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Instructional system design for worker education in multicultural and knowledge-based society

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Abstract

This study was to design and develop the new learning environment for workers in workplace, particularly in the industrial factory. The workplace in modern world was not only for earning their lives but also for developing the quality of lives in knowledge-based society. The multicultural education was also essential for Muslim, Chinese, and Thai workers in the southernmost of Thailand to work and live in harmony. The instructional system design was implemented in worker education to balance the working competencies and life quality. The new learning approach for andragogy was proposed for worker education based on multicultural and knowledge-based society.

Keywords: Instructional System Design; Worker Education; Multicultural ; Knowledge-based Society

1. Introduction

The southernmost provinces of Thailand, Pattani, Yala, Narathiwat, and Satun are dominated by Malayu-speaking Muslims around 80% and the others are Buddhist Thais and Chinese Thais, while for whole country Buddhist Thais are the majority. Most Thai Muslims are Malay descent, reflecting the common cultural heritage Thailand's southernmost provinces share with Malaysia (Ministry of Foreign Affairs, 2011). It is the land of multicultural

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society including Thai Muslim, southern Thai, and Chinese Thai to identify the uniqueness of the area. However, the southernmost Thai provinces are poorer than the rest of the country, and their main business sectors – agriculture, fishing and tourism – have been hurt by the violence. Several thousand people have been killed in Muslim separatist unrest in the far south which flared in January 2004. Civilians bear the brunt of the violence (Thompson Reuter Foundation, 2013). In spite of the fact that there is the unrest situation in this area, people still live and work in peace and understand each other. In schools, colleges, workplace like government services, business and industrial factories, they have stayed and worked together in peace and been taught to be aware of the cultural diversity. In workplace like in factories in the southernmost areas, it also reflects the multicultural society by Thai Muslims, Buddhist Thai, and Chinese Thai workers. The realization of cultural diversity has strengthened the economic development as well as social development.

In industrial factories in this area, it reflects a model of the nation, the workers are comprised of Muslim, Thai, and Chinese. They have worked and lived together in harmony. Many factories have treated these workers as the valuable human resources rather than their employees. They have made benefits to the factories, at the same time they need to get more benefits in return both in cash and in kind. The workers need to be trained not only for working skills, but also for improving their quality of lives. Currently, technology innovations play important roles in creating the new learning environment for adult learners.

Malcolm Knowles (1984) presented theory of Andragogy which was the theory specifically for adult learning. Andragogy, which is the art and science of helping adult learn, is under the following assumption about design of learning:

1. Adults need to know why they need to learn something – Adults need to be involved in the planning and evaluation of their instruction;

2. Adults need to learn experientially – Experiences including failure and mistakes provide the basic for learning activities;

3. Adult approach learning as problem-solving – Adults are most interested in learning subjects that have immediate relevance to their job or personal life;

4. Adults learn best when the topic is of immediate value - In practical terms, andragogy implies that instruction for adults needs to focus more on the process and less on the content being taught. Instructional strategies like case studies, class discussion, role playing, simulations, and self-study are most useful.

Instructors adopt a role of facilitator or resource rather than lecturer. They design instructional approaches, provide them with instructional resources and facilitate them to learn themselves and create the community of learners.

Technology innovations are the key issues for adult learning in knowledge-based society which refers to the societies that are well-educated, and rely on the knowledge of their citizens to drive the innovation, and dynamism of that society's progress. More perspectives about technology and adult learning are introduced. It proposes the approaches for integrating technology into adult learning and then considers how technology can be implemented to support and expand adult learning (Imel, 1998). Ginsburg (1998 cited in Imel, 1998) proposed how to integrate technology into adult learning by proposing four basic approaches: technology as curriculum, delivery mechanism, complement to instruction, and instructional tool.

1. Technology as curriculum: Adults learn not only content through technology, they can also learn about technology itself,

2. Technology as a delivery mechanism: This approach for integrating technology into adult learning is to use it as means for instructional delivery,

3. Technology as a complement to instruction: Technology is frequently used to complement instruction and extend adult learning.

4. Technology as an Instructional Tool: When technology is used as an instructional tool, it is integrated into instructional activities for adult learning.

This study is to find out the instructional system design for worker education in multicultural and knowledge-based society to support and increase the working competencies and the quality of lives of workers and people who live and work in the factories in the sensitive areas of the southernmost provinces of Thailand.

2. Objective of the study

1. To study the fundamental information and knowledge related to the worker education, multicultural society, and knowledge-based society in order to upgrade the life quality of workers in industrial factories in three southernmost provinces of Thailand;

2. To design an instructional system model for worker education in multicultural and knowledge-based society;

3. To propose a model of learning innovation to increase the workers' competencies under multicultural society and sufficiency economy in order to upgrade the life quality of workers in industrial factories in three southernmost provinces of Thailand.

3. Methodology of Study

Step I The fundamental information was studied. It included:

1. The related literature in worker education, adult learning, instructional technology was reviewed;

2. The in-depth interview with experts in adult learning, instructional technology, instructional system design, industrial factory administrators, and representatives from workers' development agency was conducted;

3. The in-depth interview with workers, employees in industrial factories in the southernmost provinces of Thailand was conducted.

Step II The instructional system design was developed. It included:

1. The focus group discussion of educators, entrepreneurs, industry and labor related government officers was organized to set a framework of an instructional system model for adult learners in southernmost provinces of Thailand with emphasis on multicultural and knowledge-based society;

2. A Prototype of Instructional System Design Model for adult learners in industrial factories in southernmost provinces of Thailand with emphasis on multicultural and knowledge-based society was proposed;

3. Final approval of an Instructional System Design Model for adult learners in industrial factories in southernmost provinces of Thailand as conducted was conducted. It was approved by the experts including adult learning experts, human resource development personnel, educators in adult learning and instructional technology.

4. Findings

4.1. Step 1 Fundamental information

From the literature reviews, Malcolm Knowles's Andragogy is the art and science of helping adults wi th two attributes that learners are self-directed and autonomous and the teachers is a facilitators of learning rather than presenter of content. Six assumptions of andragogy are the learner's need to know, the learner's self-concept, the learner's experience, readiness to learn, orientation to learning, and motivation to learn. According to Vandenberg (1998), five principles of adult learning are identified: (1) personal benefits, (2) experiences, self-direction, application and action, and learning styles. Adult learners bring experiences and self-awareness to learning that younger learners do not. To understand adult learning, we should understand learning domains, learning styles, and how and why adults learn. The popularity of distance-learning and computer-based training for both formal and informal learning has made it more and more important that adults be comfortable with using computers to learn for both work and personal enrichment (Johnson, 2007). Technology innovation made possible for adult learners anywhere anytime.

The in-depth interview with experts in adult learning, instructional technology, instructional system design, industrial factory administrators, and representatives from workers' development agency reflected that all workers needed to be developed for not only working skills and competencies but also a quality of life. The new learning environment for workers as adult learners should be introduced by integrating technology innovations in worker education for these adult learners. Currently technology-based training has emerged as an alternative to instructor-led training. The blended learning, also referred to as hybrid learning is a combination of face-to-face instruction

and web-based learning delivery, and make better use of instructional resources and facilities. It is also introduced to create the new learning environment for on the job training for workers in industrial factories.

The in-depth interview with workers in three southernmost provinces of Thailand reflected that they wanted to be trained to have more skills in working, safety in working, computer and technology literacy, a quality of life development, living in multicultural and modern society. They expected the workplace should have invested more in worker development. Technology-based training was also a challenge for them to work and learn in workplace.

4.2. Step 2 Instructional system design for worker education

The focus group discussion of educators, entrepreneurs, industry and labor related government officers was organized to set a framework of an instructional system model for adult learners in southernmost provinces of Thailand with emphasis on multicultural and knowledge-based society.

1. Malcolm Knowles's andragogy was introduced in developing workers as adult learners in both working skills and competencies. It included involvement in instruction, positive experiences in learning new things, problem-solving activities, and active learning;

2. Donald Schon's reflective practitioner was also introduced for worker development. Even though the principle of reflective practitioners are introduced for the professional development, the focus group discussion indicated that it was also of great benefit for worker education to develop working skills and competencies as well as life skills. If possible, reflection-in-action should be the issue for training workers as well as professionals.

3. Technology innovations should have been the hot issues in education for workers in knowledge-based society; particularly the blended learning which integrate technology-based training with face-to-face training. The workplace should have implemented more technologies for training their workers.

4. The issues of education for workers should not limited to working skills but also to increase a quality of life; particularly in the southernmost provinces of Thailand, the multicultural issues should be emphasized.

5. The issues of information society and knowledge-based society should have been considered in the instructional system design for workers as adult learners and to create the new learning environment for worker development.

A Prototype of Instructional System Design Model for adult learners or worker in industrial factories in southernmost provinces of Thailand with emphasis on multicultural and knowledge-based society was proposed as indicated in Fig 1.
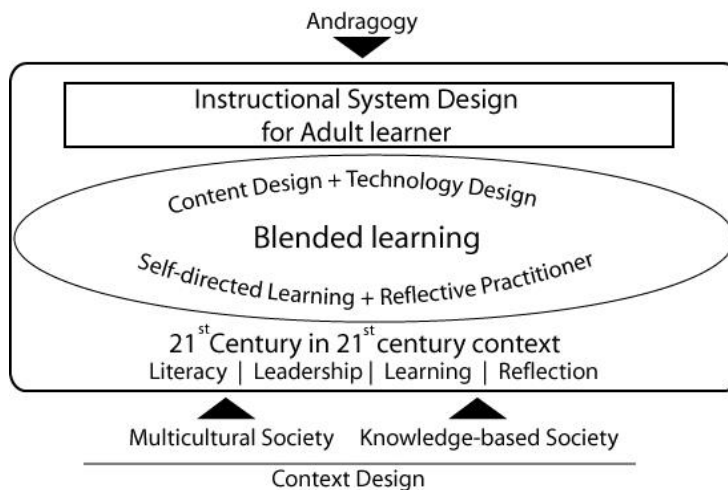

Fig. 1. An Instructional System Model for Worker Education in Multicultural and Knowledge-based Society

The principle of Malcolm Knowles's andragogy was the fundamental framework for the instructional system design for worker education. Adult learners are self-directed and must have some control over what they are

learning. They can learn best when they are facilitated to learn rather than they are taught. They are motivated to learn if they can take charge of their learning and make decisions about the content and process; they contribute to the learning of their co-learners; and they have some degree of independence in the learning process.

In this model the foundation is identified as the context design. It included two aspects: the multicultural society and the knowledge-based society. These two important issues need to be considered for the instructional system design for worker education in the southernmost provinces of Thailand. This area is dominated with Muslim Thais, why Buddhist Thais and Chinese Thais are minority. People in this area need to learn to live in multicultural context. They should learn to understand and respect the culture of each group of people, live together in harmony, and how to strengthen the society by multicultural application. A knowledge-based society refers to the society that is well-educated, and who therefore relies on the knowledge of its citizens to drive the innovation, entrepreneurship and dynamism of that society's economy.

The instructional system design for worker education is unique for adult learner and developed based on principle of six assumption of andragogy which promotes self-directed learning with KAB framework: Knowledge, attitude, and behavior. Some proposals are: Emphasis on personal benefit of training, Creation of supportive environment, Use of active training methods, Use of variety of teaching methods, Provision of structured learning opportunities, provision of immediate feedback on practice, and meeting of trainee's individual learning needs.

21st Century for 21 Century Context include Literacy, Leadership, Learning, and Reflection. Literacy is more than 3R's – Reading –Writing-Arithmatics, but also includes information literacy, technology literacy. All workers needs to be trained and developed in leadership in personality and performing their career. All employees need to be trained to be learning persons in order to change the workplace to be the learning organization. All workers need to be trained to be the reflective practitioners. Reflective practice is the capacity to reflect on action so as to engage in a process of continuous learning. Even though Donald Schon's reflective practice is emphasized for the professional, we can apply this principle for workers as adult learners.

The Blended Learning are proposed for on-the job training of workers as adult learners in knowledge-based society. The blended learning is an instructional process by integrated face-to-face learning environment with on-line or technology-based learning. Instructional system design needs to make use of in class learning integrated with technology-based learning.

The content design for adult learners should be relevant to their lives. They can make use of those contents immediately. The contents should include working skill development and life development. Technology should be considered for enhancing their learning and working experiences.

All workers need to be trained to be self-directed learners as well as reflective practitioners in order to step up to be learning employees. They can learn to work and learn to live.

Finally, an Instructional system design for worker education in multicultural and knowledge-based society was proposed to the focus group discussion of five experts in adult education, instructional technology and human resource management personnel . They agreed with the proposed model. for worker education in multicultural and knowledge-based society.

5. Discussion and Conclusion

The new roles of employer or entrepreneur are to design and develop the new learning environment in workplace. The plant is not only for working, but also for learning to have better life. Therefore, they need to be trained in working performance as well as life skill development. The workers as adult learners needs to be supported by principle of andragogy (Knowles, 1987) as well as the reflective practice (Schon, 2003). Technology becomes popular tools to provide the content for life-long learning since internet-based training has made the classroom available anywhere anytime. The blended learning which is the combination of traditional face-to-face on the job training along with technology-based training should be implemented in worker development. Currently, use of the term blended learning mostly involves combining Internet and digital media with established classroom forms that require the physical co-presence of teacher and students (Bonk & Graham, 2004). Finally, the context of workplace in the southern most provinces of Thailand is Muslim-dominated areas with combination of Buddhist Thais and Chinese need to be raised for multicultural workplace in knowledge-based society.

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