriculum and teacher and learning study, curriculum and instruction research, and the curriculum and instruction potential development. The sample group involved 30 teachers teaching in fundamental education level (K-12), 30 teachers teaching in higher education level at Faculty of Education, and 100 learners at higher education level at Faculty of Education. The rating scale questionnaire was used as the research tool. Research results showed the effective innovative leaders center of curriculum and learning. Further, it was found out that Professional Learning Community concept (PLC), personalized learning and technology-based learning could be integrated and develop as the online learning source for curriculum and learning effectively.

Key words: Self-learning, Curriculum and Instruction Learning center, Online resources

Introduction

The secure and sustain quality development of society and nation is to improve the quality of educational management via the quality education personnel and the potential of curriculum and instruction. The formal education personnel in the fundamental education and higher education level as well as the learners in the higher education in the programs relate to the curriculum and instruction will be the mainspring of education quality development. The skillful, knowledgeable and potential education personnel in curriculum and instruction would develop the quality of educational management by creating the innovative curriculum and instruction that limitless fulfills the demand of learners, community, society, and nation.

For this reason, it is necessary to maximize the opportunity for the education personnel to study, research and develop their curriculum and instruction potential through the various medium with flexibility to learn and enhance themselves unlimitedly in terms of learning time, methods and venue. Such learning should be correspond with their work truly. There are number of methods of increasing the learning opportunity for curriculum and instruction. Professional Learning Community (PLC), technology-based learning and personalized leaning via

various methods and medium are the tools for professional learning, as well as educational profession.

Professional Learning Community (PLC) is the learning innovation emphasizes on the development of academic potential under the collaboration of the professional practitioners aiming to enhance the profession, practice in the actual work situation and extend knowledge constantly (Hord, 1997; Protheroe, 2008; Fegger, & Andura, 2008; Reichstetter, 2006; Dufour, Eaker & Many 2006; Stool, Bloam, Mcmahon, Thomas, Wallace, Greenwood et al (2005).

In the multicultural society, learning with information technology and communication bases on information and communication with the social, cultural, belief, norm, racial, and religion diversity. All learners must have the skills and capability of implementing information technology and communication efficiently, particularly those in the upper primary school as it is the beginning phase of self-learning via information technology and communication system. If the learners in this phase efficiently use information technology and communication to pursue knowledge, access and apply online learning sources, and exchange the learning, they would be able to leverage information technology and communication for lifelong learning in the multicultural society by themselves (Alliance for Excellent Education, 2013: online, Cavanaugh, 2013: online, Digital Learning Foundation, 2013: online).

Personalized learning is when the individual applies the learning methods that they are capable to their learning without the limitation of time and venue. Self-discipline and determination are the key attributes of the learner to achieve the goal of personalized learning (Bray and McClaskey, 2018: online).

Education personnel, especially the teachers in fundamental education and higher education level are the key of educational management development as they develop the quality of learner directly and have close relationship with them. Moreover, the learners in the higher education level who are studying in the curriculum concerning with education are significant as they are growing to be the education personnel in the future. For this reason, they should have the chance to study, research and enhance their potential of curriculum and instruction continually in order to create the innovative curriculum and instruction from their knowledge, skills and potential to satisfy the demand of learners, who are the target group, community, society, and nation consistently.

Innovative leaders center of curriculum and leaning is an assembly of the scholars of the curriculum and learning developed from the PLC, technology-based learning and personalized learning concept that aims to promote the study, research and development of curriculum and learning potential of the teachers in the fundamental and higher education level, as well as the learners in the higher education level in educational field via the PLC, technology-based learning and personalized learning platform.

Research objectives

1. To develop the LCCL which promotes the study, research and development of curriculum and teaching potential.

2. To evaluate the effectiveness of the LCCL which promotes the study, research and development of curriculum and teaching potential.

Scope of research

Population was Thai teachers teaching in basic education level (K-12), Thai teachers teaching in higher education level and Thai learners in higher education level. The sample group consisted of 30 Thai teachers teaching in fundamental education level, 30 Thai teachers teaching in higher education level at faculty of education, and 100 Thai learners in higher education level at faculty of education.

The variables involved the dependent variable, which was the operations of the LCCL, and the independent variable, which was the utilization of the LCCL in three aspects including the utilization of study on curriculum and teaching and learning, the utilization of curriculum and instruction research, and the utilization of curriculum and instruction potential development. The research was divided into four phases and conducted between January 2019 to January 2021.

Research framework

This research studied and developed the LCCL which promoted the study, research and development of curriculum and teaching potential. The scholars of the curriculum and learning developed from the PLC, technology-based learning and personalized learning concept gathered to enhance the professional potential and quality of the learners together vial the continuing collaborative learning, filed experience and sharing learning in combination with technology-based learning that integrates the technological advancement of instructional management to inspire and motivate the positive learning. Currently, the learners are capable of using information technology and communication to learn bases on their interest at anytime and from anywhere by applying different communication devices. Further, the goal of personalized learning is to promote the study, research and development of curriculum and instruction potential of the teachers in the fundamental and higher education, and the learners in the higher education in education filed via the PLC, technology-based learning and personalized learning platform, which the learner spends time and uses the learning methods to learn what they are interested in from the learning sources that are consistent with their learning style.

The target group was the teachers teaching in the fundamental and higher education level and the learners in the higher education level. The LCCL was developed from the concept of PLC, technology-based learning and personalized learning in order to fulfill the demand for study, research and developing the potential of curriculum and instruction personnel, and construct the utilization of the three following dimensions.

1. Utilization of the LCCL in terms of curriculum and instruction study. It is to search the online documents from the LCCL which is measured from the volume of searching, and to apply knowledge from the center to the curriculum and instruction operations which is measured from the query regarding the utilization of curriculum and instruction study.

2. Utilization of the LCCL in terms of curriculum and instruction research. It is to use the academic service of the LCCL to do the research on curriculum and instruction. It can be measured from the number of service users and the query regarding the utilization of curriculum and instruction research.

3. Utilization of the LCCL in terms of curriculum and instruction potential development. It is to use the academic service of the LCCL to develop the potential of curriculum and

instruction of the teachers and learners. It can be measured from the number of service users and the query regarding the utilization of curriculum and instruction potential development. The conceptual framework of this study indicated in figure 1.
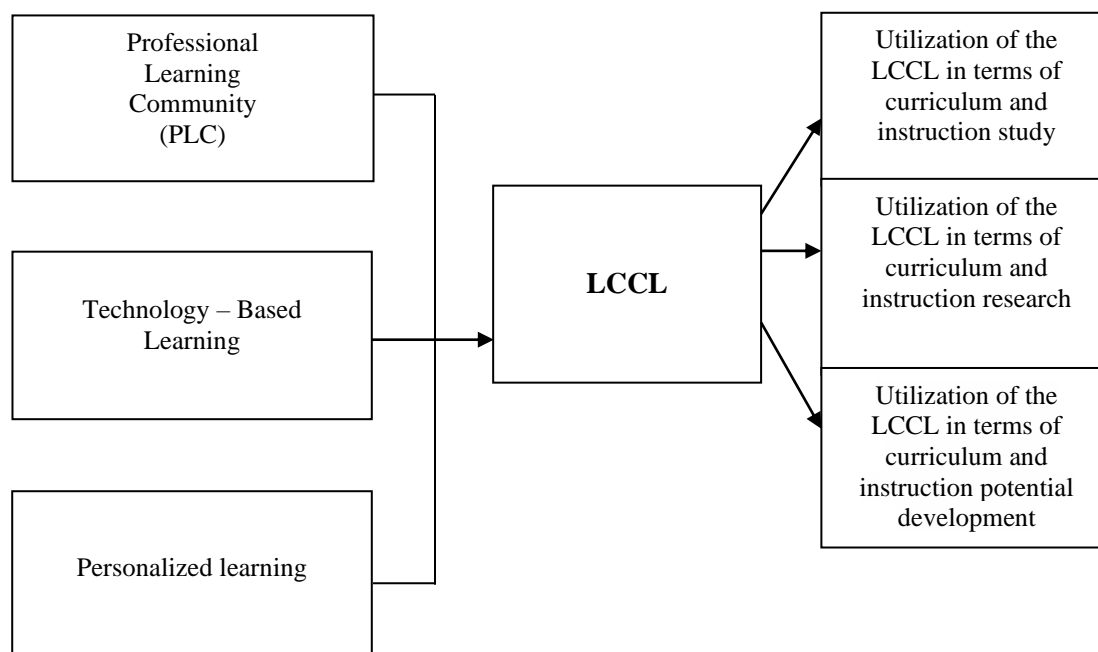
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┌─────────────────┐                              ┌──────────────────────┐
│  Professional   │                              │  Utilization of the  │
│    Learning     │                              │  LCCL in terms of    │
│   Community     │                              │   curriculum and     │
│     (PLC)       │                              │  instruction study   │
└─────────────────┘                              ├──────────────────────┤
                        ┌──────────┐             │  Utilization of the  │
┌─────────────────┐     │          │             │  LCCL in terms of    │
│ Technology –    │────▶│   LCCL   │────▶         │   curriculum and     │
│ Based Learning  │     │          │             │ instruction research │
└─────────────────┘     └──────────┘             ├──────────────────────┤
                                                 │  Utilization of the  │
┌─────────────────┐                              │  LCCL in terms of    │
│   Personalized  │                              │   curriculum and     │
│     learning    │                              │  instruction         │
└─────────────────┘                              │  potential           │
                                                 │  development         │
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Figure 1 Conceptual framework

Research methodology and results

The development of LCCL to enhance the study, research and development of curriculum and instruction potential consisted of the following 4 steps.

Step 1 The study on the primary information of the development of LCCL which comprised of the study on opinions of the experts on the development of the LCCL, the demand of the teachers for the development of the LCCL, and the demand of the learners for the development of the LCCL.

1. The study on the opinions of the experts on the development of the LCCL applied the asking question method and interview with 10 experts in curriculum and learning using the mixed questionnaire that the Item Objective Congruence (IOC) was 1.00 and the reliability calculated with alpha coefficient was 0.92. Results showed the highest level of overall opinions of the experts on the development of the LCCL (mean=4.86, S.D.=0.35). In addition, they viewed that the center should stimulate the learning in curriculum and instruction by offering the opportunity to the interested people to participate via online learning on the website.

2. The study on the demand of teachers for the development of the LCCL applied the asking question method to 100 teachers teaching in the fundamental education level and 100 teachers teaching in the higher education level using the mixed questionnaire that the Item Objective Congruence (IOC) was 1.00 and the reliability calculated with alpha coefficient was 0.94. Results showed the highest level of the demand of teachers for the development of

the LCCL (mean = 4.71, S.D. = 0.45). In addition, they expressed that the center should be developed to fulfill the various demands for learning of the teachers in terms of curriculum development, instructional management and learning performance measurement and evaluation. Further, the learning via website should be made available.

3. The study on the demand of learners for the development of the LCCL applied the asking question method to 200 learners in the higher education level who were studying in the programs related to curriculum and instruction who were selected by the multi-stage sampling. The mixed questionnaire that the Item Objective Congruence (IOC) was 1.00 and the reliability calculated with alpha coefficient was 0.94 was used. Results showed the highest level of the demand of teachers for the development of the LCCL (mean=4.79, S.D.=0.41). Moreover, they added that the center should advocate the learning on curriculum development, instructional management design, class management, teachers ethics, class research, and learning performance measurement and evaluation. The center should be the accessible online learning source.

Step 2 The development of LCCL was conducted after the conclusion from the first step. The researcher developed the LCCL model, checked the congruence, appropriateness and feasibility, and try out the model. As a result, the LCCL model was acquired. The model components included principles, goals, missions, guidelines for the promotion of study, research and development of curriculum and instruction potential, and evaluation and reflection. From the evaluation by 5 experts, the model goodness of fit and appropriateness were at high level (mean = 4.48 and 4.44 S.D. = 0.51 and 0.51) while the feasibility of practice was at the highest level (mean = 4.52, S.D. = 0.51). Then, the researcher created the tool for evaluating the effectiveness of the LCCL as the following details.

1) The questionnaire about the utilization of the LCCL for curriculum and instruction study which was the 5-rating scale questionnaire: the highest, high, moderate, low, the lowest, and the open-ended questions. The Item Objective Congruence (IOC) of the questionnaire was 1.00 and the reliability calculated with the alpha coefficient was 0.91.

2. The questionnaire about the utilization of the LCCL for curriculum and instruction research which was the 5-rating scale questionnaire: the highest, high, moderate, low, the lowest, and the open-ended questions. The Item Objective Congruence (IOC) of the questionnaire was 1.00 and the reliability calculated with the alpha coefficient was 0.93.

3. The questionnaire about the utilization of the LCCL for curriculum and instruction potential development which was the 5-rating scale questionnaire: the highest, high, moderate, low, the lowest, and the open-ended questions. The Item Objective Congruence (IOC) of the questionnaire was 1.00 and the reliability calculated with the alpha coefficient was 0.90.

After that, the researcher tried out the LCCL model for one month with the population group who were not the sample group, 5 were the teachers teaching in the fundamental education level, 5 were the teachers teaching in the higher education level and 30 students in higher education level who volunteered to join the research after they had learnt about the utilization of the LCCL. The three questionnaires as listed above were used to collect data.

The try out results illustrated that the utilization of the LCCL for the three aspects, curriculum and instruction study, curriculum and instruction research, and curriculum and instruction potential development were at high level (mean = 3.70, 3.59 and 3.72 respectively, and SD = 0.50, 0.49 and 0.45 respectively). The overall was at high level (mean = 3.67, SD. =

0.49). After analyzing the tryout results, the researcher optimized the model before tryout with the sample group.

Step 3 The implementation of the LCCL model was conducted after the revision based on the tryout results with 345 samples, which involved 199 teachers teaching in the fundamental education level, 53 teachers teaching in the higher education level and 93 learners in the higher education level who were selected by voluntary selection. The LCCL model and the utilization were publicized to the sample group. The tryout was conducted between January 2019 to January 2021. Then, the effectiveness of the LCCL model was evaluated by gathering the data from the three questionnaires about the utilization in three aspects and the research results are as follows.

Table 3 Utilization of the LCCL for curriculum and instruction study

No.	Items	Results		
		mean	SD.	Interpret
1	Using for self-learning	4.52	0.62	Highest
2	Using to acquire knowledge to be used in work	4.56	0.62	Highest
3	Using to do research	4.27	0.78	High
4	Using to leaning and instruction	4.50	0.65	Highest
5	Using to create curriculum innovation	4.46	0.67	High
	Overall	4.46	0.68	High

Table 2 Utilization of the LCCL for curriculum and instruction research

No.	Items	Results		
		mean	SD.	Interpret
1	Using to do research about curriculum innovation	4.36	0.69	High
2	Using to do classroom research	4.37	0.70	High
3	Using to do academic research	4.42	0.67	High
4	Using to do routine research	4.22	0.82	High
5	Using to formulate the idea of learning innovation	4.41	0.68	High
	Overall	4.36	0.72	High

Table 3 utilization of the LCCL for curriculum and instruction potential development

No.	Items	Results		
		mean	SD.	Interpret
1	Using for self-development in curriculum development	4.46	0.63	High
2	Using for self-development in learning management skills	4.49	0.66	High
3	Using for self-development in developing the learners	4.38	0.72	High
4	Using for self-development in learning assessment	4.46	0.66	High
5	Using for self-development in classroom action research	4.42	0.67	High
	Overall	4.44	0.67	High

In addition to the evaluation of educational utilization, research and development of capacity in curriculum and teaching. The researcher has compiled a collection of downloads of the LCCL from www.curriculumandlearning.com. The key information appears as follows. Top 10 highest frequency document download statistics of the Leadership, Innovation, Course and Learning Center during January 2019 - December 2021.

Step 4: The effectiveness evaluation of the LCCL model was processed after the data analysis obtained from implemented the model. The researcher evaluated the effectiveness of the LCCL model based on the criteria. Results indicated that all 3 aspects the utilization of the LCCL for curriculum and instruction study, research and potential development were in accordance with the criteria. The utilization of the LCCL for curriculum and instruction study, research and potential development was at high level accordingly)mean=4.46, 4.36 and 4.44 respectively, and SD. = 0.68, 0.72 and 0.67 respectively(. The LCCL model presented by figure 1 following.
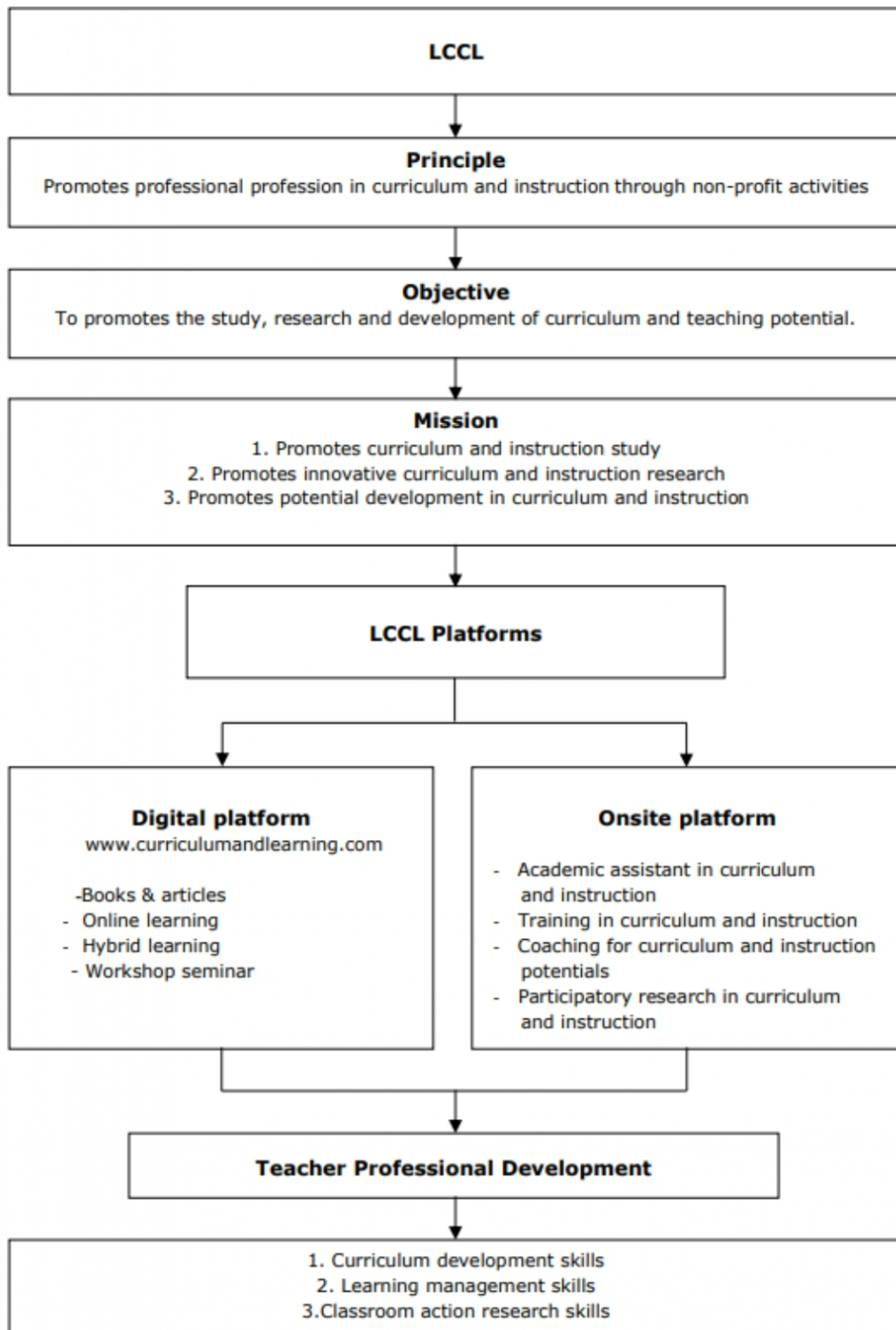
Figure 2 The LCCL Model

Discussion

The research on the development of the LCCL discovered that the utilization for the curriculum and instruction study, research and development were at high level because the basic information for designing the LCCL based on Professional Learning Community (PLC), technology-based learning and personalized learning concept were founded on the demand of the teachers teaching in the fundamental and higher education and the learners in the higher education level. Each concept led to the utilization of the innovative leaders center of curriculum and learning as follows.

Regarding the PLC, the researcher integrated the concept of teacher professional and the learning community which aimed to formulate profession proficiency via the various learning methods and sharing learning. It was in line with the concepts of Hord (1997), Protheroe (2008), Fegger & Arruda (2008), Reichstetter (2006), DuFour, Eaker & Many (2006), and Stool, Bolam, McMahon, Thomas, Wallace, Greenwood et al (2005) who stated that the objective of PLC was to develop professional proficiency and the quality of the learners via the collaborative learning, learning in the field, and sharing learning consistently. It was consistent with the research results of Prenger, Poortman, & Handelzalts (2019) which discovered that the implementation of PLC had the positive impacts on the quality of lesson plan. Likewise, the research results of Dogan & Adams (2017) summarized that PLC constructed the capability of instructional management in the teacher and the higher learning performance of the learners. In addition, Ratts, Pate, Archibald, Andrews, Ballard, & Lowney (2015) found out that PLC upgraded the instructional management. Similarly, Blitz (2013) discovered that implementing PLC online would help the teachers and learners to learn and have self-development regardless of time and venue. Moreover, Skillen (2010) stated that the application of information technology to PLC increased the capability of using information technology to develop the lesson plan. It was consistent with Dora Salazar, Zenaida Aguirre-MuÑoz, Kelly Fox & Lisa Nuanez-Lucas (2010) who found out that online learning was the factor to develop the teachers constantly. It was also in line with the research results of Sutarsih & Syaefudin (2019) which illustrated that the implementation of PLC to develop the teachers in primary school enhanced the quality of instructional management very well. Additionally, Vescio, Ross & Adams (2007) found out that PLC was able to develop the teacher' skill in instructional management, which was in line with the research results of Brennan (2017) as well.

Furthermore, the activities that were in accordance with the developed LCCL gave the opportunity for the sample group to share values and visions that formulate the participation in the operation responding to the demand of the sample group. It was consistent with the concept by Bolam et al (2005), DuFour (2004), Feger & Arruda (2008), and Reichstetter (2006) which stated that the participation in setting vision for self-development constructed the continuing development. It was similar to the research results of Suh (2011) which illustrated that the collaboration led to the efficient learning of the learners.

Moreover, self-learning concept was applied to design the LCCL so it covered all knowledge about the development of curriculum and instruction, class management, teachers ethics, class research, and learning measurement and evaluation. Additionally, the responsibility for learning of the sample group which was at high level supported the efficient instructional management that led to the continuing improvement and development. It was in accordance with the concept by DuFour, Eaker & Many (2006) which stated that self-accountable was the factor promoting the effective self-learning and constant improvement and enhancement.

Besides, the researcher applied technology-based learning to design the innovative leaders center of curriculum and learning which was the key factor of the multiple utilization because the sample group accessed the sources of information easily via internet from anywhere anytime. Moreover, they could download information at no cost and ask for academic advices regarding the curriculum and instruction through online platforms. Since the LCCL was able to respond to online learning, it was the key reason that the utilization of the center was at high level. It was in line with Fisher et al. (2006), Department of Education and Early Chilhood Development (2010), Alliance for Excellent Education (2013), Cavanaugh (2013), and Digital Learning Foundation (2013) who reported that the integration of advance technologies supported the broad learning and fulfilled the demand at any time and from everywhere via various tools, such as mobile phone, iPad, computer, E–Textbook and etc. Likewise, School & Thomas, (2012) found that the use of information technology to support the learning formulated the efficient and effective learning. Further, the research researults of Harris, AI-Bataineh & Bataineh (2016) indicated that the application of technology promoted and motivated the learners to learn. Besides, AI-Hariri & AI-Hattami (2017) discovered that using technology to support learning resulted in the higher academic achievement. Sabzian, Gilakjani & Sodouri (2013) also found out that technology could support learning and allowed the teacher to design the efficient instruction while the learners had the positive attitude towards leaning. It was similar to the research results of Andrew, Taylorson, Langille, Grange & Williams (2018), Jethro, Grace & Thomas (2012) which indicated that e-learning promoted the instructional management of the teachers while enhancing the learners' learning achievement. Additionally, Youssef & Dahmani (2008) reported that the use of information and communications technology (ICT) developed the learner potential. Meanwhile, the research results of Chauhan (2016) showed that the use of information technology in learning construct the efficient learning to the learner. It was consistent with the study of Tulasi, & Suchithra (2019) which revealed that the online learning platform facilitated the design of learning to respond to the learner demand efficiently.

Another factor supporting the utilization of the LCCL was at high level was the response to the learning style of the sample group individually. They were able to learn what they were interested in with the appropriate learning approach to their style, such as the study and research or the development of oneself in terms of curriculum and instruction based on personalized learning. The researcher applied personalized learning approach to design the innovative leaders center of curriculum and learning by creating the learning platform that responded to the learning method of teachers teaching in the fundamental and higher education level, and the learners in the higher education level in the programs related to education so they were able to study and learn about knowledge of curriculum and instruction as they desired regardless of time and venue. It was in accordance with the concept proposed by New Jersey Department of Education (2014), Bartle (2015), UNESCO (2017), and Noethern Arizona University (2018) which stated that the different leanings that was correspond to the demand, proficiency and interest of the individual learner led to the efficient learning. It was similar to the research results of Pane, Steiner, Barid, and Hamilton & Pane (2017) which illustrated that the design of learning based on the personalized learning concept enhanced the learner's leaning achievement.

Recommendations

The research results revealed that the integration of Professional Learning Community (PLC), technology-based learning and personalized learning to develop the innovative leaders center of curriculum and learning resulted in the high level of utilization. Therefore, the concepts and theories should be carefully analyzed to be consistent with the different research contexts in order to acquire the effective other learning centers. For the further researches, the learning center should be researched and develop to respond to the curriculum research and instruction base on the teachers and education personnel demand. It is noticeable that this research results showed that the utilization for curriculum and instruction research was at the lowest level than the other. Thus, the further research should emphasize on the utilization for research to develop the innovations, the utilization for class research, utilization for pursuing new concepts for research, utilization for research for the professional advancement, and the utilization for research for career advancement.

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