

STUDENTS' CHARACTERISTICS NEEDED BY COMPANIES ACCORDING TO COOPERATIVE EDUCATION: THE CASE OF MUANG DISTRICT AT SURATTHANI PROVINCE, THAILAND

Bamrunghong PHONGPHANICH
Department of Tropical Agriculture and International Cooperation
College of International Studies
National Pingtung University of Science and Technology
Pingtung, Taiwan R.O.C.

Prof. Dr. Ke-Chung PENG
Department of Agribusiness Management
College of Management
National Pingtung University of Science and Technology
Pingtung, Taiwan R.O.C.

Assist. Prof. Dr. Nantawan CHANGKID
Department of Economics,
Faculty of Management Science,
Suratthani Rajabhat University, Suratthani, THAILAND

Assist. Prof. Dr. Somsak CHOBTRONG
Department of Public Administration
Faculty of Humanities and Social Science
Suratthani Rajabhat University, Suratthani, THAILAND

ABSTRACT

This study examined students' characteristics needed by companies according to cooperative education: the case of Muang District at Suratthani Province, Thailand. The sample was 370 respondents in companies. Data collection was obtained through a questionnaire. The statistics used in this study were frequency, percentage, mean, standard deviation and testing hypotheses by using t-test, F-test and a chi-square. The results were found that most companies required fourth year students from state universities, majoring in business administration. Students' characteristics which most companies needed from students the most were morality and ethics. Characteristics of entrepreneurs and companies were important and had an effect to students' characteristics in terms of the Thai Qualifications Framework for Higher Education (TQF) and characteristics of entrepreneurs and companies were related to students' basic information significantly at $p < 0.05$. In addition, this study suggested that universities should focus on appropriate students' development, particularly by developing proper curricula in order to enhance competence and readiness before working according to cooperative education with companies.

Key words: Cooperative education, Students' characteristics, Companies, Muang District at Suratthani Province, Thailand.

INTRODUCTION

Nowadays, news and information are important sectors for the people of Thailand. Particularly, Thailand's society state is to be learning social and there are innovation and new knowledge which have occurred all the time. Consequently, the people of Thailand have to develop capability in various fields consecutively. However, the development for the people of Thailand in terms of obtaining knowledge, skill and preparation in various fields is also necessary extremely for country propulsion. Moreover, since 2002 various universities in Thailand

have made an effort to improve the quality of education by emphasizing self-learning and promoting learner-centered educational activities. Students must be eager to learn and use creativity in order to get the most knowledge of academic and education before graduating (Khammanee, 2002). The principal goal of educational program is to sustain and facilitate students' learning and in educational program, assessment is intrinsically linked to students' learning and effectiveness (Hodges, Eames & Coll, 2014). Many universities in Thailand have realized the importance of generating the high quality and potential graduates in order to respond needs of the government and the private sectors. Particularly, cooperative education that focuses to students who will get many experiences directly from working in companies (Kolb, 1984). Today, the world moves to the situation of enhancing globalization, cooperative education has experienced growth and development in needs for the international placements (Coll, Pinyonattagarn & Pramoolsook, 2003).

Cooperative education is educational system which focuses on gaining experiences by working in companies systemically. Cooperative education affords students teaching in universities and work together with students' working according to cooperative education in companies. Cooperative education was developed the first in the U.S.A. because of many lecturers in universities have low performance issues in students teaching (Yamenun, 2009). However, most students also have low professional skill as well. Hence, cooperative education can also improve lecturers' performance in students teaching properly. According to Thailand has developed cooperative education in various universities by using a prototype from Suranaree University of Technology in Nakhonratchasima Province. Cooperative education is educational system that integrates working and learning. Students can work in real situations permanently. After working in companies through cooperative education, students can get the chance to work in companies and make various benefits for it. Normally, companies assigned a special project to students. The project can be finished completely within four months. A mentor or job supervisor guides and provides recommendations to students during the project duration. Moreover, many companies are now interested in cooperative education and thus have increased cooperation with universities. Office of the Higher Education Commission is the organization under the Ministry of Education in Thailand which accounts with a database of companies' number that have cooperated through cooperative education. According to in 2011, including 108 universities, 12,962 companies and 26,048 students in Thailand had participated in cooperative education (Office of the Higher Education Commission, 2013). As mentioned before, the mission of cooperative education is to encourage professionals to share their experiences to students in accordance with they can learn how to handle in real-life situations (Gordon, 1998). Therefore, various companies in Thailand should participate in cooperative education management to obtain the most benefit by human resource improvement in order to respond more effectively to the country development needs.

Suratthani Province is the biggest province in the Southern region of Thailand which has a total area of approximately 12,891 square kilometers. It has the second highest economic growth of the Southern region which is shown on how business and investment has prospered in recent years. Consequently, many companies also have been established in Suratthani Province. According to in 2012, there were a total number of 23,670 companies in this province. Particularly, Muang District had the highest number of companies in amount of 6,905 companies (Suratthani Provincial Statistical Office, 2012). Therefore, they also have influenced on the increasing of employment and labor needs as well. Accordingly, there are three main universities namely, Suratthani Rajabhat University, Prince of Songkla University Suratthani Campus and Tapee University which is located in Muang District at Suratthani Province. Particularly, all of them have encouraged to generate students into working with companies after graduating. In addition, characteristic of graduates that needs by companies is having an academic profundity appropriately and morality and ethics in occupation (Maejo University, 2005). Nowadays, graduates also have to understand and learn working in globalization era in order to obtain the development of occupational skill which can emerge from learning while they have a good opportunity into working with companies. However, the organization development plays an important role to the growth and competition with business competitors. Companies have to receive the highest quality of personnel in order to work with the organization. Hence, working according to cooperative education can be training to students in order to obtain knowledge, experience and readiness into working with companies after graduating and this is also regarded as a key force and principal goal of cooperative education. However, most

universities still have not had the information of students' characteristics needed by companies according to cooperative education.

Thus, this study is also necessary and important in order to realize appropriate students' characteristics needed by companies according to cooperative education and using the results for students' development and generating in order to conform to companies' needs. Moreover, the purpose of this study was to examine characteristics of entrepreneurs and companies, students' basic information, students' characteristics in terms of the Thai Qualifications Framework for Higher Education (TQF), the differentiation comparison between characteristics of entrepreneurs and companies with students' characteristics in terms of the Thai Qualifications Framework for Higher Education (TQF), the relationship between characteristics of entrepreneurs with companies and students' basic information, and the recommendations for universities, companies and students, respectively.

LITERATURE REVIEW

Cooperative Education in Thailand

Cooperative education is educational novelty for Thailand which provides students with on-site work based learning systematically and efficiently (Sirijeerachai, 2009). Professor Wichit Srisa-an was the first person who introduced cooperative education to Thailand in 1993 (Srisa-an, 2002). Over the past years there has been the dramatic growth in the number of universities which making cooperative education available for participation in terms of activities by students and companies in many countries (Ryder & Wilson, 1987), including Thailand. In 1993, the first public autonomous universities of Thailand namely, Suranaree University of Technology in Nakhonratchasima Province was the first universities that initiated cooperative education in the country. Most universities operate cooperative education in a semester system. Only a few, including Suranaree University of Technology in Nakhonratchasima Province, Walailuk University in Nakhonsithammarat Province and Maefaluang University in Chiangrai Province operate a trimester system and each trimester consists of approximately sixteen weeks (Pinpetch & Baum, 2009). However, students can usually join cooperative education during their third and fourth years. Besides, there are 108 universities in Thailand which have adopted cooperative education with students and have achieved satisfactory results.

Thai Qualifications Framework for Higher Education (TQF)

The Thai Qualifications Framework for Higher Education (TQF) is a frame which developed from the National Qualifications Framework (NQF). Its purpose is to determine the education qualification system for higher education in the country. It consists of the qualification level, the constantly connection of one qualification to another qualification, the standard of learning in each qualification level that increased followed by each qualification level, the quantitative of learning which is consistent with required time, the characteristics of curricula in each qualification level which is promoting long life learning, including system and mechanism which ensure effectiveness and implementation followed by the Thai Qualifications Framework for Higher Education (TQF) of universities in order to generate graduates for achievement followed by the standard of learning (Ministry of Education, 2009).

Moreover, The Thai Qualifications Framework for Higher Education (TQF) comprises five categories as follows:

1. Morality and ethics
2. Knowledge
3. Intellectual
4. Interpersonal and responsibility
5. Numbering analysis, communication and information technology

Companies in Suratthani Province of Thailand

Suratthani Province is the capital of the Upper Southern region and the economical center of the government and the private sectors. There are a variety of companies and many type of business have been growing rapidly in this area. Thus, the government and the private sectors also have sustained the best policies for business development in Suratthani Province. Suratthani Provincial Statistical Office surveys and prepares a database of

companies in Suratthani Province every five years. The latest survey results were published on November 2012. In addition, companies in Suratthani Province were classified in ten categories as follows:

1. Motor Vehicle business group
2. Hotel and restaurant business group
3. Banking and real estate business group
4. Information and computer business group
5. Service and recreation business group
6. Agricultural producing and processing business group
7. Construction business group
8. Tourism and hospitality business group
9. Telecommunication and communication business group
10. Hospital business group

METHODOLOGY

Data Collection and Sampling

In this study was the quantitative research. Both secondary data and primary data are collected for analysis. The secondary data is collected from Suratthani Provincial Statistical Office and Office of the Higher Education Commission under the Ministry of Education in Thailand. The primary data is collected through the method of convenience sampling from respondents by a questionnaire. The sample was comprised of 370 respondents in companies from 11 different Sub-Districts in Muang District at Suratthani Province, Thailand. The sample size was set by Yamane (1967). However, the sample was divided by Sub-Districts (see Table 1).

Table 1: The population and sample

Rank	Name of Sub-Districts in Muang District at Suratthani Province, Thailand	Amount	
		Population (Companies)	Sample (Companies)
1.	Makham Tia Sub-District	2,609	140
2.	Talat Sub-District	2,024	108
3.	Bang Kung Sub-District	954	51
4.	Khun Thale Sub-District	769	41
5.	Wat Pradu Sub-District	311	16
6.	Khlong Chanak Sub-District	108	6
7.	Bang Bai Mai Sub-District	46	2
8.	Bang Chana Sub-District	38	2
9.	Khlong Noi Sub-District	29	2
10.	Bang Pho Sub-District	12	1
11.	Bang Sai Sub-District	5	1
	Total	6,905	370

Research Framework and Variables

According to figure 1 illustrates the research framework and which indicated independent and dependent variables of this study. Firstly, the independent variables for component A are characteristics of entrepreneurs which are gender, age, education and position in companies; and Component B contains characteristics of companies such as type of companies, number of employees in companies, time period of running business, companies profit and time period that companies needed students according to cooperative education. Secondly, the dependent variables for component C are students' basic information which includes type of universities, major that companies needed students according to cooperative education, students' year, grade point average and number of students that companies needed according to cooperative education; and Component D comprises students' characteristics needed by companies according to cooperative education followed by the Thai Qualifications Framework for Higher Education (TQF) such as morality and ethics,

knowledge, intellectual, interpersonal and responsibility and numbering analysis, communication and information technology, respectively.

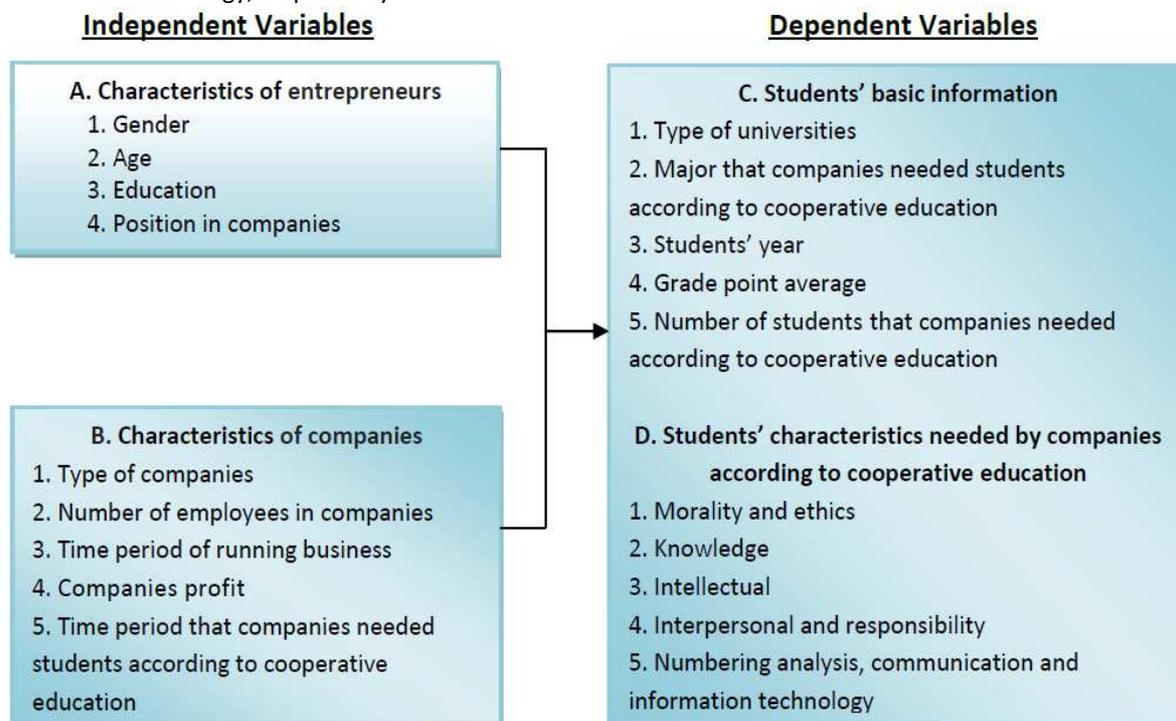


Figure 1: Research Framework

Instruments and Data Analysis

In this study, a questionnaire was designed to collect data followed by the research framework and adapted by various researches. There are three sections in a questionnaire. For the reliability, a questionnaire was examined through a group of respondents in 40 companies who were not the sample of this study in Muang District at Suratthani Province. The Statistical Package for Social Science (SPSS) software was used to test on three sections of a questionnaire in order to determine the reliability. It was found in terms of the Cronbach's Alpha Coefficient = 0.971 which was an acceptable level. In addition, the statistic methods of this study were frequency, percentage, mean, standard deviation, t-test, F-test and a chi-square. However, the SPSS software was used to analyze them and testing hypotheses.

Hypotheses

In this study contains two hypotheses as follows:

Hypothesis 1: The differentiation of characteristics of entrepreneurs and companies has an effect to students' characteristics needed by companies according to cooperative education that to be difference.

Hypothesis 2: There is the relationship between characteristics of entrepreneurs and companies with students' basic information.

RESULTS

According to the descriptive statistics was used to analyze characteristics of entrepreneurs and companies, students' basic information and students' characteristics needed by companies according to cooperative education in the sample. The results found that most respondents were female (214 respondents, 57.8%), average age of respondents was 25 to 34 years (144 respondents, 38.9%), education of respondents was bachelor's degree (253 respondents, 68.4%), position of respondents in companies was department head or supervisor (115 respondents, 31.1%), type of companies was motor vehicle business group (69 respondents, 18.1%), number of employees in companies was less than 50 persons (239 respondents, 64.6%), time period of running business was more than 5 years (245 respondents, 66.2%), companies profit was increased (274

respondents, 74.1%) and time period that companies needed students according to cooperative education was October to January (123 respondents, 33.2%).

Most companies needed students from state universities (218 respondents, 58.9%), majoring in business administration (229 respondents, 61.9%), fourth year (263 respondents, 71.1%), grade point average was during 2.51 to 3.00 (126 respondents, 34.1%) and number of students that companies needed according to cooperative education was two students (160 respondents, 43.2%).

Moreover, the 5 level Rating Scale ranging from 5 = extremely important to 1 = not at all important was adopted to analyze students' characteristics needed by companies according to cooperative education. Auon (2007) recommended that the calculation in order to determine the width of class interval which was found by dividing between the data range and the number of classes. According to in this study, the data range = highest value – lowest value = 5 – 1 = 4, the number of classes = 5 and the width of class interval will be $4/5 = 0.80$. Consequently, in order to estimate the results obtained from data analysis, the intervals were used as follows: 4.21 to 5.00 = extremely important, 3.41 to 4.20 = very important, 2.61 to 3.40 = moderately important, 1.81 to 2.60 = slightly important and 1.00 to 1.80 = not at all important. The results found that overall of them were very important (mean = 4.14, standard deviation = 0.35). When they were considered separately, there were 2 aspects which most companies needed from students that were considered as extremely important which included morality and ethics (mean = 4.46, standard deviation = 0.44) and interpersonal and responsibility (mean = 4.32, standard deviation = 0.45) and 3 aspects were considered as very important that contained knowledge (mean = 4.00, standard deviation = 0.46), numbering analysis, communication and information technology (mean = 3.98, standard deviation = 0.49) and intellectual (mean = 3.92 standard deviation = 0.50).

Table 2: The differentiation comparison between characteristics of entrepreneurs and companies with students' characteristics needed by companies according to cooperative education

Characteristics of entrepreneurs and companies	Students' characteristics needed by companies according to cooperative education				
	Morality and ethics	Knowledge	Intellectual	Interpersonal and responsibility	Numbering analysis, communication and information technology
1. Gender	0.897 (t = - 0.130)	0.385 (t = - 0.869)	0.770 (t = - 0.292)	0.035* (t = 1.083)	0.309 (t = 1.019)
2. Age	0.886 (F = 0.388)	0.037* (F = 2.263)	0.021* (F = 2.529)	0.564 (F = 0.809)	0.207 (F = 1.416)
3. Education	0.082 (F = 2.249)	0.105 (F = 2.062)	0.225 (F = 1.462)	0.041* (F = 2.620)	0.442 (F = 0.899)
4. Position in companies	0.001* (F = 2.090)	0.485 (F = 0.818)	0.099 (F = 2.105)	0.185 (F = 1.616)	0.564 (F = 0.681)
5. Type of companies	0.640 (F = 0.775)	0.047* (F = 1.861)	0.101 (F = 1.644)	0.918 (F = 0.432)	0.162 (F = 1.459)
6. Number of employees in companies	0.027* (F = 2.557)	0.435 (F = 0.971)	0.510 (F = 0.858)	0.016* (F = 2.818)	0.384 (F = 1.056)
7. Time period of running business	0.434 (F = 0.915)	0.096 (F = 2.127)	0.044* (F = 2.566)	0.520 (F = 0.755)	0.762 (F = 0.387)
8. Companies profit	0.000* (F = 8.282)	0.178 (F = 1.734)	0.006* (F = 5.202)	0.001* (F = 6.955)	0.199 (F = 1.619)

9. Time period that companies needed students according to cooperative education	0.065 (F = 2.229)	0.047* (F = 2.430)	0.073 (F = 2.163)	0.296 (F = 1.234)	0.172 (F = 1.607)
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*Significantly different at p<0.05

Table 2 demonstrated that t-test and F-test results for the differentiation comparison between characteristics of entrepreneurs and companies with students' characteristics needed by companies according to cooperative education at p<0.05. The results found that characteristics of entrepreneurs and companies were important and had an effect to students' characteristics in terms of the Thai Qualifications Framework for Higher Education (TQF) significantly at p<0.05. Particularly, when considering in each items the results revealed that gender with interpersonal and responsibility were significantly different, age with knowledge and intellectual were significantly different, education with interpersonal and responsibility were significantly different, position in companies with morality and ethics were significantly different, type of companies with knowledge were significantly different, number of employees in companies with morality and ethics and interpersonal and responsibility were significantly different, time period of running business with intellectual were significantly different, companies profit with morality and ethics, intellectual and interpersonal and responsibility were significantly different and time period that companies needed students according to cooperative education with knowledge were significantly different. Therefore, hypothesis 1 is accepted.

Table 3: The relationship between characteristics of entrepreneurs and companies with students' basic information

Characteristics of entrepreneurs and companies	Students' basic information				
	Type of universities	Major that companies needed students according to cooperative education	Students' year	Grade point average	Number of students that companies needed according to cooperative education
1. Gender	0.165 ($\chi^2 = 3.600$)	0.614 ($\chi^2 = 1.608$)	0.025* ($\chi^2 = 7.373$)	0.017* ($\chi^2 = 12.084$)	0.816 ($\chi^2 = 1.559$)
2. Age	0.558 ($\chi^2 = 10.662$)	0.319 ($\chi^2 = 7.487$)	0.040* ($\chi^2 = 21.766$)	0.127 ($\chi^2 = 32.014$)	0.407 ($\chi^2 = 24.970$)
3. Education	0.322 ($\chi^2 = 6.991$)	0.060 ($\chi^2 = 8.307$)	0.159 ($\chi^2 = 9.272$)	0.000* ($\chi^2 = 41.191$)	0.000* ($\chi^2 = 35.493$)
4. Position in companies	0.606 ($\chi^2 = 4.528$)	0.126 ($\chi^2 = 6.230$)	0.001* ($\chi^2 = 23.366$)	0.000* ($\chi^2 = 48.117$)	0.040* ($\chi^2 = 21.795$)
5. Type of companies	0.090 ($\chi^2 = 26.449$)	0.000* ($\chi^2 = 36.375$)	0.128 ($\chi^2 = 24.880$)	0.001* ($\chi^2 = 66.576$)	0.000* ($\chi^2 = 74.292$)
6. Number of employees in companies	0.563 ($\chi^2 = 8.677$)	0.128 ($\chi^2 = 11.380$)	0.827 ($\chi^2 = 5.861$)	0.155 ($\chi^2 = 26.350$)	0.000* ($\chi^2 = 55.868$)
7. Time period of running business	0.043* ($\chi^2 = 13.031$)	0.547 ($\chi^2 = 2.232$)	0.035* ($\chi^2 = 8.618$)	0.639 ($\chi^2 = 9.739$)	0.014* ($\chi^2 = 25.088$)
8. Companies	0.144	0.010*	0.625	0.260	0.041*

profit	($\chi^2 = 6.858$)	($\chi^2 = 9.247$)	($\chi^2 = 2.613$)	($\chi^2 = 10.074$)	($\chi^2 = 7.935$)
9. Time period	0.000*	0.478	0.000*	0.030*	0.585
that	($\chi^2 = 31.900$)	($\chi^2 = 3.670$)	($\chi^2 = 53.104$)	($\chi^2 = 28.170$)	($\chi^2 = 14.182$)
companies					
needed					
students					
according to					
cooperative					
education					

*Significantly related $p < 0.05$

Table 3 demonstrated that a chi-square results of the relationship between characteristics of entrepreneurs and companies with students' basic information. The results found that characteristics of entrepreneurs and companies were related to students' basic information significantly at $p < 0.05$. Particularly, after testing in each items, the results revealed that gender was significantly related to students' year and grade point average, age was significantly related to students' year, education was significantly related to grade point average and number of students that companies needed according to cooperative education, position in companies was significantly related to students' year, grade point average and number of students that companies needed according to cooperative education, type of companies was significantly related to major that companies needed students according to cooperative education, grade point average and number of students that companies needed according to cooperative education, number of employees in companies was significantly related to number of students that companies needed according to cooperative education, time period of running business was significantly related to type of universities, students' year and number of students that companies needed according to cooperative education, companies profit was significantly related to major that companies needed students according to cooperative education and number of students that companies needed according to cooperative education and time period that companies needed students according to cooperative education was significantly related to type of universities, students' year and grade point average. Consequently, hypothesis 2 is accepted.

DISCUSSION

According to in this study, the findings showed that characteristics of entrepreneurs and companies conforms to Jubplung (2009) which studied needs by companies in Suratthani Province towards graduates' characteristics in business administration program, the study found that time period of running business for companies was more than 5 years and education of entrepreneurs was bachelor's degree, Aujirapongpan and Whannurak (2009) studied requirements concerned cooperative education and characteristics of cooperative education students in accounting program Walailak University, it was observed that education of accounting officers in companies was bachelor's degree and number of employees in companies was less than 50 persons, Suwanno (2008) studied satisfaction of employers towards Maejo University at Chumphon's graduates between 2002 to 2006, the finding showed that education of employers was bachelor's degree, position in companies was head or supervisor and number of employees in companies was less than 50 persons.

Students' basic information conforms to Aujirapongpan and Whannurak (2009) which studied requirements concerned cooperative education and characteristics of cooperative education students in accounting program Walailak University, the findings showed that most companies needed fourth year students, Visutthikorn (2006) analyzed needs trend for graduates in management of Suranaree University of Technology, the study found that most companies needed graduates in terms of accounting, marketing and human resource management, respectively.

Students' characteristics needed by companies according to cooperative education conforms to Jubplung (2009) which studied needs by companies in Suratthani Province towards graduates' characteristics in business administration program, the finding showed that students' characteristics which most companies needed from students the most were morality and personality, Lormahamongkol (2007) investigated desired characteristics

of training students by travel agency, the finding showed that students' characteristics which most companies needed from students the most were attitude, habit and knowledge, respectively.

The differentiation comparison between characteristics of entrepreneurs and companies with students' characteristics needed by companies according to cooperative education conforms to Aujirapongpan and Whannurak (2009) which studied requirements concerned cooperative education and characteristics of cooperative education students in accounting program Walailak University, the findings showed that the differentiation comparison between general characteristics of accounting companies with desirable students' characteristics of accounting program had significantly difference at $p < 0.05$.

Finally, the relationship between characteristics of entrepreneurs and companies with students' basic information conforms to Aujirapongpan and Whannurak (2009) which studied requirements concerned cooperative education and characteristics of cooperative education students in accounting program Walailak University, the findings showed that the relationship between general characteristics of accounting companies with format of cooperative education had significantly relationship at $p < 0.05$.

CONCLUSION

Cooperative education plays an important role in Thailand's educational system development. It is a matter of concern for cooperation and participation among universities, companies and students. Particularly, universities should follow the values of the Thai Qualifications Framework for Higher Education (TQF) in terms of morality and ethics, knowledge, intellectual, interpersonal and responsibility and numbering analysis, communication and information technology in order to help students before engaging to work according to cooperative education with companies. Besides, companies should provide a database of students' characteristics needed by companies according to cooperative education to universities in order to improve and generate readiness for students. However, the practical experience gained through cooperative education can contribute to students' self-improvement in terms of the Thai Qualifications Framework for Higher Education (TQF) profitably and efficiently.

RECOMMENDATIONS

Based upon the results of this study are useful and important for universities, companies and students. The recommendations are drawn as follows:

For universities

Universities should focus on what companies are looking for in students and to use the results of students' characteristics needed by companies according to cooperative education for applying to improve the curricula for students in order to respond followed by companies requirements. The findings indicated that students' characteristics which most companies needed from students the most were morality and ethics. Therefore, universities should teach skill, preparation and knowledge of morality and ethics to students with training in order to effect on students directly and they will have readiness before working according to cooperative education with companies.

For companies

Companies should work together with universities to have an efficient in cooperative education management. Particularly, companies should inform to the universities that what positions are available for students every semester in order to let students who are interested and can be prepared several documents such as application form, resume, autobiography, recommendation letter from their advisors. Finally, universities could send the applicant's information to companies for further evaluation to receive students for working according cooperative education

For students

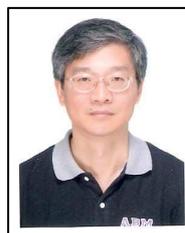
Students should learn the basic information concerning cooperative education in order to have readiness and they can find the best appropriate companies and have a better performance for their working with companies after graduating. However, companies are looking for students that are willing to work and know how to apply their knowledge for working inside companies.

BIODATA AND CONTACT ADDRESSES OF AUTHORS



Bamrungphong PHONGPHANICH is now a Ph.D. student in Agribusiness Management at the Department of Tropical Agriculture and International Cooperation, College of International Studies, National Pingtung University of Science and Technology (NPUST), Taiwan R.O.C. His Ph.D. research focuses on measuring efficiency differences of maize production in Thailand by using an application of Data Envelopment Analysis (DEA). He used to work in the famous university of Thailand, called Maejo University (MJU).

Bamrungphong PHONGPHANICH
Department of Tropical Agriculture and International Cooperation,
College of International Studies,
National Pingtung University of Science and Technology,
Neipu, Pingtung 91201, Taiwan R.O.C.
E. Mail: ton_bamrungpong@hotmail.com



Prof. Dr. Ke-Chung PENG is now a professor at the Department of Agribusiness Management, College of Management, National Pingtung University of Science and Technology (NPUST), Taiwan R.O.C. He received a Ph.D. degree in Agricultural Economics from National Chung Hsing University (NCHU), Taiwan R.O.C. He specializes in various fields such as Agribusiness Decision Analysis, Statistical Methods, Data Analysis, Statistics, Practice of Statistics, Analysis of Consumer Behaviour, Multivariate Analysis, Marketing Channel Management, Business Software Applications, Seminar on Management of Farmers' Organization, Marketing, Agribusiness Organization Management and Microeconomics.

Prof. Dr. Ke-Chung PENG
Department of Agribusiness Management,
College of Management,
National Pingtung University of Science and Technology,
Neipu, Pingtung 91201, Taiwan R.O.C.
E. Mail: kchung@mail.npust.edu.tw



Assist. Prof. Dr. Nantawan CHANGKID is now an assistant professor at the Department of Economics, Faculty of Management Science, Surattthani Rajabhat University (SRU), Thailand. She received a Ph.D. degree in Economics from Universiti Sains Malaysia (USM), Malaysia. She specializes in Economics and Statistics.

Assist. Prof. Dr. Nantawan CHANGKID
Department of Economics,
Faculty of Management Science,
Surattthani Rajabhat University,
Muang District, Surattthani Province 84000, Thailand.
E. Mail: nannasy@hotmail.com



Assist. Prof. Dr. Somsak CHOBTRONG is now an assistant professor at the Department of Public Administration, Faculty of Humanities and Social Science, Suratthani Rajabhat University (SRU), Thailand. He received a Ph.D. degree in Development Administration from Suan Sunandha Rajabhat University (SSRU), Thailand. He specializes in Public Administration and Human Resource Management.

Assist. Prof. Dr. Somsak CHOBTRONG
Department of Public Administration,
Faculty of Humanities and Social Science,
Suratthani Rajabhat University,
Muang District, Suratthani Province 84000, Thailand.
E. Mail: chobtrong@hotmail.com

REFERENCES

- Aujirapongpan, S., & Whannurak, A. (2009). Requirements concerned cooperative education and characteristics of cooperative education students in accounting program Walailak University. *Journal of Thai Cooperative Education*, 1 (2), 1-19.
- Auon, V. (2007). *The business information research and searching*. Printadme Publishers: Bangkok: Thailand.
- Coll, R.K., Pinyonattagarn, D. & Pramoolsook, I. (2003). The internationalization of cooperative education: A Thailand perspective. *Asia-Pacific Journal of Cooperative Education*, 4 (2), 1-6.
- Gordon, R. (1998). *A curriculum for authentic learning*. The Education Digest.
- Hodges, D., Eames, C. & Coll, R.K. (2014). Theoretical perspectives on assessment in cooperative education placements. *Asia-Pacific Journal of Cooperative Education*, 15 (3), 189-207.
- Jubplung, V. (2009). Needs by companies in Suratthani Province towards graduates' characteristics in business administration program. Master thesis, Suratthani Rajabhat University: Suratthani: Thailand.
- Khammanee, T. (2002). *The teaching for student centered learning*. Bangkok: Thailand.
- Kolb, D.A. (1984). *Experiential learning*. Eglewood Cliffs: Prentice-Hall.
- Lormahamongkol, S. (2007). Desired characteristics of training students by travel agency. Master thesis, Chiangmai University: Chiangmai Thailand.
- Maejo University. (2005). *Satisfaction surveying of entrepreneurs towards bachelor's degree graduates*. Chiangmai: Thailand.
- Ministry of Education. (2009). *Notification Ministry of Education in subject of the Thai Qualifications Framework for Higher Education (TQF) in 2009*. Bangkok: Thailand.
- Office of the Higher Education Commission. (2013). *Strategic plan for the promotion of cooperative education in higher education institutions 2013-2015*. Bangkok: Thailand.

Pinpetch, S., & Baum, T. (2009). Development of cooperative education in tourism and hospitality industry: Issues in the context of Thailand. *Journal of Thai Cooperative Education*, 1 (2), 21-42.

Ryder, K.G., & Wilson, J.W. (1987). *Cooperative education in a new era*. Jossey-Bass Publishers: London: UK.

Sirijeerachai, G. (2009). Managing Suranaree University of Technology cooperative education: Can it be the best practice in Thailand? *Journal of Thai Cooperative Education*, 1 (1), 39-55.

Srisa-an, V. (2002). Global education for Asia in the twenty-first century. *Asia-Pacific Journal of Cooperative Education*, 3 (1), 1-4.

Suratthani Provincial Statistical Office. (2012). *Report of the 2012 business and industrial census basic information of Suratthani Province*. Udomlap Publishers: Suratthani: Thailand.

Suwano, T. (2008). The satisfaction of employers towards Maejo University at Chumphon's graduates between 2002 to 2006. Master thesis, Suratthani Rajbhat University: Suratthani: Thailand.

Visutthikorn, R. (2006). Needs trend for graduates in management of Suranaree University of Technology. A research report, Suranaree University of Technology: Nakhonratchasima: Thailand.

Yamane, T. (1967). *Statistics, an introductory analysis, 2nd ed*, New York: Harper and Row.

Yamenun, S. (2009). *Standard of education and regulation concerning*. Office of the Higher Education Commission. Pabpim Publishers: Bangkok: Thailand.