

## Current and Future Trends in Cooperative Education Research in Thailand

Guntima Sirijeerachai<sup>a\*</sup>, Narumol Ruksasuk<sup>a</sup>, Weerapong Polnigongit<sup>a</sup>,  
 Wichit Srisa-an<sup>b</sup>, Prasart Suebka<sup>a</sup>, Peerasak Siriyothin<sup>a</sup>, Terasut Sookkumnerd<sup>a</sup>,  
 Thawatchai Teekachunhatean<sup>a</sup>, Boonchai Wichitsathian<sup>a</sup>,  
 Rattikorn Yimnirun<sup>a</sup>, Somwung Pitiyanuwat<sup>c</sup>, Sumate Yamnoon<sup>c</sup>,

### Abstract

Cooperative education (co-op) was first introduced in Thailand in 1993 at Suranaree University of Technology in Nakhon Ratchasima by Professor Dr. Wichit Srisa-an. This paper outlines and highlights trends in cooperative education research in Thailand both at present and in the future, which is a part of the results from the documentary research on “Body of Knowledge of Cooperative Education”. This piece of qualitative research involved the analyses of 146 abstracts from the dissertations and research articles on co-op reported in Thailand and other countries. Interviews with 19 administrators, lecturers, and co-op personnel from both universities and workplaces, as well as a public academic review were also conducted to gain further in-depth information.

The findings indicated that research studies on co-op were first disseminated in Thailand in 1999 while the latest ones were in 2011. There have been 43 research studies on co-op in Thailand under a wide range of topics which can be divided into 6 categories; namely, the effectiveness, the management/administration, the attitudes towards and perceptions of the co-op programs, the co-op student preparations, facilities and information technology, and the co-op network creation. Most of the research topics pertain to the management and administration of the programs whereas topics related to the network creation are minimal. The future trends in co-op research include 1) research for the development of the country, 2) research for the development of curriculum, 3) research in the ASEAN context, and 4) research for the operation of co-op.

<sup>a</sup> Suranaree University of Technology

<sup>b</sup> Thai Association for Cooperative Education

<sup>c</sup> Association of Institutional Research and Higher Education Development

\* Corresponding author: email-address (guntima@sut.ac.th)

## 1. Background

Cooperative education was first introduced in Thailand in 1993 at Suranaree University of Technology (SUT) in Nakhon Ratchasima by Professor Dr. Wichit Srisa-an. In 1995 SUT started sending cooperative education students to work in the workplace for 16 weeks. At the beginning, cooperative education program was offered as an elective course for undergraduate students whereas it is a compulsory course for students in every school at present. In addition, SUT has encouraged graduate students to work in the workplace as cooperative education students since 2005.

The success of cooperative education program at SUT resulted in the Office of the Higher Education Commission (OHEC), the Ministry of Education to recommend the policy of Cooperative Education to all universities across Thailand. Since then, cooperative education, a format of experiential learning, has been embraced by many universities both in the public and private sectors [1]. At present, there are 107 of 172 universities offering cooperative education programs and there are 13,000 workplaces who are associates of the universities. [2].

In order to promote understanding about cooperative education and to have a guideline for Thai cooperative education, the OHEC in collaboration with Thai Association for Cooperative Education (TACE) developed the standards of cooperative education and have written one manual and two textbooks on cooperative education. Those manual and textbooks have been used as core training materials in 7 training programs organized by TACE. The 7 training programs consist; co-op Advisor, co-op Supervisor, co-op Coordinator, co-op Administrator, pre-trainer, trainer and training of the trainers both in higher education institutions and workplaces. Up until now, around 3,020 persons have attended those training programs. Key persons who play vital roles in developing the standards, writing the manual and textbooks, are lecturers and trainers from Suranaree University of Technology. It can be

said that nowadays there are a large number of persons related to cooperative education. With its experience on cooperative education for more than 20 years and with a lot of key persons with great expertise on Cooperative Education, SUT has offered graduate degrees for Cooperative Education in 2013. With this program, co-op staff in Thailand and all over the world can enhance their knowledge and ability on co-op work.

In order to help the committee on curriculum development on Graduate Cooperative Education and the lecturers of related subjects access information resources in that field, bibliographies and abstracts of research work on Cooperative Education have been collected. To learn about present and trends of research work on Cooperative Education both in Thailand and in the other countries the documentary research on “Body of Knowledge of Cooperative Education” has been performed. This paper outlines and highlights trends in cooperative education research in Thailand both at present and in the future, which is a part of the results from the documentary research on “Body of Knowledge of Cooperative Education”.

## **2. Objectives**

The objectives of this research are as follows:

- 1) To investigate the state-of-the-art knowledge of cooperative education available nationally.
- 2) To examine the development of the cooperative education body of knowledge nationally.
- 3) To identify the directions and trends in cooperative education research in Thailand.

## **3. Methodology**

This research is a qualitative research whose research methods are:

- 1) Analyzed 43 abstracts from the dissertations and research articles on cooperative education reported in Thailand.

2) Interviewed fourteen persons i.e. nine administrators, two lecturers, and three cooperative education coordinators from both higher education institutions and workplaces as well as a public academic review was conducted to gain further in-depth information. The mentioned procedures were carried out from May to September 2013.

#### 4. Findings

The findings on the cooperative education research studies in Thailand are reported here. It is indicated that research studies on cooperative education were first disseminated in Thailand in 1999 while the latest ones were in 2011. Up until now, there have been 43 research studies on cooperative education in Thailand which are shown in **Table 1**.

**Table 1: Number of cooperative education research studies/projects in Thailand in each disseminated year.**

Published Year	Number of research articles
1999	1
2000	1
2003	1
2004	2
2005	2
2006	3
2007	3
2008	5
2009	11
2010	8
2011	6
<b>Total</b>	<b>43</b>

The research topics can be divided in to 6 categories namely, 1) the effectiveness of the cooperative education programs, 2) the management and administration of the programs, 3) the attitudes towards and perceptions of the programs, 4) the cooperative education student preparation, 5) facilities and information technology and 6) the cooperative education network creation. Most of the research topics pertain to the management and administration of the programs whereas topics related to the network creation are found minimal as shown in **Table 2** and **3**.

**Table 2: Categories of cooperative education researches.**

Topics	Number
1. The effectiveness of the cooperative education programs.	10
2. The management and administration of the programs.	18
3. The attitudes towards and perceptions of the programs.	5
4. The cooperative education student preparations.	3
5. Facilities and information technology.	6
6. The cooperative education network creation.	1
Total	43

**Table 3: The cooperative education research titles by categories.**

Research Category / Titles	Number
<b>1. Effectiveness of cooperative education programs</b> 1) Institutional Research on Outcomes of Undergraduate Cooperative Education and Career Development Project: Phase 1. 2) Institutional Research on Outcomes of Undergraduate Cooperative Education and Career Development Project: Phase 2. 3) Outcomes of Thailand Cooperative Education Pilot Project Number One (November 2002 - February 2003). 4) Outcomes of Thailand Cooperative Education Pilot Project. 5) Follow up and Evaluation of Cooperative Education Project, Faculty of Engineering, King Mongkut's University of Technology North Bangkok. 6) Opinions of Workplace, Co-op Advisor and Students on Working in Cooperative Education. 7) Outcomes of Cooperative Education Projects of Upper Central Higher Education Network. 8) Developing of Participating Success Factor Model in Cooperative Education. 9) Outcomes of Cooperative Education Project Number One, Faculty of Science and Technology. 10) Outcomes of Cooperative Education Project, Department of Accountancy, Ratchaphruek College.	<b>10</b>
<b>2. Management and Administration of Cooperative Education</b> 1) Cooperative Education: Education for Economy Security. 2) Development of Mahasarakham University Public Relations of Cooperative Education. 3) Increasing Suranaree University Performance in Cooperative Education Operations by Benchmarking with International Universities. 4) Current Status and Potential of Cooperative Education Operations of Lower Southern Cooperative Education Network. 5) Study of Current Status, Potential and Readiness of Cooperative Education in Enhancing Graduate Quality. 6) Report on the Potential of Cooperative Education Management of the Lower North-eastern Cooperative Education Network. 7) Report on the Potential of Cooperative Education Management of the Lower North Cooperative Education Network.	<b>18</b>

Research Category / Titles	Number
<p><b>2. Management and Administration of Cooperative Education (continued)</b></p> <p>9) Development of Instruction for Work-Integrated Learning Operations.</p> <p>10) Cooperative Education and Student Performance Development: Hat Yai University.</p> <p>11) Study to Promoting Student Participation in Cooperative Education.</p> <p>12) Guidelines for Enhancing the Public Relations of Cooperative Education in Nakhon Ratchasima Province.</p> <p>13) Survey of Workplace Information for Cooperative Education Operations.</p> <p>14) Final Report on the Cooperative Education Research of the Upper North-east Cooperative Education Network.</p> <p>15) Study of Current Status, Potential and Readiness of Cooperative Education Operations of the East Cooperative Education Network and Workplaces.</p> <p>16) Study of Model of Cooperative Education Operations of the Rajamangala University of Technology Tanyaburi: Mixed Reasearch.</p> <p>17) Cooperative Education Job Requirements and Students' Attributes: Accountancy Faculty, Walailuck University.</p> <p>18) Study of Problems and Guidelines for Problem Solving for Cooperative Education Operations: Rajamangala University of Technology, Lanna, Chiang Mai.</p>	
<p><b>3. Perspective on Cooperative Education</b></p> <p>1) Opinion Survey on Cooperative Education Operations: Rajamangala University of Technology, Krungthep.</p> <p>2) Workplaces' and Students' Opinion on Cooperative Education Systems: King Mongkut University of Technology, Thonburi.</p> <p>3) Development of Cooperative Education Handbook: Vongchavalitkul University.</p> <p>4) Workplaces' Satisfaction on Graduates' Employability: Comparative Study between Co-op and Non Co-op Graduates in Lower North-eastern Area.</p> <p>5) Understandings and Collaborations of Tourism Workplaces on Cooperative Education.</p>	<b>5</b>
<p><b>4. Preparation and Students' Self-Development</b></p> <p>1) Industry Requirements on Cooperative Education Students' Performance.</p> <p>2) Mass-Communication Industry Requirements on Cooperative Education Students' Attributes.</p> <p>3) Cooperative Education Students' Performance of Logistics and Transportation Management System Students: Rajamangala University of Technology, East Campus.</p>	<b>3</b>
<p><b>5. Information Technology and Equipment</b></p> <p>1) Study of Cooperative Education Student's Satisfaction on Internet Information Technology: Suranaree University of Technology.</p> <p>2) Usage of Information Technology: A Case Study of the University of Technology.</p> <p>3) Cooperative Education Management System: A Case Study of Management and Tourism Faculty, Burapha University.</p> <p>4) Development of Information Technology System for Cooperative</p>	<b>6</b>

Education Operations: Science Faculty, Maejo University.	
<b>Research Category / Titles</b>	<b>Number</b>
<b>5. Information Technology and Equipment (continued)</b> 5) Cooperative Education Information Management System: Ubon Ratchathani Rajabhat University.	
<b>6. Workplace-University Relation Management on Cooperative Education</b> 1) Development of Cooperative Education Collaboration Model between Technology Management, Production and Information Technology Department and Industries.	<b>1</b>

### 5. Future Trend of the Cooperative Education Research in Thailand

The trends in research on cooperative education in the future were conducted by interviewing all involved parties and a three - hour academic review. Fourteen of administrators, co-op faculties, and practitioners of cooperative education from universities and managers and co-op practitioners from workplaces were interviewed. The received feedback on the co-op research trend in the future is shown in **Table 4** by category and **Table 5** by titles, as follows.

**Table 4: Categories of the future trend of cooperative education researches.**

Research Category	Numbers
1. The effectiveness of the cooperative education programs.	11
2. The management and administration of the programs.	31
3. The attitudes towards and perceptions of the programs.	11
4. The cooperative education student preparations.	17
5. Facilities and information technology.	5
6. The cooperative education network creation.	11
Total	86

**Table 5: The future trend cooperative education research titles in each category.**

Research Categories and Titles	Number
<p><b>5.1 The effectiveness of the cooperative education programs.</b></p> <ol style="list-style-type: none"> <li>1) Approaches to Solve the Discontinuity of Cooperative Education student's Project to Enhance Best Benefit of Workplace.</li> <li>2) Key Success Factors in Cooperative Education in University and Workplace.</li> <li>3) Leadership and/or Mentorship of Supervisor to Success of Students in Cooperative Education.</li> <li>4) Achievement of Cooperative Education Students in Different Workplaces.</li> <li>5) The role of University Administrators on Achievement of Cooperative Education Operations.</li> <li>6) Outcomes of various work-integrated learning models in Thailand.</li> <li>7) Cooperative Education Accreditation.</li> <li>8) Comparative Study of Graduates' Potential with or without Cooperative Education.</li> <li>9) Comparative Study of the Career Paths of Cooperative Education Graduates and Non-cooperative Education Graduates After 10 Year-Graduation.</li> <li>10) Achievement in Expanding Cooperative Education by Third Parties: Involved in Education and Alumni.</li> <li>11) Student's Learning Model in Cooperative Education.</li> </ol>	11
<p><b>5.2 The management and administration of the programs.</b></p> <ol style="list-style-type: none"> <li>1) Possibilities in Lengthening the Workterm More Than 4-month and Increasing Number of Placement.</li> <li>2) Student Selection Process for Large and Continuing Cooperative Education Projects.</li> <li>3) Student Selection Process for Integrated Cooperative Education Projects: Multi-disciplinary Students or Different Universities.</li> <li>4) Leadership of University and Workplace Administrators in Cooperative Education Management.</li> <li>5) Study of Barriers and Problems in Cooperative Education Operation in Each University and Workplaces.</li> <li>6) Possibilities of Embedding Work-integrated Learning Models in the Curriculum.</li> <li>7) Study of Supporting from the Administrator and Obstacles in the Command in Cooperative Education Operations.</li> <li>8) Job descriptions, Job Position and Workplaces that Match the Major Studies of Cooperative Education Students.</li> <li>9) Supporting and Promoting the International Cooperative Education from Government, the Ministry of Foreign Affairs and Central-Coordinating Unit.</li> <li>10) Comparative Study of Cooperative Education Operations in Various Universities.</li> <li>11) Strengthening the University-University Network in Cooperative Education Operations.</li> <li>12) VISA Application Problems in International Cooperative Education. Possibility of Having Cooperative Education VISA?</li> <li>13) Engagement of Cooperative Education Advisors in Cooperative Education Supervision.</li> <li>14) Workplace Staff's Attitudes in Placement of Cooperative Education Student.</li> <li>15) Approaches to Solve Problems of Disagreed Workplaces Who Do Not</li> </ol>	31



Conform the Thai Cooperative Education Standard.	
<b>Research Categories and Titles</b>	<b>Number</b>
<p><b>5.2 The management and administration of the programs. (continued)</b></p> <p>16) Workplace's Readiness in Cooperative Education Operations.</p> <p>17) Appropriate KPIs for Evaluating Students' Learning Outcomes from Cooperative Education Work Experiences.</p> <p>18) Comparative Workplaces' Benefits Derived from Cooperative Education Students' Work with Outsourcing Work to Other Enterprises.</p> <p>19) Budgeting of the Cooperative Education Operations in Different Fields of Studies and Universities.</p> <p>20) Evaluation of Students' learning Outcomes in Cooperative Education: Suitable Grading System.</p> <p>21) Strategies in Cooperative Education Operations and Problem Solvings in Limited Budget Operations.</p> <p>22) Benchmarking of the Cooperative Education Operations of Various Universities.</p> <p>23) The Effective Cooperative Education Budget Allocations for Cooperative Education.</p> <p>24) Cooperative Education Operations for Graduate Students.</p> <p>25) Cooperative Education Operations in Multinational Corporates.</p> <p>26) Possibility of Increasing the Supervision-visit of Cooperative Education Advisors from Partner University.</p> <p>27) Policy and Cooperative Education Operations of the Government, Universities and Workplaces.</p> <p>28) International Cooperative Education: Current Status, Problems and Obstacles. Co-op Coordinator Development by Rotating Work Responsibility.</p> <p>29) Specific Characteristics of Cooperative Education Administrator.</p> <p>30) Examination, Follow-up, Troubleshooting and Problem Prevention from Students' Problem.</p> <p>31) Models of Cooperative Education Operations in Workplaces and Universities</p>	
<p><b>5.3 The attitudes towards and perceptions of the programs.</b></p> <p>1) Comparative Analysis of Thai and International Students' Perception on Cooperative Education.</p> <p>2) Workplaces' Perception on Cooperative Education.</p> <p>3) Perception of Cooperative Education Involved Parties on Cooperative Education.</p> <p>4) Guidelines to Promoting the Awareness and Importance of Cooperative Education to Workplaces.</p> <p>5) Guidelines to Promoting the Cooperative Education Knowledge and Understandings to Cooperative Education Advisor.</p> <p>6) Guidelines to Promoting the Cooperative Education Knowledge and Understandings to Workplaces.</p> <p>7) Development of New faculties to Become Professional Cooperative Education Advisors.</p> <p>8) Perception of Job Supervisors and Cooperative Education Coordinators on Cooperative Education.</p> <p>9) Communication Strategies to Encouraging Students to Select the Cooperative Education Program.</p> <p>10) Transforming Cooperative Education Work Experience into Learning.</p> <p>11) Level and Factors Affecting Understandings of Cooperative Education of</p>	11

Higher Education Cooperative Education Networks.	
<b>Research Categories and Titles</b>	<b>Number</b>
<p><b>5.4 The cooperative education student preparations.</b></p> <ol style="list-style-type: none"> <li>1) Knowledge Management of Cooperative Education Student Preparation Processes.</li> <li>2) Enhance Cooperative Education Students' Employability in Multi-national Companies.</li> <li>3) Requirements of Workplaces on Student's Attributes.</li> <li>4) Student-Preparation Guidelines to Succeed in the Cooperative Education Projects or Researches at the Workplaces.</li> <li>5) Effect of Student's Attitude toward the Performance of Student during their Cooperative Education Workterms.</li> <li>6) Factors Affecting the Performance of Student during Their Cooperative Education Workterms.</li> <li>7) Adaptation of International Cooperative Education Students While They are Working in Enterprises in Thailand.</li> <li>8) Students' Performance in Problem Solvings at the Workplaces.</li> <li>9) Guidelines for Cooperative Education Advisors: Student Supervision Technics.</li> <li>10) Trends of Student Preparation Toward the Future Economy and New Curriculum.</li> <li>11) Enhancing Student Competency to be Future graduates Through the Cooperative Education Models.</li> <li>12) Factors Affecting Student Decision Makings for Workplace Selection.</li> <li>13) Basic Learning Medias in Pre-Cooperative Education Preparation Course.</li> <li>14) Study of Quality of the Pre-Cooperative Education Preparation Course.</li> <li>15) Comparative Study of Workplace Expectation on Cooperative Education Student Achievements.</li> <li>16) Guidelines for Supporting Low Academic-Performance Students to Getting Placement in Workplaces.</li> <li>17) Current Status of Pre-Cooperative Education Preparation Courses in Thailand.</li> </ol>	17

<p><b>5.5 Facilities and information technology</b></p> <ol style="list-style-type: none"> <li>1) Guidelines in Promoting Online MIS in Cooperative Education Operations.</li> <li>2) Development Cooperative Education Project Work by Participation of Students, Cooperative Education Advisor and Job Supervisor.</li> <li>3) Current Status and Requirements of Using ICT in Cooperative Education Operations both Locally and Internationally.</li> <li>4) Requirements and Expectation of Workplaces on Student Cooperative Education Projects.</li> <li>5) Scale Up of the Student Cooperative Education Work Project.</li> </ol>	5
<p><b>5.6 The cooperative education network creation</b></p> <ol style="list-style-type: none"> <li>1) Measures to Encourage Workplaces to Join the Cooperative Education.</li> <li>2) Measures to Encourage Cooperative Education Advisors to Do Cooperative Researches with Workplaces.</li> <li>3) Study of Cultural Differences of Multi-national Workplaces in Thailand.</li> <li>4) Case Studies of Good Engaged Workplaces in Cooperative Education.</li> <li>5) Guidelines for Engaging Students, Cooperative Education Advisors and Workplaces in Cooperative Education.</li> <li>6) Starting from Cooperative Education Collaborations, Guidelines for Engaging Workplaces More on Researches Collaborations.</li> </ol>	11

Research Categories and Titles	Number
<p><b>5.6 The cooperative education network creation (continued)</b></p> <ol style="list-style-type: none"> <li>7) Thai Workplace Preparation in Employing International Cooperative Education Students in Their Workplaces.</li> <li>8) Cooperative Education Procedures in Workplaces.</li> <li>9) Student Selection Process of Workplaces.</li> <li>10) Guidelines for Sustainably Engaging Workplaces.</li> <li>11) Guidelines for Increasing Qualified Workplaces in Cooperative Education Operations.</li> </ol>	

## 6. Analysis and Conclusion

Although cooperative education has been engaged in Thailand for 20 years, it is found that there are 29.5 % (43 of 146 titles) of research work carried out through the world. This appears to be a good trend of cooperative education research area in Thailand.

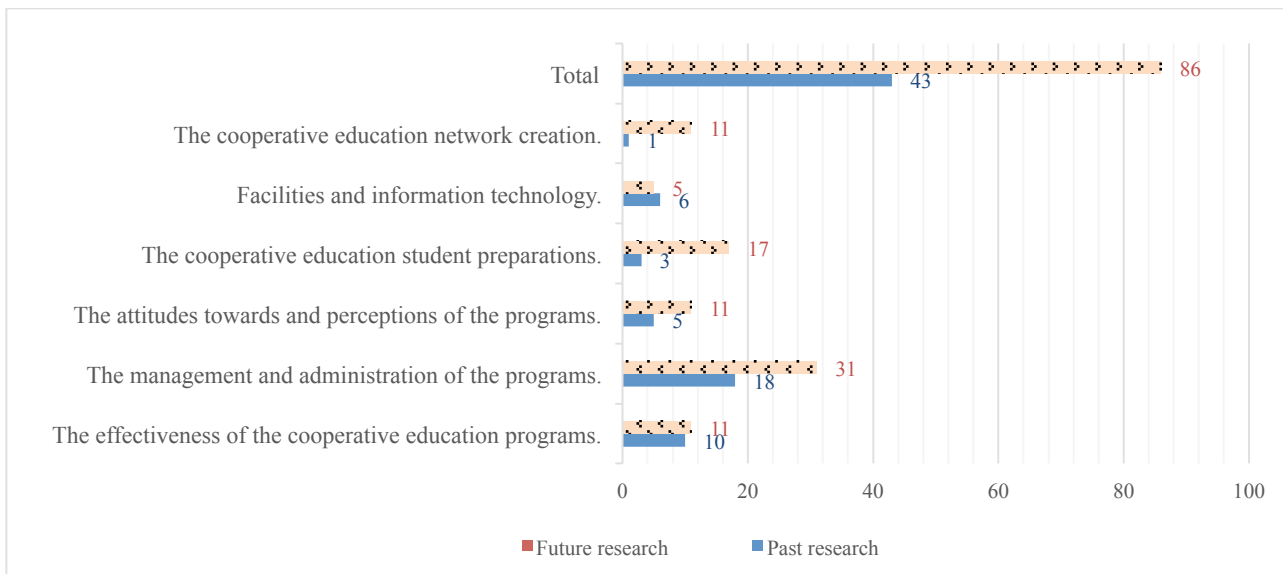
Since many universities are in the beginning stage of offering cooperative education program, most research studies (41.9 % or 18 of 43 titles) fell into the cooperative education operation area. The findings of the research could help develop their routine work to be more effective and efficient. Due to the lack of experience in cooperative education, most researchers could not identify deep problems in order to construct research questions for their

research work. As a result, there is much replication of work using different samples and population. Since information technology plays vital roles in cooperative education, there are 14 % (6 of 43 titles) research papers related to information technology in cooperative education. They investigated the cooperative education information system and users' satisfaction of the cooperative education information system.

During 2002 - 2003 OHEC approved 60 universities to offer pilot cooperative education program [1]. Consequently, 23.3 % (10 of 43 titles) of the research investigated the outputs and outcomes of that project. Two in this research category investigated the outputs/outcomes and barriers in the cooperative education operations of universities and workplaces as country reports. The findings of the research studies had been used by the OHEC to develop the cooperative education strategic plan in 2008 - 2012. The suggestions of the research resulted in the budget allocation changing the OHEC's policy. Instead of allocating the budget directly to the universities, the OHEC granted TACE to organize training programs for cooperative education staff of universities and workplaces.

Students' preparation is a key success factor of the cooperative education program. However, there are just 3 of 43 research works being done in this related area. Similarly, there is only one (1 of 43 titles) research study on the bilateral cooperative education collaboration even though this area of studies is considered to be very important.

In addition, findings from the interviews with fourteen administrators, lecturers, and cooperative education personnel both in higher education institutions and workplaces revealed that trends of cooperative education issues are quite different from those in the past. Eighty six research topics were recommended to be conducted. Comparison between the past and future researches is shown in **Figure 1**.



**Figure 1:** Comparison between the past and future researches in Thailand.

The recommended topics in 4 categories, namely 1) the management and administration of the programs, 2) the attitudes towards and perceptions of the programs, 3) the cooperative education student preparations, and 4) the cooperative education network creation are 1.7 to 11 times much more than those that have been carried out in the last 14 years. They are 1.7 (from 18 to 31 topics), 2.2 (from 5 to 11 topics), 5.7 (from 3 to 17 topics) and 11 (from 1 to 11 topics) times much more than the past, respectively. Whereas, in the categories of effectiveness of the cooperative education programs and facilities and information technology, the number of recommended research topics is not much different from those that have been done in the past.

The topics relating to the management and administration of the programs are highly recommended (31 of 86 topics) whereas the topics related to the cooperative education student preparations are 17 of 86 topics. This indicates that the co-op stake holders pay attention to the efficiency and effectiveness of cooperative education in terms of the students' preparation process and the bilateral collaboration between the university and workplace.

The research on the body of knowledge of cooperative education only aims at the cooperative education which is a part of student career development learning. In the future, higher education institutions in Thailand should focus more in the area of career development learning in higher education in order to get findings which can be used to enhance students' employability. This will finally produce graduates that are satisfied in the workplaces and can compete internationally.

It is hoped that this documentary research will be useful to cooperative education graduate students for their study and related persons for their cooperative education work.

**REFERENCE**

- [1] Guntima Sirijeerachai and others (2006). Research report on Outcomes of Thailand Cooperative Education Pilot Project. Nakhon Ratchasima: Suranaree University of Technology.
- [2] Survey of Cooperative Education of Thai Institutions. [Online] Available: <http://www.mua.go.th/users/bphe/cooperative/> (10 January 2014).
- [3] Wichit Srisa-an and others (2013). Research report on “Body of Knowledge of Cooperative Education. Nakhon Ratchasima: Suranaree University of Technology.
- [4] Suranaree University of Technology (2013). Abstracts of Research Reports & Theses on Cooperative Education. Nakhon Ratchasima: Suranaree University of Technology.