



A study on the required work competencies of graduates in the non-formal education program

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Abstract

This study on the necessary competencies for work required by graduate users from students who have graduated in the non-formal education program aims to: (1) study the necessary competencies for work required by graduate users from students who have graduated in the non-formal education program; and (2) propose guidelines for the development of students in the non-formal education program. The samples consisted of 5 respondents and 30 participants in the focus group. The data were collected using both quantitative and qualitative methods: questionnaires and focus groups. In addition, descriptive statistics reference, summary statistics, and content analysis were applied in this research. The results found that 1. The competencies comprised of two primary competencies: (1) core competencies include knowledge (e.g., being a leader with integrity, ethics, and professional faith, having the ability to apply knowledge and apply it in authentic contexts, etc.); skills (e.g., organizing learning, being knowledgeable, using information technology and digital technology, etc.); personal attributes (e.g., a lifelong learning lover and being able to inspire others to learn to continue and develop their own potential, etc.); and (2) functional competencies used in the working performances included knowledge (e.g., language for communication and information retrieval, professional program, information technology, and digital technology, etc.); skills (e.g., interpersonal communication skills, design thinking, and problem-solving skills, etc.); attributes (e.g., good personality and interpersonal and social integration, etc.) 2. The proposed guidelines for the development of students in the non-formal education program include 4 main guidelines: (1) curriculum development or improvement and educational management; (2) knowledge and student development activities; (3) learning support system; and (4) quality assurance and learning success. The findings are beneficial to departments, organizations and educational institutions, and those working in the provision of education to apply these guidelines for curriculum development, learning activities planning, and further development of quality of all students.

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Introduction

Education in the Thailand 4.0 era is not just transmitting knowledge for learners but preparing them as human resource development. Learners must also develop skills that are essential for life, especially knowledge, virtue, and skills in the 21st century, including analytical thinking skills, problem-solving, creativity, innovation, studying/working as a team leader, communication, use of data and information, the use of computers and artificial intelligence, computational thinking, career building and self-study (Assapun, 2013; Chularat, 2013). Therefore, it is essential that the organizations and all stakeholders know and understand the philosophy, concepts, and principles of lifelong education and competency-based development (Office of the Education Council, 2020; Petegem et al, 2010; Tawan, 2015).

The changing world is a universal topic of interest, with particular resonance to higher education. Colleges and universities research change, teach about change and often impact current and future evolution. To support students to live in this ever-changing world, those who work in higher education strive to provide solid, relevant preparation at the baccalaureate and graduate levels (Harrison, 2017). Recently, by harnessing the possibilities of technology and implementing curricular and organizational enhancements, the transformative power of higher education can be amplified as graduates are prepared for future success in the ever-evolving world of work. Besides, universities need to take account of that uncertainty and provide the necessary foundation to give students the confidence to move forwards. To sum up, higher education generates broader economic growth as well as individual success.

The situation of society and the adjustment of the higher education institutions, including the development of graduates with the potential and basic abilities, are urgently needed. The educational institution has a vital role in developing students to sustain their lives. To pursue a career in this changing society properly and live happily, in the production of graduates, it is necessary to consider the needs of the labor market and local and social needs. Unfortunately, there is no current study on the topic. Having empirical data is very useful for the Department to better revise the curriculum and have quality instruction and activities to support the needs of the students and society.

Therefore, the study of necessary competencies for the work required by graduate users from students who graduated in non-formal education programs will provide

basic information on graduate quality. Furthermore, it is helpful for teaching and learning planning and being beneficial in developing the curriculum according to society's factual context and needs and preparing a plan for developing students effectively. Finally, it can produce graduates with the qualities of being a lifelong learning lover and inspiring others to learn to develop their potential continually.

Literature Review

At present, the world is globalized with rapid advancements in information technology. It is constantly changing due to the rise of information and communication technology to influence work in all areas, economic, business, society, law, education, religion, culture, environment and their impact on the way of life, working together, as well as the morality, ethics, and spirit of people around the world (Khaemmanee, 2012). It can be seen that the context of the country and the world is changing rapidly in both economic development and social change, and technological innovations have emerged as new sources of knowledge. On the other hand, the above changes require people to have the ability and competence to learn new things and adjust to their livelihood and career. The educational system has to focus on improving students' competency and give choices for students to develop to their full potential.

University as a higher educational institution has to adapt to the changing trends of the world. One of the most critical issues is to develop students or graduates in accordance with changes such as providing them with the expansion of technology and industry, empowerment of labor and services, etc. The key factor that will help people face such changes is the quality of education management for quality people development, which is considered the most crucial resource in enhancing competitiveness in the modern world. Therefore, the first things that must be addressed in Thailand are developing people to have international potential, being a talented person, and having a status as social capital to jointly develop the country to advance (Office of the National Economic and Social Development Board, 2012).

The situation of society and adaptation of higher educational institutions, including graduates, to drive social and national development, are all critical reasons why the researchers are interested in studying the necessary competencies for the work that graduate users require from students who have graduated in

non-formal education program in order to produce graduates who are able to apply knowledge and theories to practice in authentic contexts, producing graduates who are leaders in creating knowledge in non-formal education through research, putting their findings into practice in human resource development in both corporate and community contexts, and producing graduates who are leaders in building and coordinating non-formal education networks that lead society to become a lifelong learning society. The most crucial thing is to produce graduates who have the characteristics of lifelong learners and inspire others to develop their potential continually. The production unit, such as the Division of the Non-formal Education, Faculty of Education, Chulalongkorn University, aims to produce graduates who can sustain their lives and are able to pursue a career in this changing, properly. In producing graduates of non-formal education programs, it is necessary to consider the needs of the labor market and local and social needs.

The non-formal education program is a program that focuses on developing graduates into knowledgeable personnel in learning management in order to promote people to be lifelong learners by applying a diverse learning model consistent with the characteristics of the target groups, both at the individual and community levels. According to the 12th National Economic and Social Development Plan (2017–2021), this is a response to the country's policy, the Non-Formal Education and Informal Education Promotion Act 2008 (Office of Non-Formal and Informal Education, 2008). Therefore, those who have graduated from the Department of Lifelong Education can work in the following positions; instructors of non-formal education and informal education, community development scholars, academic training and vocational training, trainers in private and corporate enterprises, and processes in non-governmental organizations (NGOs).

Therefore, the study of necessary competencies for the work required by graduate users from students who graduated in the non-formal education program provides basic information on graduate quality. This is not only helpful for teaching and learning planning, but it is also beneficial to develop the curriculum in accordance with the actual context and needs of society, and also preparing a plan for developing students effectively.

Methodology

This research uses a mixed methodology, both qualitative and quantitative methods, by collecting data by questionnaire and focus group.

The population and sample of this research were divided into 2 groups: (1) 5 respondents/ experts for the interview; and (2) 30 participants in the focus group, 3 times in focus group, 10 participants each time by using purposive sampling method, lifelong education experts and non-formal and informal education experts, including the human resources development experts, community development experts, and the students' development experts in higher educational institutions consisting of adult educators, human resource developers and community developers with experience working in government, private, and civil society organizations. The experts had to be practitioners in lifelong education and/or have experience and knowledge of lifelong education, human resource development, and community development.

Data Collection

The tools in this research were:

1. Questionnaires to collect quantitative data from a sample of 5 experts about the competencies required to perform the work needed by graduate users from students who graduated in the non-formal education program. It was categorized into 3 chapters: Part 1, General Information, Part 2, Performance Issues, and Part 3, Other recommendations and/or suggestions.
2. Focus group issues to inquire about the guidelines for the development of students in the non-formal education program additional recommendation and/or suggestions. The problems of the focus group consisted of the research results, questions about information on the necessary competencies for the work required by graduate users from students who have graduated in non-formal education program, questions about the guidelines for student development in non-formal education programs and any other recommendations and/or suggestions.

Data Analysis

The questionnaires and focus group data were analyzed using descriptive statistics reference, summary statistics, and content analysis as follows;

1. General information and performance issues from the questionnaires: the researchers used the data analysis method by using SPSS for the windows computer program to calculate the statistical values: mean (mean) and standard deviation (SD).
2. Opinions on guidelines for the development of students in non-formal education programs and other recommendations/suggestions from the questionnaires. The researchers used content analysis methods to interpret

the data and categorize, compare data, and analyze the content of the meaning of the speech to create clarity in the opinions .

3. Focus group: The researchers used the content analysis method by taking information from the focus group, which was the information obtained from the tape recorder, to interpret the data, categorize and summarize the general information in the final step with an inductive method, gathering factual information in the form of an essay. Such is characterized as a breakdown coming together to form an abstract conclusion in the form of a summary or conceptual process of the necessary competencies required for work required by graduate users from students who have graduated in the non-formal education program.

Results

The results of the research found the important conclusions as follows:

1. The results of the study of necessary competencies for the work required by graduate users from students who have graduated in the non-formal education program.

1.1 Core Competencies are knowledge, skills, and personal attributes assessing the core competencies for the work required by graduate users need from students who have graduated in a non-formal education program. Knowledge, the most important competency, encompasses being a leader with integrity, ethics, and professional faith, followed by the knowledge that it is time to change, having the ability to apply knowledge and apply it in authentic contexts, having a deep knowledge in science, having the ability to apply knowledge in non-formal education to the target groups in both the organization and the community, having high potential in research, and being able to extend education to a higher level, respectively. In terms of skills, it was found that the most important competencies are communication skills, followed by organizing learning, being knowledgeable, using information technology and digital technology, having comprehensive knowledge in various sciences, being able to apply theoretical knowledge into practice in a real context, coordinating the non-formal education network that brings society into a lifelong learning society, having knowledge management skills and mathematical and statistical skills, and applying research processes for effective learning management development. In terms of personal attributes, it was found that the most essential competencies were a lifelong learning lover and being able to inspire others to learn to

continue and develop their own potential, followed by morality, ethics, and a sense of being Thai, international respecting and being able to coexist with others in diversity, being a leader in building and coordinating non-formal education networks that lead society to become a lifelong learning society and creating knowledge in non-formal education through research, applying the findings to the development of human resources in both the organizational and community context.

1.2 Functional competencies include knowledge, skills and personal attributes used in performing duties, such as knowledge. It was found that the most essential competencies were language for communication and information retrieval, followed by those who learn continuously, having knowledge and understanding of jobs in the professional program, knowing information technology and digital technology, and being ready to receive and transfer knowledge to society. In terms of skills, it was found that the most important competencies were interpersonal communication skills followed by design thinking and problem-solving skills, good command of Thai language such as speaking and writing, managing time both for work and for personal matters, being able to use the information and digital technology to promote learning, practicing and studying about responsibility in work systematically, using English or other foreign languages to communicate and find information that can be used in life, and managing knowledge and skill systematically. In terms of personal attributes, the most important competencies were equivalent in two competencies: good personality and interpersonal and social integration, followed by having a solid awareness of morality, ethics and integrity in knowledge management and having a responsibility to share knowledge.

2. The results of the proposed guidelines for the development of students in the non-formal education program. There are 4 main guidelines for the development of students in the non-formal education program, including:

2.1 Curriculum development or improvement and educational management: (1) The goal of curriculum development should be to develop students to be facilitators of lifelong education in society; (2) The curriculum should include content related to organizational theory and integrating entrepreneurial skills and business knowledge to students, including communication and conceptualization of good global citizenship (Global Mindset) and human resource development; (3) The curriculum should be interdisciplinary with professors

and experts in human learning in various contexts such as age, gender area by adapting the curriculum approach into learning units (modules); and (4) Developing educational management systems, curriculum operations and structure/learning outcomes, teaching and evaluation strategies/criteria for student evaluation/faculty development/curriculum quality assurance/systematic and continuous curriculum evaluation and improvement.

2.2 Knowledge and student development activities: (1) Providing knowledge of non-formal education and knowledge for applying such in work and everyday life; (2) Having courses that focus on practice and are consistent with the situation and graduate users in non-formal education; (3) Adding courses on human resource development, community education, contemporary media design for learning, and the development of learning resources or organizing a museum for learning and team working; (4) The courses should focus on fostering analytical thinking and creativity, and systematic thinking. The goal and learning method must focus on analytical thinking, public mind/volunteer skills, communication skills, and language skills; (5) Designing and planning practical learning activities for students; (6) Teaching and learning process should be student-centred using active learning that is not limited to educational institutions, learning and practicing in community areas and organizations; (7) Teaching and learning are linked to real situations and social issues to drive actual life knowledge; and (8) Teaching and learning focus on hands-on exercises may use project-based simulations.

2.3 Learning support system: (1) Promoting a learning environment in order to support student's learning; (2) Measuring and evaluating students' learning outcomes along with being able to provide constructive feedback; (3) Having a system or activity that promotes value in professional development and continuous personal development; (4) Building information knowledge skills, lifelong learning skills for students from the very first years to continue to find knowledge on their own, and create the learning need constantly; (5) Inspiring morality, ethics, adaptability, social and cultural skills; (6) Introducing and preparing learning resources for students, allowing students to read and research profound knowledge in science; and (7) Working with various learning networks in the organization and the community to learn from real contexts.

2.4 Quality assurance learning success: (1) Cooperating with networks of both the public and private sectors, both in the country and internationally, and providing learning experiences for students, such as

organizing educational workshops, co-teaching and learning management, etc; (2) Having guidelines for the development of education management that adheres to international standards and knowledge of local wisdom. The curriculum may integrate content related to the whole part of teaching and learning management, doing research and development including academic services both for students and faculty members; (3) A learning and assessment model should be used to help students to understand the different aspects of non-formal education and lifelong education with other forms of education, understanding lifelong education concept will lead to further career prospects or to pursue higher education, and through learning in a seminar and discussion; (4) Adding language skills in both Thai and English and a third language is compulsory, improving English language skills and two essential basic skills including measurement and evaluation before graduation; and (5) There is educational quality assurance according to the actual conditions, and they are reviewed at each course and the level of the curriculum.

It can be seen that necessary competencies for the work required by graduate users from students who have graduated in non-formal education programs and guidelines for the development of students in the non-formal education program will benefit departments, organizations, and educational institutions, as well as those involved in life-long education management, by using as a guideline for curriculum development—planning of learning activities and quality students' development in the future.

Discussion

1. A study of the necessary competencies for the work required by graduate users from students who have graduated in the non-formal education program.

1.1 Core Competency: knowledge, skills, and personal attributes. The results of an assessment of the core necessary competencies for the work that graduate users need from students who have graduated in the non-formal education program includes knowledge, skills, and personal attributes that are interrelated with the student development strategy in higher education institutions (2017–2021), as well as relevant to the desirable characteristics of graduates of Chulalongkorn University, which consisted of nine areas: (1) Being knowledgeable; (2) Having good morals; (3) Having higher-order thinking; (4) Possessing essential capabilities; (5) Having an inquiring mind and knowing how to learn;

(6) Having leadership qualities; (7) Maintaining well-being; (8) Being community-minded and possessing social responsibility; and (9) Sustaining Thainess in a globalized world (Office of Higher Education Commission, 2018; Chula International Communication Center 2012). Consequently, Education in the 21st century is not just the transfer of knowledge, but such must understand the changes taking place in the world and nurture graduates with the skills they need to work in the 21st century. The universities should have in-depth knowledge in the field to create new knowledge and develop innovations, knowledge of related sciences, readiness to make adjustments to gain access to new jobs or new knowledge in the future, the basic skills necessary for building new knowledge and adapting in areas such as a good foundation in mathematics, computer technology, communication, self-learning, etc; having management and leadership skills, having language and communication skills ability to maintain identity but at the same time being able to understand other societies and being able to live together, usually happily. The most important thing is instilling in students the awareness and importance of developing the ideas of self, based on the changes of the future world (Global Mindset) (Office of Higher Education Commission, 2018).

1.2 Functional Competency: knowledge, skills and personal attributes used in the performance of duties. The competencies needed to perform the jobs that graduate users demand from students who have graduated in the non-formal education program are consistent with Brit's (2018) research, which found that employers are satisfied. The qualifications are: (1) general skills (English language proficiency, communication skills with speaking, listening and writing; critical thinking skills, computer skill, teamwork, leadership, and customer service); (2) having related work knowledge and understanding, understanding job-related information specific technical knowledge and relevant computer practice required for the job, understanding of organizational context and exposure to the work environment; and (3) workplace skills and applied knowledge, having the ability to connect knowledge with new situations, ability to identify problems and choose to use the information to fix them, and planning skills to operate independently and monitor and assess their own activities. It is also relevant to National Qualifications Framework for Higher Education. This covers six learning outcomes: (1) moral and ethical; (2) knowledge; (3) intellectual skills; (4) interpersonal skills and responsibility; (5) numerical analysis skills, communication and use of information technology; and

(6) learning management skills. (Office of the Higher Education Commission, 2017). In addition, the development of graduates to these competencies requires cooperation from many parties. As Gkonou and Mercer (2017) stated, "The curriculum administration committee and the teaching staff are essential to the development and promotion of the program." If teachers are able to systematize their content, they will give students the quality of their graduate studies to achieve". At the same time, Becker and Denicolo (2013) and Oliva and Gordon II (2013) stated that, appropriately, there is an integration of knowledge and practice both in theory and practice, emphasizing learning in terms of knowledge, skills, and appropriate qualifications that enable students to learn effectively. Therefore, the curriculum administration committee must develop knowledge and learning management skills to provide students with more 21st century skills (Bostock & Baume, 2016) and have readiness for work and living in society during the Thailand 4.0 era. Education system has to focus on continuously improving the competencies of students and workers (Independent Committee for Educational Reform, 2019; Office of Higher Education Commission, 2018).

2. The results of the proposed guidelines for the development of students in the non-formal education program.

The results of the research revealed the important guidelines for the development of students in non-formal education programs, namely: (1) in curriculum development or improvement and education management; (2) in knowledge body and learner development activities; (3) learning support system; and (4) quality assurance for learning success, in line with the Graduate Development Guidelines. According to this announcement, the Ministry of Education called such "Standard Criteria for Graduate Programs BE 2548", which states that it is the duty of graduate programs in various educational institutions to manage teaching and learning, course quality assurance and curriculum development in issues of curriculum administration, teaching resources and research, student support and guidance and the needs of the labor market, society and/or graduate users' satisfaction by allowing all courses to be developed to be up to date providing periodic improvement of the index for education standards and quality at least every 5 years and is assessed for continuing curriculum development every 5 years (Office of the Higher Education Commission, 2005). This is in line with the bachelor's Curriculum Standard B.E. 2558, producing higher education graduates based on the belief that quality manpower must be a person with a consciousness of good corporate citizenship that creates

benefits to society and having the potential for self-reliance based on Thai wisdom under the framework of good morality to lead the country towards sustainable development and up to international standards (Office of the Higher Education Commission, 2017). It can be seen that the graduate production process has to focus on: (1) the student's development to have the character of a complete human being; (2) to be able to live in a multicultural society under the trend of globalization with borderless communication; (3) potential for lifelong learning; (4) ability to perform tasks in accordance with the standard framework; and (5) being able to create works that benefit oneself and society, both local and international.

Recommendations

Research proposals can be divided into two categories: recommendations for the implementation of the research results and recommendations for future research as the following;

Recommendations for the Implementation of the Research Results

1. Department of Lifelong Education and Faculty of Education, Chulalongkorn University jointly adjusted the curriculum structure according to proposals for the development of students in non-formal education program obtained from the research of 4 main guidelines: (1) curriculum development or improvement and educational management of; (2) Knowledge and learner development activities; (3) learning support system; and (4) quality assurance for learning success to develop students to become capable of applying theoretical content into practice in authentic contexts, of being a leader in the creation of knowledge in non-formal education in both corporate and community contexts to be a leader in building and coordinating non-formal education networks that lead society to become a lifelong learning society, and to be a person who has the characteristics of being a lifelong learning lover and being able to inspire others to learn to develop their potential continually.

2. Instructors who teach in non-formal education programs should adjust the teaching and learning management and increase student development activities according to the research proposal, guidelines for developing students in non-formal education programs, including self-development in various related matters.

The learning management may be designed according to the framework for promoting learning for students in the Thailand 4.0 era so that it can effectively enter the digital society.

3. The Curriculum Executive Committee in Non-formal education program should develop and allocate resources to support learning in all dimensions, both in the program of learning materials in digital systems, documents, and teaching and learning textbooks laboratory and activities in order to be more prepared to support students' activities

Recommendations for Future Research

1. The competencies of graduates should be assessed according to the National Qualifications Framework for Higher Education by allowing users of graduates and instructors to evaluate in order to obtain comprehensive information from a wide range of stakeholders based on triangulation assessment techniques.(Triangulation), which will lead to further development and improvement of the curriculum.

2. The methods used to study the satisfaction towards the quality of the curriculum should be increased, for example, observation, interviews, group discussions, etc. in order to obtain qualitative information that can be used to develop the curriculum to be of more quality.

Conflict of Interest

The authors declare that there is no conflict of interest.

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