Developing Desired Outcomes of Education (DOE) Indicators for Chandrakasem Rajabhat University Context Using Grounded Theory

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Abstract

This qualitative research aims to study the meaning of desired outcomes of education in the context of Chandrakasem Rajabhat University and develop the desired outcomes of education indicators in the context of Chandrakasem Rajabhat University by using the grounded theory. Six key informants were purposively selected based on their related experiences in educational quality assurance. The instruments used were semi-structured interviews, voice recorders, and a camera for the field research. The data were collected through in-depth interviews and analyzed from the text. The research found that (1) the meaning of the desired outcomes of education (DOE) for the context of Chandrakasem Rajabhat University was about the learners, innovative co-creator, and active citizen dimensions based on Thailand Qualification Framework (TQF), which would be seen that the students' characteristics include human skills alongside knowledge and special skills, and (2) the DOE indicators for Chandrakasem Rajabhat University were comprehensive in the input, the process, and the output, which had both quantities and qualities indicators. Some indicators had to use assessment forms and be analyzed by statistical tools. Different indicators had to be understood and observed their behavior before summarizing individual characteristics. Therefore, all indicators were suitable within the context of Chandrakasem Rajabhat University.

Keywords: Desired Outcomes of Education, Chandrakasem Rajabhat University, Grounded Theory

1. Introduction

Desired outcomes of education (DOE) are 4.0 Thai characteristics that respond to the vision of the country's development into stability, prosperity, sustainability. By having to maintain the Thai identity and competitiveness at the global level, as well as conserving good morality and holding to shared values of the society, the learners must ensure to possess 3 characteristics; (1) Learner Person means a lifelong learning, readiness to face changes, and leadership for creating good occupations for themselves, family, and social, (2) Innovative Co-creator means the participation to solve social problems by integrating cross-science, creating innovation for increasing values and knowledgeable entrepreneurs with social and global changes, and (3) Active Citizen means the bravery to resist the wrongdoings, cooperating to create sustainable development, eliminating conflicts, and peace-building in Thailand and the global community (Ministry of Education, 2019; Government gazette, 2019).

All of these indicate that educational institutions at all levels have to adjust their operation method to follow the national educational standards, especially all higher education institutions, both public and private sectors, as the last stage for producing a graduate that is consistent with the labor market. They have to realize and define specific courses to create a 4.0 Thai characteristics graduate. To have graduates that will be learner person, innovative, and active citizen, the higher education institutions have to encourage them under socially shared values, including pure perseverance, sufficiency, democratic way, and quality (Dechakhupt & Yindeesuk, 2020).

However, these challenges do not only require higher education institutions to adjust teaching methods but also to develop the indicators that are suitable within a context that follows different identities.

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Thus, it will be a big mistake if all higher education institutions use the same indicators since each institution has different academic strength.

The researchers, as quality assurance operators at the Faculty of Management Sciences, Chandrakasem Rajabhat University, are fully aware of this phenomenon since the desired outcomes of education have directly involved with the quality assurance criteria at both faculty and university levels. Accordingly, to deeply understand and develop the desired outcomes of education that are suitable for the university, they cannot be measured with positivism due to the lack of profound and consensus within the University's context. As a result, the researchers intend to study by using the grounded theory method with an interpretive paradigm and open the social space for the voice of experts, to transmit perspectives and concepts for developing the desired outcomes of education together.

2. Objectives
1) To study the meaning of desired outcomes of education in the context of Chandrakasem Rajabhat University.

2) To develop desired outcomes of education indicators in the context of Chandrakasem Rajabhat University.

3. Materials and Methods
3.1 Research design
This study is qualitative research that uses the grounded theory method with the interpretive paradigm (Charmaz, 2006) to find the meaning and develop indicators for the desired outcomes of education in the context of Chandrakasem Rajabhat University. The research is filled with in-depth interviews to explain the desired outcomes of education's phenomena of Chandrakasem Rajabhat University specifically.

3.2 Research Area
1) The content framework for understanding the desired outcomes of education in the context of Chandrakasem Rajabhat University can be divided into 3 factors according to the Ministry of Education and The Government Gazette (Ministry of Education, 2019; Government gazette, 2019), stated as follows.

1.1) Learner Person

This factor involves lifelong learning, ready to face changes, and leadership for creating good occupations for themselves, family, and society.

1.2) Innovative Co-creator

This factor involves participation in solving social problems using cross-science integration and creating innovation for increasing values and knowledgeable entrepreneurs with social and global changes.
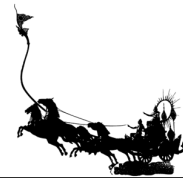
1.3) Active Citizen

This factor involves the bravery to resist wrongdoings, cooperate to create sustainable development, eliminate conflicts, and build peace in Thailand and the global community.

2) The area framework includes top management from each faculty of Chandrakasem Rajabhat University who have both experiences in quality assurance systems and an understanding in desired outcomes of education.

3) Timing framework for collecting data was from July to December 2019.

3.3 Key informants and theoretical sampling
The researchers selected the key informants and theoretical sampling following the consistency and relationship with the research objective. There are a total of six persons, particularly the top management from each faculty of Chandrakasem Rajabhat University who both have been experiencing in quality assurance systems and understand the desired outcomes of education. The researchers selected a sampling by purposive selection based on logic and reasons.

3.4 Research instruments

The researchers prepared the research question guideline using a semi‑structured interview, which is classified into 3 factors; learner person, innovative co‑creator, and active citizen, based on Thailand Qualification Framework (TQF). Each factor contains questions about the mean and indicators that are suitable in the context of Chandrakasem Rajabhat University. Besides, the researchers used a voice recorder, camera, and literature reviews to support the theoretical sensitivity of the researchers.

3.5 Data collection

The researchers had 2 steps for collecting data;

1) Review related literature and documents, as well as empirical evidence, to create a conceptual framework and question guideline.

2) In-depth interview. Prior to any interview, the researchers had obtained the interviewees' consent before running the questions as the researchers would like to respect human rights.

The list of interviewees are as follows;

Wanchai (pseudonym) (key informant). Phrueksasirikul, S. (Interviewer). December, 22th 2019.

Wanchalerm (pseudonym) (key informant). Mundindaeng, P. (Interviewer). September, 5st 2019.

Wanchart (pseudonym) (key informant). Mundindaeng, P. (Interviewer). October, 8st 2019.

Wandee (pseudonym) (key informant). Mundindaeng, P. (Interviewer). December, 1st 2019.

Wanpen(pseudonym) (key informant). Phrueksasirikul, S. (Interviewer). August, 20th 2019.

Wansiri (pseudonym) (key informant). Phrueksasirikul, S. (Interviewer). November, 17th 2019.

3.6 Research validation and reliability

The researchers used a data triangulation to validate data reliability (Podhisita, 2013) when collecting from different sources, meaning that different key informants who have been working at Chandrakasem Rajabhat University, from junior management to top management positions, were to verify the data and create the theoretical conclusion.

3.7 Data manipulate and analysis

The researchers selected the grounded theory for studying social phenomena systematically. The study was divided into 4 steps as follows.

Step 1: Open coding by dividing the total data into sub‑data. Then, group the similar meanings and define codes for the next processes. The codes for identifying are DOE1 to DOE(n).

Step 2: Create a concept by using all sub-data that were defined with the codes to group as sub-data interrelation.

Step 3: Categorize the data based on their functions, namely, the group that had the same meaning, the group that is used to answer the research questions, and the group that is used as a base to find the model in the study area.

Step 4: Connect the categories obtained from the findings into a theoretical conclusion for creating a grounded theory that is suitable for the phenomena.

4. Results and Discussion

4.1 The meaning of desired outcomes of education in the context of Chandrakasem Rajabhat University

From analyzing the meaning of desired outcomes of education in the context of Chandrakasem Rajabhat University based on Thailand Qualification Framework (TQF) from key informants, the results are as follows.

1) Chandrakasem Rajabhat University's learner person

1.1) Dimension of Morality and Ethics.

The students have recognition of morals, ethics and honesty include; class interesting, finish work on time, respect classes agreements, rules, and University regulations accept the opinions of friends and

lecturers as well as having good behavior, having volunteered and try to be role model for University. Although in practice found that,

Wandee (pseudonym, 2019 says that "morality and ethics have a basic conscious to be a good learner person because students must have a good mind in conjunction with Intelligence Quotient (IQ) and Emotional Quotient (EQ)."

1.2) Dimension of Knowledge

The students have a deep understanding and knowledge of the subject, can apply that knowledge to various situations, and try to always be active learners.

1.3) Dimension of Intellectual Skills

The students can identify true and false information, adapt knowledge in analyzing situations, and gave Lifelong Learning skills.

1.4) Dimension of Interpersonal and Responsibilities Skills

The students can work efficiently in a group, know their roles and responsibilities, have leadership skills in their sciences and positive communication skills, as well as employ knowledge to improve themselves for a better quality of life.

1.5) Dimension of Numerical analysis, Communication, and Technology Skills

The students can use the information and statistical data as a tool for searching and analyzing current information, studying, researching, and working appropriately and accurately, and communicate to others effectively. Although, in practice,

Wanpen (pseudonym, 2019) says that "nowadays, the world has technology disrupted, University has to paradigm ship and uses technology smartly as well as modify teaching methods to create new students' types."

2) Chandrakasem Rajabhat University's innovative co-creator

2.1) Dimension of Morality and Ethics.

The students have morality and ethics, adhere to a code of ethics, and create their works without copying the work of others.

2.2) Dimension of Knowledge.

The students can think critically, integrate the knowledge of different fields of sciences to communicate, and encourage innovation for problems solving or developing communities. Although, in practice,

Wanchat (pseudonym, 2019) says that "communities want the innovation for improving, problem-solving, and developing, which no need a new or big project. But the innovation from University must be used."

2.3) Dimension of Intellectual Skills.

The students can analyze antecedent and consequence of facts for creating tools or innovation to increase communities and societies income to sustainable self-care.

2.4) Dimension of Interpersonal and Responsibilities Skills.

The students can create a process innovation for good relationships among organizational culture and participate with the others to develop innovation for creating social values under the responsibility for consequences of their action. Although, in practice,

Wanchai (pseudonym) (2019) says that "good innovators must have responsibility for the consequences of their actions although good or bad. Pushing responsibility to others has a bad behavior of an intellectual person."

2.5) Dimension of Numerical analysis, Communication, and Technology Skills.

The students can apply technology in studying and learning, as well as helping communities and societies.

3) Chandrakasem Rajabhat University's active citizen

3.1) Dimension of Morality and Ethics.

The students have to understand their role and respect each others' privacy and must have a good attitude toward the group and society. All of these are a necessary part of making Thailand peaceful.

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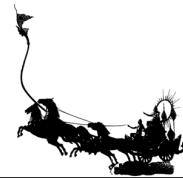
3.2) Dimension of Knowledge.

The students can analyze social crises based on their knowledge and appreciate humanity in different societies, as well as be aware of the rapid changes.

3.3) Dimension of Intellectual Skills.

The students can plan their lifestyle and work correctly and have skills to create reconciliation for communities and societies. Although, in practice,

Wanchalerm (pseudonym, 2019) says that "Thai students have to create a long plan for themself not only think just 4 years in University but also plan for competing with the real world," and

Wansiri (pseudonym, 2019) says that "active citizen has to build a sense of peace and tranquility by using their skills for each case because nowadays have no one best way for dealing with everything."

3.4) Dimension of Interpersonal and Responsibilities Skills.

The students have to realize the mutual benefits more than personal benefits, try to eliminate conflicts as much as possible, and adjust others' attitudes within a group to help create a livable society.

3.5) Dimension of Numerical analysis, Communication, and Technology Skills.

The students can use technology for social creativity and reduce cyberbully, of which the number of cases has been raised in societies, by beginning from themselves, as well as have a judgment in receiving and forwarding information based on the "Sure before Share" principle.

From the results, it can be seen that the student's characteristics based on desired outcomes of education in the context of Chandrakasem Rajabhat University have human skills together with knowledge and special skills.

4.2 Developing desired outcomes of education indicators in the context of Chandrakasem Rajabhat University based on Thailand Qualification Framework (TQF) from key informants (Table 1)

Table 1 DOE indicators in the context of Chandrakasem Rajabhat University

TQF	DOE indicators		
	Learner Person	**Innovative Co-creator**	**Active Citizen**
Morality and ethics	1. Punctuality of attendance in class 2. Quality of work assigned 3. Delivering work on time 4. Honesty and do not show dishonesty in the exam 5. Volunteering in working with others	1. The proportion of plagiarism of others 2. The number of published works and public acceptance	1. The expression of resistance to wrongdoing in society 2. Non-concealment when seeing others do wrong 3. Being a good citizen in society and not causing problems in society
Knowledge	1. Examination score 2. Points received from the group and individual assignments 3. Behavior that shows alertness and readiness to learn new things 4. The ability to apply various principles and theories	1. The development of innovation in their science 2. The innovation in work resulting from cross-disciplinary integration 3. The Number of innovative works that benefit society	1. The activities that apply knowledge for social development 2. The sustainability of the community's target 3. The ability to be self-reliant and being dependent on others

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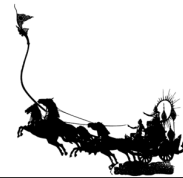
Table 1 DOE indicators in the context of Chandrakasem Rajabhat University (continue)

TQF	DOE indicators		
	Learner Person	**Innovative Co-creator**	**Active Citizen**
Intellectual skills	1. The application of knowledge from theories and practice to apply in real operation 2. The number of jobs or events that have been resolving or improving 3. The readiness for learning and adjustment	1. The innovation that can solve concrete problems of the communities 2. The communities and societies have increased incomes through University innovations 3. The communities and societies have better living and have self-reliant	1. The life and work style plans for short, medium, and long terms 2. The guidelines for problem solving and reconciliation in communities and societies
Interpersonal, and responsibilities skills	1. Group behavior 2. Behavior expression of leadership from group work 3. Behavior of volunteering and sacrifice 4. Quality of life during studies and after graduation	1. Behavioral expression of attempts to create good relationships between fellow institutions 2. Participation in creating change or innovation social 3. Liability and acceptance of the consequences of actions	1. The number of times for doing well for the societies 2. The ability to eliminate conflicts between individuals, groups, and societies 3. Guidelines for creating an attitude to live happily together in societies
Numerical analysis, communication, and technology skills	1. Accuracy in data processing from the utilization of information technology and statistical data 2. Digital literacy 3. The ability to use technology in academic communication	1. The application are promoting learning or solving communities' problems 2. New teaching and learning media	1. The creative for using social networks 2. Ethics in using technology 3. The number of forwarding of unproductive information in online societies

From the results, it can be seen that the desired outcomes of education indicators in the context of Chandrakasem Rajabhat University are comprehensive of both input and output, as well as not only has quantities indicators but also qualities indicators. Since some indicators have to employ the assessment forms or questionnaires and be analyzed by statistical tools, the differences between these indicators cannot be evaluated by figures, such as frequency or average. Instead, the researchers have to try to understand and observe their behaviors before summarizing individual characteristics. Therefore, all indicators are suitable within the context of Chandrakasem Rajabhat University.

The results also showed that the students need morality and ethics as a navigation compass for their living. In particular, they have to be more considerate to the common benefits rather than for themselves, by acting as strong active citizens that the society needs, as shown in Figure 1.
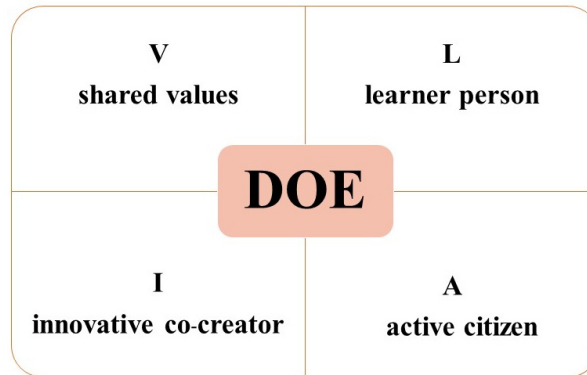
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Figure 1 DOE of Chandrakasem Rajabhat University
Note: (The researchers)

5. Conclusion

Desired Outcomes of Education (DOE) indicators in the context of Chandrakasem Rajabhat University as developed by the researchers were related to the new Higher Education Standards 2019 in learner outcome issues, including (1) learner person are the lifelong learning, ready to face changes, and leadership for creating good occupation for themselves, family, and social, (2) innovative co-creators are the participation with social problem solving by cross-science integration, creating innovation for increasing value and knowledgeable entrepreneur with social and global changes, and (3) active citizens are the bravery to resist some actions in the wrong things, cooperating to create sustainable development, eliminate conflict, and peace-building in Thailand and Global community (Ministry of Education, 2019; Government gazette, 2019). All concepts are evaluated by the indicators that were specified in the context of Chandrakasem Rajabhat University, both quantitative and qualitative, as well as related to Thailand Qualifications Framework (TQF), the operating framework for educational quality assurance.

Besides, the research results are also consistent with the mathematical function of Dechakhupt and Yindeesuk (2020), curriculum and instruction experts, which stated that **"DOE = f(VLIA)"** by having;

V = shared values include; pure perseverance, sufficiency, democratic way, and equality.
L = learner person
I = innovative co-creator
A = active citizen
f = function of (VLIA)

Therefore, other higher education institutes can use these results for applying and improving student learning methods following the Thailand Qualifications Framework (TQF) and Desired Outcomes of Education (DOE).

6. Acknowledgements

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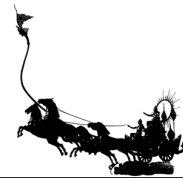
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