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Czech University of Life Sciences Prague

**Faculty of Tropical
AgriSciences**

Diploma thesis

**Impact assessment of personal
empowerment training on higher
educational students of agriculture in
Cambodia**

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Declaration

I hereby declare that I have written this Diploma thesis titled “Impact assessment of personal empowerment training on higher educational students of agriculture in Cambodia” myself and independently, only with the expert guidance of my thesis supervisor Ing. Petra Chaloupková, Ph.D.

I further declare that all data and information I have used in this thesis are stated in the references.

Prague - Suchdol, April 2016

.....
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Abstract

The main objective of the thesis is to examine the effect of personal empowerment training, called OPERACY: Key to Personal Success and Leadership, on higher education students.

The research was conducted on 68 participants from two Cambodian universities, Royal University of Agriculture (RUA) and Chea Sim University of Kamchaymear (CSUK). The study group consisted of 58 students from RUA and 10 students from CSUK.

Rosenberg Self-Esteem Scale, developed by Rosenberg (1957), have been selected as a background for questionnaire development with recommendations of OPERACY training founder. The participants of the training have been evaluated three times: pre-test before the training, first post-test immediately after the training and second post-test two months after the training to compare long-term impact of the training.

The results obtained from this study have shown that OPERACY training is effective to increase university student's empowerment. The influence of the field of study on increased empowerment have been confirmed by this thesis. OPERACY training is also having positive influence on students' motivation.

The OPERACY training fulfilled expectations of all participants, mainly in improved knowing themselves. Success of OPERACY training was proved by 98.53% of students, who will recommend it for others. The current study has provided further evidence that male students recorded higher scores on SOS to POS person scale than female students.

Keywords: Soft skills, Employability, Empowerment, Agricultural education, Cambodia

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List of Abbreviation

ACC	Accreditation Committee of Cambodia
ASEAN	Association of South-East Asia Nations
CSUK	Chea Sim University of Kamchymear
CULS	Czech University of Life Sciences Prague
DHE	Department of Higher Education
GDP	Gross Domestic Product
HEDC	Human Earth Development Cooperation
HEIs	Higher educational institutions
MOEYS	Ministry of Education, Youths and Sport
MOLVT	Ministry of Labour and Vocational Training
PAIs	Public administrative institutions
POS person	High achievers
PRB	Population Reference Bureau
RUA	Royal University of Agriculture
SOS person	Low achievers
SMS	Student Motivation Scale
WB	World Bank
UNDP	United Nations Development Programme

1. Introduction

The higher educational sector of Cambodia has seen uncontrolled expansion in terms of student enrollments and higher education providers. The expansion rate has been even more rapid with the privatization of higher education institutions. The total number of Higher Education Institutions in the country has drastically increased from 10 in 1990s to 105 in 2014 (Pak, 2011; MOEYS, 2014).

The education sector plays an important role in the national development due to its connection with economic activity of a country via employability of citizens. Higher educational institutions, as providers of education, have to ensure that all graduates are qualified to succeed in workplace and life. When applying for the job, it is crucial for fresh graduates to have knowledge in their own field, but more important became complementarity of hard skills with soft skills (Harvey, 2001).

As the most important skills, missed among graduates by future employers, are considered communication skills. Minimum requirements for a graduate should be appropriate quality in written and spoken language, conversation skills and body language with ample level of self-esteem, sufficient discussion skills and especially good presentation skills. Together with problem solving abilities go in hand structured and critical thinking, another pair of frequently missing skills among graduates (Bennett et al, 2000).

Importance of appropriate level of soft skills among Cambodian graduates was confirmed as an important role for interaction in society and employability of graduates, such as self-efficacy, self-motivation, responsibility, team work, innovative thinking and social communication. Most employers in Cambodia are likely to hire and promote graduates who are having health self-confidence, critical thinking skill, solving problems independently and thinking in innovative way (Chaloupkova, 2015).

2. Literature review

2.1. Country profile

Cambodia, officially known as the Kingdom of Cambodia is located in the southwest of the Indochina Peninsula in South-East Asia. The total land area is 181,035 square kilometers and population of 14.8 million people (PRB, 2014). Cambodia has the third highest rate of natural increase of population after Timor-Leste (2.7) and Laos (2.0) about 1.8 percent. With regard to its rate of natural increase of population is estimated that in mid-2030 it is going to reach up to 18.4 and in mid-2050 it is going to exceed 21.7 million inhabitants (PRB, 2014).

Table 1: Real GDP annual growth 2000 - 2014

	Mean	Max. value	Min.value	Standard deviation
Brunei Darussalam	1.38	4.40	-1.94	1.88
Indonesia	5.41	6.49	3.64	0.71
Cambodia	7.94	13.25	0.09	2.05
Lao PDR	7.26	8.62	5.75	0.94
Myanmar	12.92	13.84	11.34	0.99
Malaysia	5.06	8.86	-1.51	1.67
Philippines	4.99	7.63	1.15	1.46
Singapore	5.75	15.24	-0.95	3.57

Thailand	4.14	7.81	-2.33	2.36
Timor-Leste	7.42	17.51	-6.65	6.93
Vietnam	6.41	7.55	5.25	0.63

Source: WB, 2015

The highest average annual growth of GDP from South-East Asia region was detected in Cambodia (7.94%, $\pm 2.05\%$) with maximum value of GDP growth 13.25%. The highest maximum value of growth of GDP annually was determined in Timor-Leste with (17.51%), but in view of the enormous standard deviation (SD = ± 6.93) it is the most unsteady country of the whole sub region. On the other hand, Vietnam was determined as the most stable country in the whole sub-region (6.41%, $\pm 0.63\%$) within the focused period (Table 1).

2.2. Higher education in Cambodia

Historically, the establishment of first higher educational institutions in Cambodia is dated in 12th century during the Angkor Empire, powerful kingdom in the South-East Asia (PUB, 2009). In the 15th century were these HEIs closed or destroyed as a result of invasions and wars with Thailand and Vietnam. To protect Cambodia from offensive ambitions was invited France in 1863 by King Ang Duong to be a Cambodia's protectorate. During the colonization, France tried to implement modern educational system according to western model instead of traditional educational system (Tully, 2002). In 1953 at the Geneva Conference was granted Cambodia independence from France. Under the Prince Sihanouk was reformed the French-related curriculum and were established 7 new HEIs and 9 public universities appeared. In most HEIs and universities was used French as the language. With help provided by United States government, a new constitution was announced, that

transformed the Kingdom of Cambodia into the Khmer Republic with Prince Sihanouk as a head of state (Ayeres, 2000). As a priority for the success of the country's development had been considered an expansion of education. Unfortunately, because of war insecurity, most of the educational institutions were forced to close or either destroyed (Chhum, 1973).

The heaviest period in the history of the higher education in Cambodia became in 1975 on April, when Khmer Rouge took over the country. All educational institutions were destroyed completely and majority of higher educational lecturers and students from schools and universities were lost in genocide (Pit, 2004). Since the late 1990s the Kingdom of Cambodia has experienced plenty of reforms and rapid changes which mainly affected the educational sector of the country. Among these major reforms belong privatization, the establishment of new higher education legislation, the transformation of public institutions into public administrative institutions and formulation of accreditation agencies. While the private sector obtained an opportunity to participate in the provision of higher education was established first private university, the Norton University in 1997. Another significant change was transformation of public HEIs into public administrative institutions (UNESCO, 2014). Although, Cambodian education has made an inconceivable progress over the two past decades it has still one of the least-developed education system in the region. Different educational experts analyzed many problems such as central supervision by the government ministries, operation with restricted financial resources and constant political interference without transparency of curriculum program approval, academic recruitment as well as university leader appointment (Ford, 2006).

2.2.1. Major characteristics of tertiary education

The sector of tertiary education in Cambodia consists of universities, academies and independent institutions. There are presently two academies in Cambodia: the Royal Academy of Cambodia and the Police Academy of Cambodia. Technical, vocational and specialized courses, such as English and computer skills, are offered in independent institutions (UNESCO, 2014).

In 2013 had increased the number of Higher Educational Institutions in Cambodia from 101 to 105, from which 39 are public institutions and 66 private universities, total in the capital city Phnom Penh and 19 provinces. The expansion of higher education institutions is primarily indicated by the growth in the number of enrollments. Between 2009 and 2014 the total annual registration rate has increased by 57% in number of applicants from 137,253 to 216,764. Total share of all scholarships received in total enrolments slightly increased from 16.4% to 18.7% in the period 2009-2014 (MoEYS, 2014).

2.2.2. Governing bodies of the higher education institutions

According to the latest information taken the current overall governance falls under two separate ministries, the Ministry of Education, Youths and Sport and under the Ministry of Labor and Vocational Training. There are 65 HEIs, from which 56 HEIs are private and 9 public, under the supervision of Ministry of Education, Youths and Sport, but in fact does not have more authority while control institutions under the management of other ministries or institutions. Another 40 HEIs are under 13 different ministries and agencies. To direct and manage higher education institutions, along the legislation established in 2007, were created national and sub-national committees by the government. Ministry of Labor and Vocational Training (MoLVT) and Ministry of Education, Youth and Sport (MoEYS) are responsible for auditing, evaluating and monitoring higher education institutions. Those main ministries have to cooperate with line ministries such as Ministry of Agriculture, Forestry and Fisheries, Ministry of Health, Ministry of Culture and Fine Arts and Ministry of Economy and Finance etc. To support MOEYS were established Department of Higher Education (DHE), working directly with MOEYS, and Accreditation Committee of Cambodia (ACC), as an individual agency to monitor and evaluate the quality of higher education by nine minimum standards of higher education institutions (Hum, 2013).

2.2.3. Licensing, quality assurance and accreditation of institutions and/or programmes

Higher education reform in Cambodia after 1979 was marked by efforts to first revive and later rebuild the higher education sector after the fall of the Khmer Rouge regime. These reform efforts received external support from the Eastern Bloc, especially with a focus on teaching positions. When foreign staff left in the 1990s, there was a scarcity of qualified staff to teach in universities. This led to the appointment of less qualified lecturers (Ford, 2006).

One of the important reform measures during this period, which was made official in 1999, was the opening up of the sector to private providers to widen access to higher education. Public higher education started a dual admission policy of admitting fee-paying and government-sponsored students in 2000. In 2003, the government applied for a loan from the World Bank to create an Accreditation Council of Cambodia (ACC), to regulate and monitor the quality of higher education providers, and support academic qualities of Cambodian higher education on consistent level of international standards, to set the organization structure, role and function (Ayers, 2000; Pit and Ford, 2004).

ACC was officially recognised in 2003 by the Royal Decree and it is oriented on spheres such as mission, administration of public affairs, effective management, academic programme, academic staff, and services for students, physical equipment and financial resources. All institutions offering education, on all levels, have to obligatorily fulfil nine minimum standards of accreditation process by Accreditation Committee of Cambodia (ACC, 2009).

Nine minimum standards according to the ACC are as follows:

1. Mission
2. Governing structure, Management and Planning
3. Academic program
4. Teaching staff
5. Student and students' services

6. Teaching and Learning Resources
7. Physical facilities
8. Financial planning and management
9. Dissemination of information

2.2.4. Admission, financing support and scholarships

According to the minimum standards of ACC shall have all higher educational institutions criteria in enrolment of students for Bachelor degree. In special cases is possible for the higher educational institution to allow students with post-high school certificate enrol for Bachelor degree at relevant institution. This mechanism shall also be approved by ACC (ACC, 2009).

Admission requirements are not exactly specified in most of the Cambodian private and public universities, which means that they lean entirely on the results of the final national high school leaving examination. This means that students do not need to apply for admission in order to enter tertiary educational institutions if they have completed six years of primary and six years of secondary education with passing grades and secondary school diplomas. In 2002 the government ministries prepared examinations to enroll the best applicants to the public HEIs, but the private HEIs had already been setting their own exams to recruit students without supervision by suitable ministries. Consecutively, were selected students without appropriate level of knowledge by many public and private HEIs (Rumbley et al., 2008).

According to ACC, all public and private institutions shall offer scholarship to competent student. In general, there are three main types of scholarship, for outstanding students, for competent students of poor living conditions and for students study any major subject considered by the government of priority or important for the society. Some important factors shall be taken like gender equity, remote areas and ethnic minority (ACC, 2009).

In 2011 there was 25,045 government scholarship students (from 173,264 undergraduate students), 3,079 government scholarship students (from 20,719 associate students and 7,512 government scholarship students (from 55,149 foundation year students) on all HEIs

in Cambodia (MoEYS, 2012). The Royal Government of Cambodia and higher education institutions establish appropriate policies to set reachable tuition fees and increase the number of scholarship, especially due to the fact that about 80% of provincial and rural students pursue their studies on universities in the capital of Cambodia. The financial support or scholarship is provided for talented or outstanding students and deserving students who are not able to afford paying fees for their education and for students from prioritized fields or specializations determined by the Royal Government of Cambodia as for society's need. Division of these scholarship awards is based on proportion of gender, ethnic group and residence. (ACC, 2009; RGC, 2011).

World Bank with cooperation of Cambodian government launched a project Higher Education Quality and Capacity Improvement between 2010-2015, which provided 1,050 scholarships in order to support retention of poor students on higher educational institutions. Scholarships within this project payed more than government scholarship, between USD 60-USD90, because it covered monthly allowances and tuition fees. Tuition fees in Cambodia are lower in comparison to other universities in Southeast Asian countries, although differs widely between USD 250- USD 1500 (Virak, 2010; WB, 2012).

2.2.5. Educational structure and academic staff

In order to receive the Bachelor degree certificate, students supposed to aspire for a full time or part-time first year (the Foundation year). Any student, who will successfully have finished the foundation year shall be granted with a certificate of study. In order to obtain certificate of Bachelor degree, every student is subject to practice full-time or part-time program of recognised credit system (ACC, 2009).

Quality of lecturers, scarcity of human resources and research capability is also one of major problems on HEIs. In Cambodian universities are only few full time academicians who hold PhD 's because of deficient salaries and encouragements. Nonetheless, both prestigious universities and member of ASEAN University Network, the Royal University of Law and Economics and the Royal University of Phnom Penh have only 7 and 18 PhD holders (Table 2) (MoEYS, 2012).

Table 2: Staff statistics by highest qualification in 2012 on top public universities

Name of universities	Total fulltime staff	Bachelor Holder	Master holder	PhD holder
Institute of Technology of Cambodia	171	46	86	19
Royal University of Phnom Penh	501	118	318	18
National University of Management	78	5	54	14
Royal University of Law and Economics	111	22	81	7
National Institute of Education	247	110	85	5
University of Battambang	62	4	55	2
Chea Sim University of Kamchaymear	70	27	40	0
University of Svay Rieng	75	14	60	0
Mean Chey University	82	18	62	0

Source: MOEYS, 2012

Between 2011- 2013 was noticed only negligible increase in number of lecturers with Bachelor's and Master's degree as well as decrease in number of lecturers with PhD. degree. The total number of academic staff in 2013 was 10,842 lecturers with comparison to year 2012 it was 10,809 lecturers. Together with expatriate lecturers there are 3,720

Bachelor's degree lecturers, 6,317 Masters' degree lecturers and 805 doctorates' degree lecturers in public and private higher educational institutions nationwide (Table 3).

Table 3: Comparison of lecturers with academic degree

	2011-2012			2012-2013		
	Bachelor	Master	PhD.	Bachelor	Master	PhD.
National	3,439	6,027	700	3,470	6,032	700
Expatriate lecturers	251	284	108	250	285	105
Total	3,690	6,311	808	3,720	6,317	805

Source: MOEYS, 2014

2.2.6. Research activities

Generally known requirements which are necessary for academic staff from most universities around the world are improving their quality of teaching, provide consultations and do their own research. Cambodian higher educational institutions conversely require their lecturers to increase quality of teaching while the fundamental research work suffers. Apart from the Royal Academy of Cambodia, all educational institutions in Cambodia are preponderantly teaching institutions and for that reason their research capacities are very limited (UNESCO, 2006). The government shows interest in research activities, but does not allocate funding for research. Aid agencies provide funding for research via partnership with few public universities. The lack of research capacity may stem in a cultural tradition in which students are not taught to challenge or question their teachers or other authorities. In Cambodian society respect is shown for teachers and staff in government shows respect to their superiors, while it is inappropriate to question them (Chamnan and Ford, 2004).

In general, there is many practical factors influencing the absence of research. Cambodia lacks for graduates with PhD qualification to supervise and lead research of students. The lack of PhD lecturers is the result of Khmer Rouge regime, in which highly educated people and intellectual were selected for elimination. If those educated people had survived many would have held a PhD qualification and would have had the ability to hold up research activities and supervise students. Second problem is lack of reading materials in libraries, which are not stocked with adequate journals or books and those they do are mainly in English. Most publications published in Khmer language were destroyed during the Khmer Rouge period. Majority of Cambodian scholars show their reluctance for research activities because of problems with the English barrier. Rather common issue is financing of research activities, as university lecturers receive inappropriate salary, they focus mainly on teaching, which is main source of their incomes. As a research is considered as a long-term investment, higher education institutions focus on generating income to cover expenses on lecturers and administrative costs. Also in comparison with other countries, research capacities are rewarded and promoted, in Cambodia research is not rewarded and may be seen as a challenge to superiors or criticism of existing situation. The MOEYS has shown an intention to increase the research capacity through the establishment of the Pedagogical Research Department and Department of Scientific Research (Chamnan and Ford, 2004).

Ministerial meeting from 14th March 2011 approved the Master Plan for Research in the Education sector, which is financially and technically supported by World Bank. The Master Plan has mainly demonstrated on three significant purposes to increase the number of articles published by Cambodian academicians in national and international journals. It also describes training programs and strategies that will assist enhance the research capacity of academic staff and institutions and improve research development on higher educational institutions (RGC, 2011).

2.3. Employability and soft skills

The present workplaces have increased requirements on universities across the world to prepare skilled graduates who are capable to react to the changing demand (Sleezer et al., 2004) and higher education provider need to ensure that all graduates are qualified to succeed in life and workplace. For fresh graduates is crucial to have knowledge in their own discipline when applying for a job, but it is becoming more important to complement their hard skills with personal and interpersonal qualities and skills which may positively affect their employability (Harvey, 2001). Have been expressed serious anxiety about expanding gap between the requirements and demands of the job market and the skills and capabilities of graduates in globalized society (Yunus and Li, 2005).

Employability is possible to clearly define as the ability to get initial employment, perpetuate employment and gain new employment if required (Hillage and Pollard, 1998), on the other hand clear perception of what is a soft skill differs broadly and include a wide range of attributes, i.e. communication and interpersonal skills, ethics, critical thinking, leadership, entrepreneurship, life-long learning, problem-solving, social responsibility, adaptability, flexibility and others. The study under the headline “The top 60 soft skills at work”, which discussed and listed “the personal traits and skills stated by employer state as the most important when selecting employees for jobs of any type”. As the most important skills, missed among graduates by future employers, are considered communication skills. Minimum requirements for a graduate should be appropriate quality in written and spoken language, conversation skills and body language with ample level of self-esteem, sufficient discussion skills and especially good presentation skills. Together with problem solving abilities go in hand structured and critical thinking, another pair of frequently missing skills among graduates. In order to promote employability skills researchers are showing various methods on HEIs like adapting the curricula to include specialized skills courses, new instructional methods, using information technology in innovative ways, service learning, career planning and work-based education and others (Bennett et al, 2000).

Appropriate level of soft skills plays an important role for interaction in society and employability of graduates, such as self-efficacy, self-motivation, responsibility, team work, innovative thinking and social communication. Most employers in Cambodia are likely to hire and promote graduates who are having health self-confidence, critical thinking skill, solving problems independently and thinking in innovative way (Chaloupkova, 2015).

2.4. Personal empowerment and motivation

Empowerment was defined as bringing into a state of belief in one's capability or ability to act with effect. Some definition stressed the individual's power to achieve their own goals (Upadhyay, 2009). Later, definition described empowerment as the process of enabling people to take personal responsibility and ownership of the tasks they perform (Luechauer, 1993). Traditional view of motivation was expanded and constructed the Learner Empowerment, which was determined as a feeling of capacity to perform a task that is significant and has an impact on the situation. Empowerment in learning has been a topic of discussion for last the two decades. Empowerment was first discussed and conceptualized in the workplace by Thomas and Velthouse (1990). Spreitzer (1995) has developed and validated a multidimensional measure of psychological empowerment in the workplace. This measure has four dimensions: meaning, competence, self-determination and impact. In case of empowerment of students might be described three different dimensions: social, political and academic. Each aspect is useful for students to be prepared for the responsibilities and challenged academically while also preparing them for the creation of a more just society.

Student empowerment is frequently compared to increased active participation of students in learning process (Upadhyay et al., 2014). Social empowerment refers to social relationships and interactions within a classroom that should be non-discriminatory, supportive and safe. Political empowerment deals with student's cognition and critical exploration of forces and structures that maintain and build power injustice within the political sphere. Several examples connected to political empowerment occurs such as

informal, when students have space to voice their needs, and formal, when students take part in decision-making process (McQuillan, 2005).

Motivation of students is an important antecedent to learning, accordingly a strong aspect for successful experiences from classroom (Pintrich, 2003). A variety of related factors were examined studies on both empowerment and motivation such as values, goals, self-efficacy and interests (Wigfield and Eccles, 2002). Empowerment and motivation has been conceptualized as a complex of motivation processes that may positively affect personal initiatives, task completing consistence and increased feeling of self-efficacy (Conger and Kanungo, 1988).

2.5. Royal University of Agriculture

Royal University of Agriculture was founded in 1964 during the dominance of King Norodom Sihanouk. The University. As well as many others, the University was closed during the Khmer Rouge period 1975-1978. In 1980 was the University reopened as Institute of Agriculture Education, offering only 2-6 month educational courses. The Institute developed into the Royal University of Agriculture in 1994. Nowadays, RUA is one of the major public higher educational institutions in Cambodia. It plays a fundamental role in education attached to agriculture and related areas for all grades (Nuth, 2016).

2.6. Chea Sim University of Kamchaymear

Chea Sim University of Kamchymear was founded in 1993 as the first rural university in Cambodia, originally as Maharishi Vedic University. Academic programme of CSUK offers Bachelor degrees in Agriculture, with specialisation in Agronomy, and Rural Development and National Resource Management, with specialisation in Marketing, Accounting and Human Resource Management. CSUK also provides possibility of post-graduate programmes in MBA, MED, Mg. and Agriculture Economic and Rural Development (CSUK, 2016).

3. Objectives

Personal skills are evaluated as key factor influencing employability of the students. It is becoming more important to complement their hard skills with personal and interpersonal qualities and skills which may positively affect their employability besides having knowledge in their own discipline when applying for a job (Harvey, 2001).

In addition, this was confirmed by the research done into the study within the project Erasmus Mundus project ASK Asia (Chaloupkova et al., 2015), which mentioned, that the most valued skills are soft/horizontal skills for example the critical thinking, self-confidence, presentation skills etc.

In respect above mentioned results was set up the objective of this thesis. The main objective is to analyze the impact of personal development by the training called OPERACY “Personal empowerment and personal capacities” provided to local students to improve employability of the students of agricultural universities in Cambodia. Case study was taken by the selected students from the Royal University of Agriculture and Chea Sim University of Kamchaymear.

Specific objectives are:

- To assess personal skills and competences of the students (SOS)
- To analyze the impact of the training provided to personal development (POS)
- To compare the differences between the results of impact between two selected groups – students from RUA and CSUK

The hypotheses of the research are:

H1: Finishing the OPERACY training help to empower personal development and skills of the students.

H2: OPERACY training is having positive influence on students’ level of motivation.

H3: Field of study is having significant influence on impact from the OPERACY training.

4. Methodology

4.1. Research approach

Main sources of information – secondary data, for the purpose of this thesis, were represented by two scientific databases, i.e. Thompson Reuters ISI Web of Knowledge® and SciVerse Scopus®. Following keywords: history of higher education in Cambodia, higher educational institutions in Cambodia, employability of graduates in Cambodia, tertiary education in Cambodia, research activities in Cambodian universities were entered into database in order to document current level of knowledge on this issue.

Furthermore, reports made by the Ministry of Education, Youths and Sport were used in order to gather the most recent data about higher education in Cambodia.

4.2. Sample selection

The students who have participated at the OPERACY training held in September 2015 were selected to be included into the research. They were studying the Royal University of Agriculture (RUA) and the Chea Sim University of Kamchaymear (CSUK). All of registered students had a cooperative attitude towards survey maker and they responded in a positive way to support the research.

Training was provided within cooperation between the Czech University of Life Sciences Prague and Royal University of Agriculture and Chea Sim University of Kamchymear as the development cooperation project financed by the Czech Development Agency and part of development project Capacity Building of Higher Education in Cambodia.

4.3. HEDC International

As a Personal Empowerment Training provider was selected HEDC International from Phnom Penh. HEDC is formally registered as non-governmental organization, which is providing capacity building trainings for community development, private sector, government agencies since 1999. Services of HEDC International are trainings, facilitation and consultancy with specified mission “Building Leadership for the Future”

4.4. OPERACY training

Dr. Edward de Bono was first person who created and used the term ‘Operacy’ as “the skill needed for doing”. According to his conclusions was Operacy given the same importance as literacy and numeracy. The term used for training, OPERACY is defined as the ability of an individual person to grow, to self-regulate and to lead other people to become successful. OPERACY is also the skill we need to become successful by doing the thing we need to do tasks correctly and consistently (Lee, 2012).

The main objective of a training was to improve personal performance, productivity and satisfaction of participants in the work place, family, school and community by enhancing their social and emotional skills and changing their limiting minds and beliefs.

Concept of a training was delivered to students using series of lectures, provocations, games, personal reflections and personal evaluation during four days training.

Content of Operacy training- Key to Personal Empowerment, Success and Leadership is divided into five parts:

Part 1. Concept of Success and Development

First part of OPERACY training is focused on interpretation of personal success and leadership. In opposite to predominant understanding of success in term of personal and material benefits, OPERACY describes success as achieving our goal without reducing our own, other people’s and the earth’s capacity to survive and become successful. OPERACY

measures our success or our failure in relation to a six goal achievement criteria: Goal Achievement, Time, Effort, Contribution, Sustainability and Joy. To how to become a good leader students learned about differences between internal and external power. This part also comprises understanding about human potential and limitations.

Part 2. Universal Laws of Success

The Law of Universal Governance of Success composed of five closely related principles: principle of Change, Differentiation, Unity, Self-regulation and Expansion.

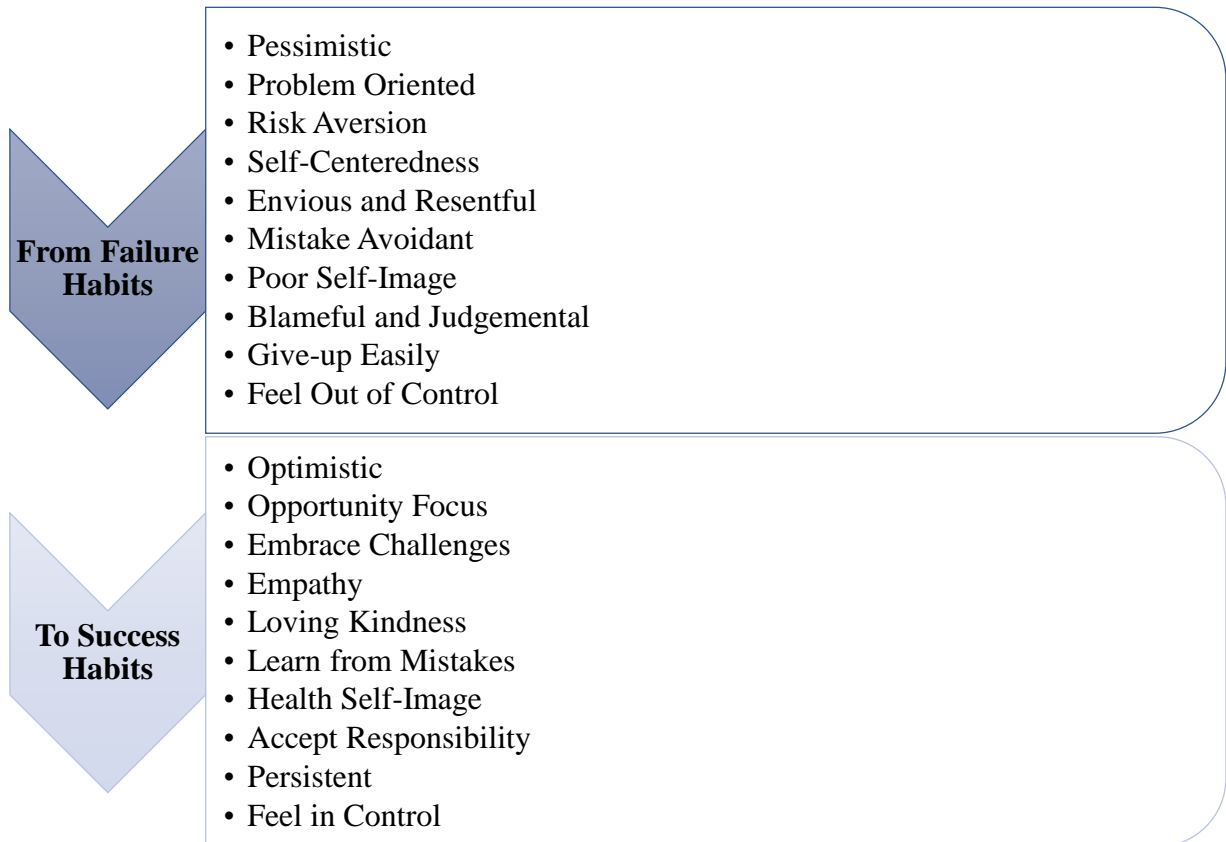
Part 3. OPERACY - Personal Empowerment

Part 3 explained participants' major reasons, why people fail in achieving their goals as our past experiences, our perception, our motivation and our habits. Defined motivation, Capacity and Capability as components of Personal Empowerment. OPERACY uses the term "SOS Person" to signify low achievers, who is unable to realize their potential. In detail SOS person can be separated into ten characteristics or traits: Pessimistic, Problem Oriented, Risk Aversion, Self-Centeredness, Envious and Resentful, Mistake Avoidant, Poor Self-Image, Blameful and Judgemental, Give-Up Easily and Out of Control.

Part 4. Personal Empowerment

After defining main personal mistakes, the part 4 focus on improvements in personal characteristics for personal success as POS Person. POS people are high achievers who are able to maintain their childlike habits for joy and creativity and they are unafraid of life. Characteristics of POS Person are Optimistic, Opportunity Focus, Embrace Challenges, Empathy, Loving Kindness, Learn from Mistakes, Healthy Self-Image, Accept Responsibility, Persistent and Feel in Control.

Part 5. From Failure to Success



Picture 1. SOS to POS person characteristics, (Source: Lee, 2012)

4.5. Data collection

For purpose to evaluate the impact of OPERACY training were created three different questionnaires:

- (i) Pre-test on 24th of September at the beginning of OPERACY training to receive baseline data.
- (ii) 1. Post-test on 27th of September for evaluation of OPERACY training impact.

- (iii) 2. Post-test, filled by students between 1-14th of December, so the students may start to apply what they learnt and to appraise acquisition of the OPERACY training for future students.

The arrangement of the study and training preparation and promotion took place in Phnom Penh since July 2015. The first data collecting for pre-testing was implemented before the training on 24th of September 2015 at the Royal University of Agriculture. The second data collecting has been carried out the last day of the training on 27th of September 2015. The last data collection was arranged two months after the training between 27th of November and 11th of December 2015.

The questionnaires were delivered to 78 students, answered were only 68, from which 58 students (39.66% female) were from RUA and 10 students (40% female) from CSUK (Table 4).

Table 4: Participants by University and gender

Gender	University name				Total
	Chea Sim University of Kamchaymear		Royal University of Agriculture		
	Quantity (n)	Quantity (%)	Quantity (n)	Quantity (%)	
Female	4	40.00%	23	39.66%	27
Male	6	60.00%	35	60.34%	41
Total	10		58		68

4.6. Structure of Questionnaires

- (i) Pre-test composed of SOS to POS person scale with 10 questions, Student Motivational scale with 5, 5-step bi-polar adjectives, 6 open-ended questions and 7 demographic data questions about name, age, gender, university, field of study, year of study and province of residence.

- (ii) First post-test consisted of SOS to POS person scale with 10 questions, Student Motivation scale with 5, 5-step bi-polar adjectives and 4 open-ended questions.
- (iii) Second post-test contained SOS to POS person scale with 10 questions and 4 open ended questions.

SOS to POS person Scale

Main idea of creation of first part was based on Rosenberg Self-Esteem Scale. The scale is focused on assessment of personal behavior, hope, trust, motivation etc. Questions in Self-Esteem Scale were created after discussion with owner and trainer of HEDC International to meet exact impact of training and students change from SOS¹ to POS² person. SOS to POS person Scale composed of ten questions with answers selected with 4-point Likert Scale from Strongly Agree to Strongly Disagree. In questions 2,5,6,8 and 9 were used reversed scoring mechanism as in the original Rosenberg Self-Esteem Scale.

Student Motivation Scale

Student Motivation Scale (SMS) Brophy (1987) defined student motivation was defined as “a student tendency to find academic activities meaningful and worthwhile and to try to derive the intended academic benefits from them” (Brophy, 1987). This study used the Richmond (1990) Student Motivation Scale (SMS) to measure the state of a student’s motivation to learn, which is believed to be internally motivated (Richmond, 1990; Rubin et al., 1994). For this study, SMS also was used to identify the possible relationship between one’s level of personal empowerment and educational-related views.

¹ pessimistic, problem oriented, risk aversion, self- centeredness, envious and resentful, mistake avoidant, poor self-image, blameful and judgemental, give up easily and out of control

² optimistic, opportunity focus, embrace challenges, empathy, loving kindness, learn from mistakes, healthy self-image, accept responsibility, persistent and feel in control (Lee, 2012)

Motivated : _1_: _2_: _3_: _4_: _5_: Unmotivated

Interested : _1_: _2_: _3_: _4_: _5_: Uninterested

Involved : _1_: _2_: _3_: _4_: _5_: Uninvolved

Excited : _1_: _2_: _3_: _4_: _5_: Bored

Scared of it : _1_: _2_: _3_: _4_: _5_: Look forward to it [R]

Open-ended questions

Each version of questionnaire contains six open-ended questions to receive different ideas from respondents and achieve more valuable answer from them. In the pre-test questionnaire were questions focused on the source of information about the training, students' expectations and reasons to join this kind of training, analysis about their clear goal for future and about their personal principles. The first post-test focused more about the differences from the pre-test, questions were focused on fulfilling their expectations, changes in behavior, recommendation for future trainings and changes in their future goal and personal principles. In the second post-test were collected same data as in the first post-test to provide long term results on participants.

Demographic data

Last part of questionnaire was focused on participants and basic information such as name, age, name of the university, field of study, year of study and residence of students.

4.7. Statistical analysis

All of the responded questionnaires were collected, translated with help of volunteers from HEDC International and volunteers from study group Ecoland and evaluated in Microsoft Excel. For Self-Esteem Scale and Student Motivational Scale were given values for every answer and calculated mean values for every respondent. These values were later processed to receive total mean, minimum and maximum values as well as standard deviation of data collected. Results of SOS to POS person Scale were statistically analysed by Statistica 12 StatSoft® to receive values for statistical significance. For open-ended question was used assessment based on the most frequent verdicts for each question, because quite often were recorded similar answers from respondents.

5. Results

5.1. Demographic data

First, figure 1 shows the distribution of all participants by age and gender. Majority of all participants were aged between 20-23 years old, 21 years old (27.94%; female 7.35%), 20 years old were 19.12% (13.24% female), 17.65% were 22 years old (7.35% female) and 23 years old was 13.24% (4.41% female). In the study were missing female participants aged 24-26 years.

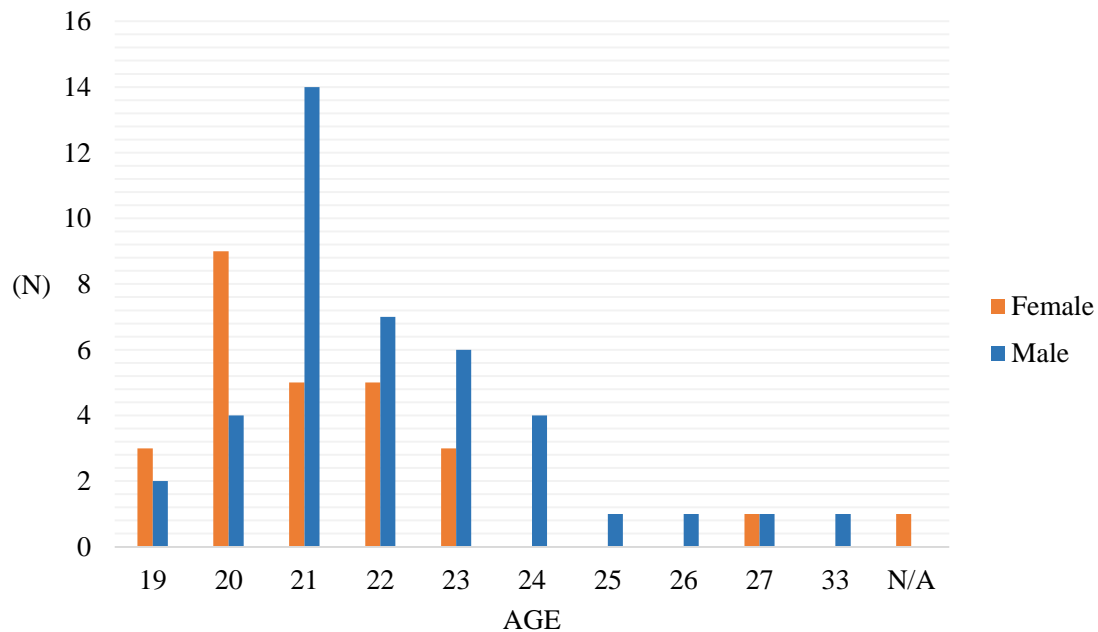


Figure 1. Participants by gender and age (n=68)

Secondly, figure 2 shows the distribution of students interviewed by province of residence with the majority of students from capital city Phnom Penh (33.82%), Prey Veng 14.71% students, 11.76% students from Takeo province, 5.88% from Kampot and Kampong Speu

province 4.41% each from Siem Reap as well as from Kandal province, 2.94% of participants from Kampong Cham and Pursat province and 1.47% each from Banteay Meanchey, Kampong Chnang, Kampong Thom, Svay Reang, Tboum Khmom and Uddor Meanchey.

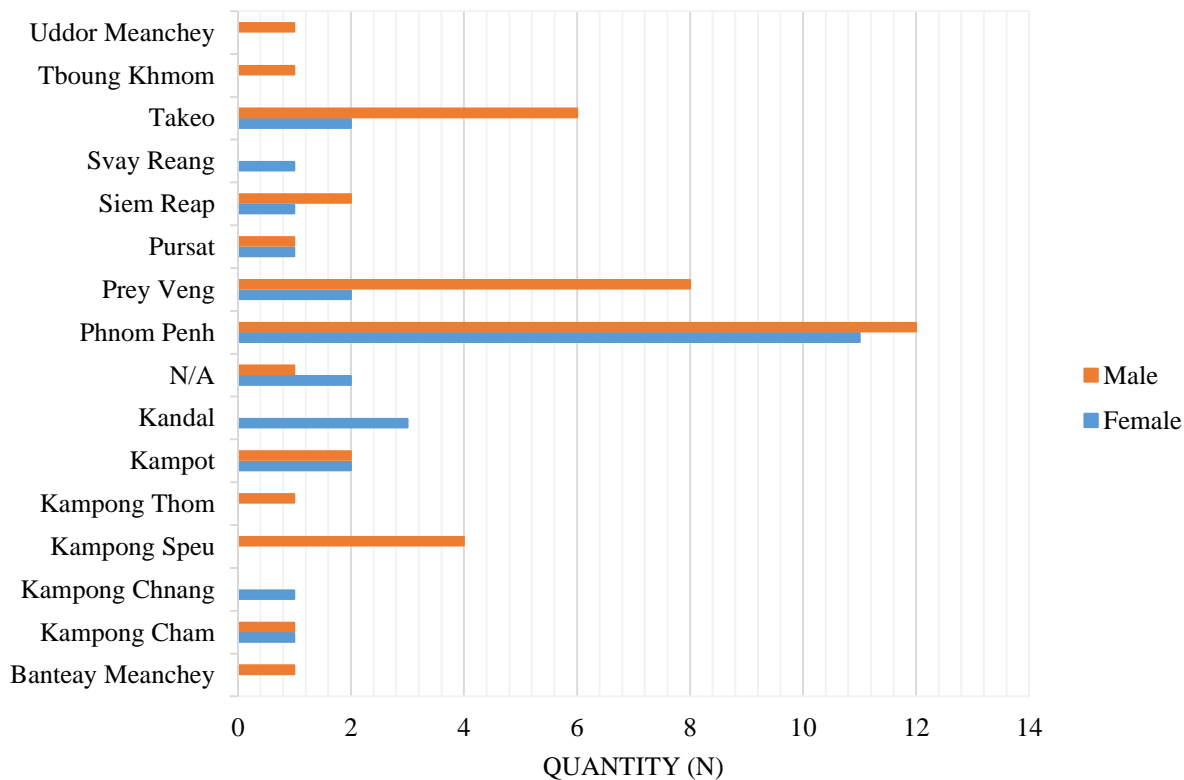


Figure 2. Participants by province of residence and gender (n=68)

The figure 3 shows participants distribution in fields of study and year of study with the highest representation from the Faculty of Agronomy (25.0%), 13.2% each from the Agricultural Engineering Faculty and from the Faculty of Agro-Industry, Faculty of Land Management and Land Administration with 10.3% each, 7.4% from the Faculty of Veterinary Medicine, 5.9% did not specified field of study, 4.4% each from the Faculty of Marketing, Faculty of Agricultural Economics, Rural Development Faculty and from the Faculty of Forestry and 2.9% from the Faculty of Fisheries, Human Resource Management,

Rubber Science and Rural Development. In general, 44.2% of all participants were third year students, 42.7% were students from second year and 11.8% were fourth year students.

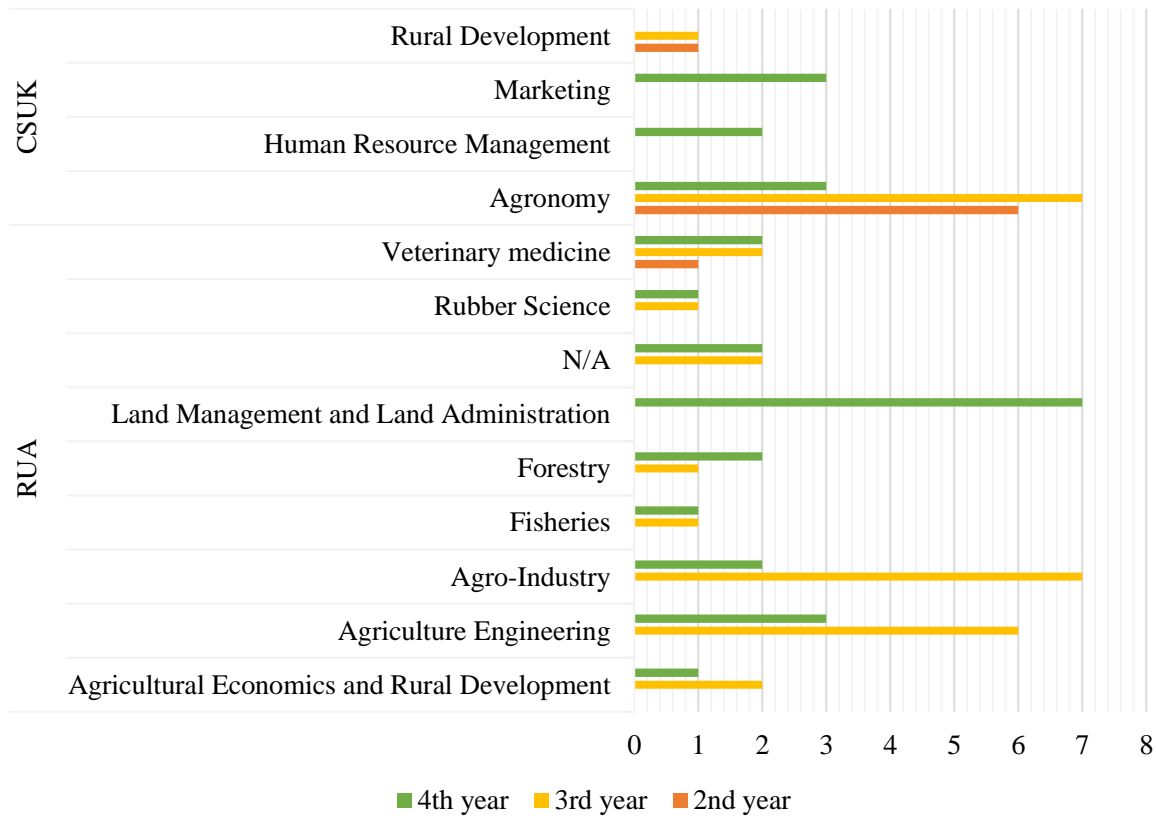


Figure 3. Distribution of participants by field and year of study

5.2. SOS to POS person Scale

Evaluation of SOS to POS person Scale was based on 4- point Likert Scale with 4 point for answer Strongly agree to 1 point for Strongly disagree answer. The range of personal empowerment values are characterized between 10-40, where 10 signalize minimum and 40 maximum of SOS to POS person character.

Noticeable improvement was ascertained for all indicators, also with more stable value of standard deviation value in the post-tests. Pre-test evaluation showed minimum value 23.0, maximum of 37.0 and average value of 29.60 (2.96±3.135). The first post- test analysis reported biggest improvement in minimum value of growth by 13.1% (26.0±2.943), in average value increase of 2.9 (32.5±2.94) and 2.7% improvement in maximum value (38.0±2.847). Analysis of second post-test showed larger improvement in maximum values to overall maximum 40.0, in comparison to pre-test was generated improvement also in average value (32.34± 2.847) and in minimum value (24.0±2.847). Second post-test generated expected decrease in average and minimum values in comparison to first post-test. Results of SOS to POS person Scale were found statistically significant at 95% by using t-test (Table 5).

Table 5. SOS to POS person Scale(n=68)

	Mean	SD	Minimum	Maximum	T- test (p-value)
Pre- test	29.603	3.1349	23.000	37.000	0.000***
1. Post-test	32.544	2.9428	26.000	38.000	0.000***
2. Post- test	32.338	2.8471	24.000	40.000	0.000***

Note: *** is signifant at 99%

To determine whether the averages of the particular test was conducted Wilcoxon test for paired groups, which showed the difference between the means was statistically significant between pre-test and first Post-test (Z =5.86; p = 0.00 <0.05) and between Pre-test and second post-test (Z=4.88; p-0.00 <0.05).

Table 6. Results of Wilcoxon paired test between individual tests

Pre-test/first post-test		first post-test/second post-test		Pre-test/second post-test	
Z	p-value	Z	p-value	Z	p-value
5.86	0.000***	0.41	0.68	4.88	0.000***

Note: *** is significant at 95%

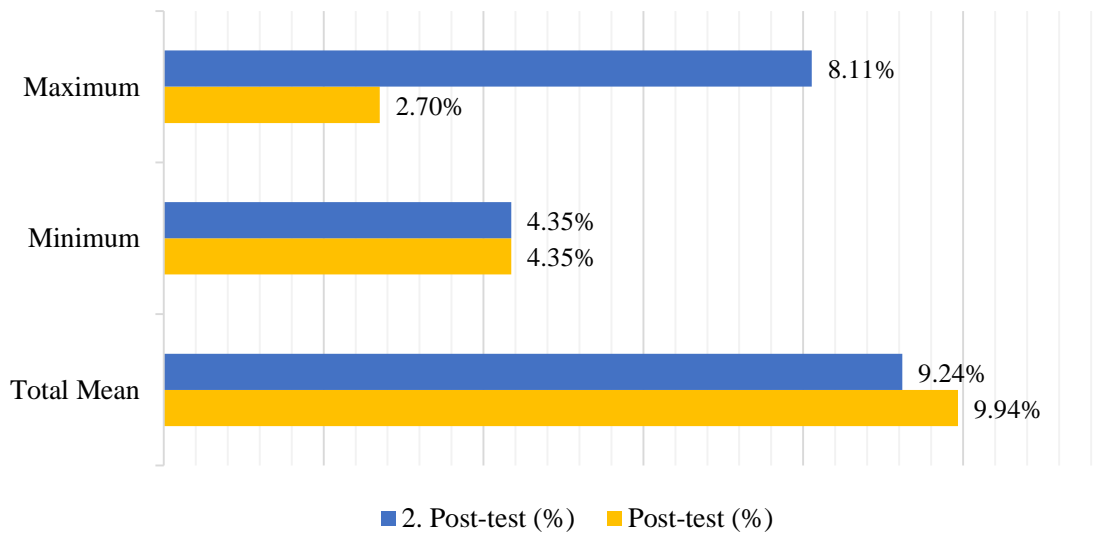


Figure 4. SOS to POS person values from pre-test and post-test (n=68)

Overall results in positive numbers confirmed our first hypotheses about positive impact of training on students of higher education in Cambodia. Average improvement was higher in first post-test by 9.9% and in second post-test by 9.24%. Maximum value increased by 8.11% in second post-test, while in first post-test only by 2.7%. Minimum value improvement was same in post- tests by 4.35% (Figure 4).

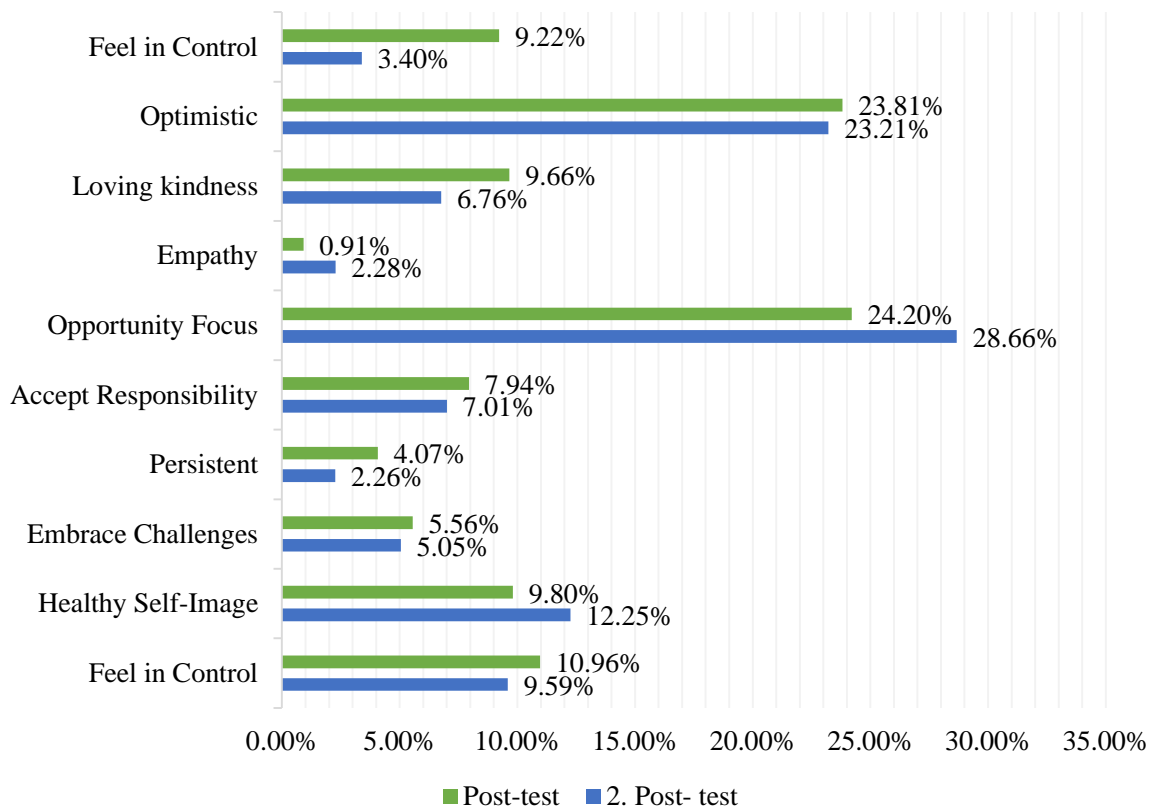


Figure 5. Results in specific personal characteristics (n=68)

Using separated questions for each personal characteristic was possible to evaluate which personal values were improved the most. Larger improvement was generated in problem oriented/opportunity focus characteristic by 24.2% in first post-test and 28.7% in second post-test. Pessimistic/ optimistic characteristic increased by 23.8% in first post-test and in second post- test by 23.2%. Noticeable increase was generated also in Poor self-image/Healthy self-image characteristic by 9.8% in first post-test and 12.3% in second post-test (Figure 5).

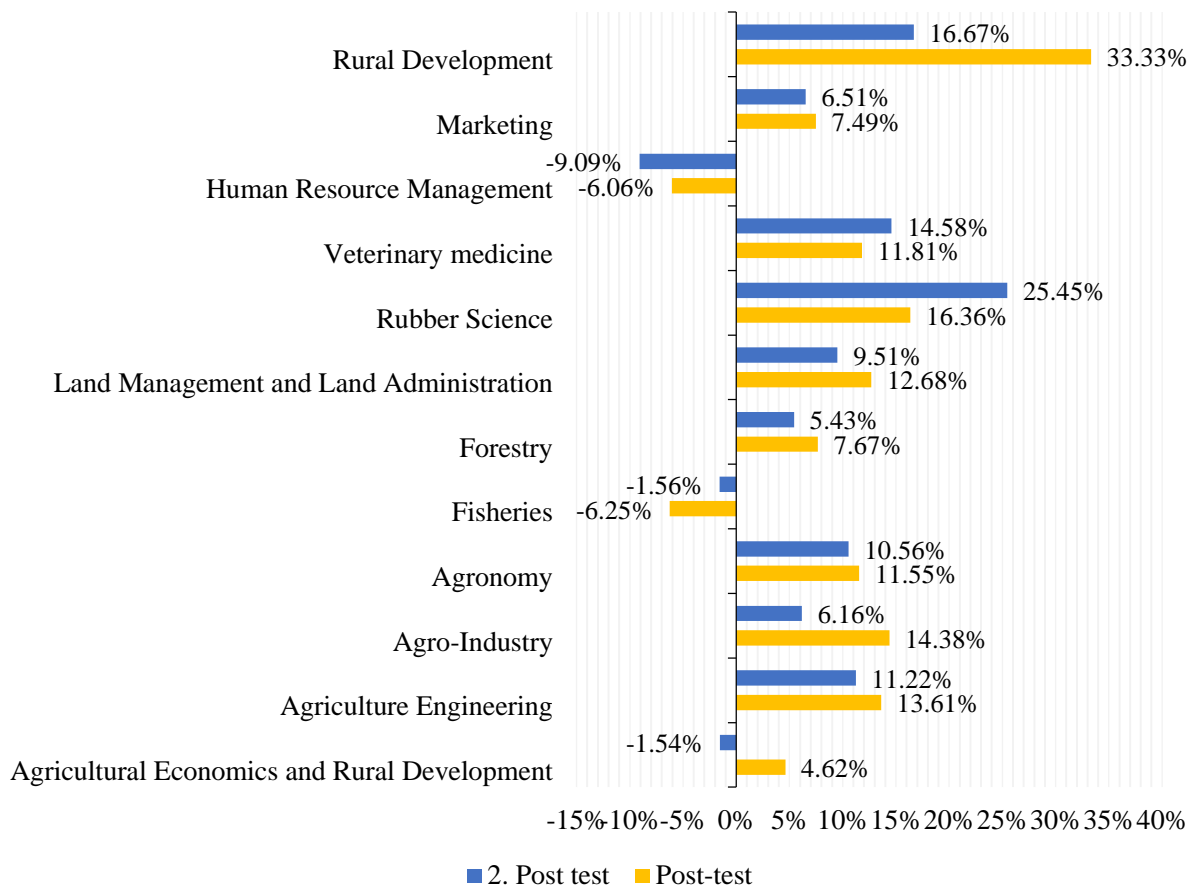


Figure 7. Results by Field of Study (n=68)

Third hypothesis was confirmed by results separated by fields of study of all participants. From these results is obvious different impact on students from different background as 33.33% improvement in first post-test on students from the Rural Development Faculty of Chea Sim University of Kamchaymear. Second largest increase was generated on students from the Faculty of Rubber Science (RUA). Values of students from the Human Resource Management on the other hand decreased by 9.09% and by 6.25% decrease on students from faculty of Fisheries. Results of third hypotheses might be used as a recommendation for future personal empowerment trainings for better selection of participants to reach larger impact (Figure 6).

5.3. Participants' personal evaluation

Results from pre-test

Open-ended questions were evaluated by the most frequent verdict stated by participants. Pre-test evaluation found out majority of participants (47.06%) were informed from printed leaflet, 23.53% from friends and 17.65% from their lecturers. Predominant expectations (20.59%) were becoming successful and confident, as well as learn about leadership (16.18%) and personal empowerment (11.77%). Participants decided to join the training mainly to learn about leadership and how to become leader (14.70%), to learn how to be successful (11.77%) and 8.82% want to get new ideas, plan their future goal and find motivation. 66.18% of students will use new knowledge in practice, 36.77% will share the information with others and 8.84% will use it in their study and work. In pre-test evaluation was found, that 36.77% wanted to own their own business, 27.94% did not have their future goal yet and 7.35% will aim at helping others as their goal. Majority of students (66.18%) did not specified their personal principles, while 10.94% are consistent in studying hard and 5.88% for honesty and helping others.

Results of post-test

The OPERACY training fulfilled expectations of all participants, mainly in improved knowing themselves (23.53%), 22.06% specified their future goal, 11.76% found out how to become POS person. Behavioral changes affected ways of their thinking (13.24%), found courage (10.29%), feeling brave (5.88%) and 4.41% of participants understand others better and may control themselves. Success of OPERACY training was proved by 98.53% of students, who will recommend it for others. Participants specified recommendations for future trainings as do OPERACY training for others (19.12%) as well as for other institutions (13.24%) and 4.41% will join the training again. In comparison to the pre-testing was not found any student without future goal, 29.41% would like to have their own farm, 13.24% wanted to become businessman and 10.29% wanted to study

abroad. Number of students without personal perspectives decreased on 25%, 16.18% is studying hard, 5.88% stated as their perspective confidence and 4.41% happiness.

Results of second post-test

Most frequent behavioral change was feeling braver in (25.00%), have better positive thinking (23.53%) and feel more confident with better time-management (13.24%). All participants will recommend OPERACY training, while 17.65% will share their knowledge with friends and family and 11.76% stated that OPERACY is a good program. 8.82% of students will prefer having OPERACY training on high school for better future goal definition, 5.88% will recommend more games for training and 2.94% would like to have weekend training and training focused on leadership. All participants specified their future goals during the OPERACY training, 27.94% is focused on business, 25.00% of participants would like to become owner of farm or business, 22.06% want to manage or own their farm. In long-term impact was evaluated, that all participants found their personal perspectives, 14.51% studying hard, 10.29% of students feel honest and trying hard.

Overall expectations, of providers as well as students, from OPERACY training was successfully completed.

5.4. Student Motivation Scale

Our results of Student Motivational Scale indicated a significant improvement of students' motivation. Average increase in motivational scale was 83.16% among all participants. Minimum values of motivation increased by 240% and maximum values reached overall maximum possible for Student Motivational Scale.

Table 8. Results of Student Motivation Scale (n=68)

	Mean	SD	Minimum	Maximum
Pre- test	12.35	3.97	5.00	21.00
1. Post test	22.62	1.79	17.00	25.00

6. Discussion

Based on the findings from scientific articles used for literature review part Cambodian government and HEIs have established numerous institutions, academic support services for students, policies, strategies and regulations. Institutional policy implementation and the educational quality on Cambodian HEIs is possible to affect by reforming of some several negative problems. As main issue might be considered limitations of government's budget, where expenditures on HEIs are around 0.05% of Cambodian GDP (WB, 2012). Evident problem is also lack of qualified human capital on HEIs, with only few academicians holding PhD's degree, due to inadequate incentives and salaries. Lack of professional skills responding to the demand of labor market affected negatively rates of unemployment among university graduates (Rany et al., 2012).

Curriculum development and Accreditation should place insistence on partnership and internship with employers. Establishing cooperation between the private sector and training providers might positively affect the transition of graduates from university to the workplace. The personal empowerment training should be also considered in accrediting of higher educational institutions. An impact of personal empowerment on employability was found by Canada's Employability Training Program in increased wages of graduates as well as by United Kingdom's New Deal for Young People Program found that graduates who participated were 20% more likely to find jobs (Cunningham et. al., 2008).

In case of Cambodia, personal empowerment and soft skills training should be included as a part of curriculum or as a separate subject. Methods of teaching should be interactive, apply knowledge to real life situations and promoting teamwork (World Bank, 2006).

The purpose of this study was to evaluate impact of personal empowerment training, called OPERACY, on students of agriculture from two Cambodian universities. From 68 Bachelor degree students of two Cambodian universities, we found scores increase of personal empowerment after implementation of the training. The differences in the changes were statistically significant among all students participated.

The findings about positive effect of personal empowerment training on students' soft skills and self-esteem have been confirmed within this study as well as findings from previous studies in terms of increasing self-esteem, although the specific content of the training was slightly different (Tak, 2011). Results of Wilcoxon test for paired groups also confirmed previous studies focused on improvement of personal development, with a special regard to increased self-esteem of university students from Istanbul (Gulcan, 2015).

The current study has provided further evidence that male students recorded higher scores on SOS to POS person scale than female students. These findings are consistent with the results of a number of studies related to personal empowerment of students in Australia (Tiggemann,1992), in United States of America (Keith, 1988) and in England (Cramer, 1987). Smaller number of studies have failed to detect gender differentials in personality improvements among students in the United States of America (Zuckerman, 1989; Garber, 1991). Although male participants detected higher level of improvement, positive effect of OPERACY training was noticed also among female participants, in contrast to preceding studies (Falci, 2011).

Limitations

Although this study makes some meaningful theoretical, methodological, and practical acquisition, several limitations should be noted concerning the sample size, data collection methods and analysis. This study was conducted with a one group pretest- posttest design, which may affect study results. For future studies related to this topic will be recommended to use control group design. Results which expressed impact of the OPERACY training on students from two universities could be impacted by unequal composition of those groups. For further comparison of different target groups will be preferable using well balanced groups. Due to existence of several possible methods of personal empowerment evaluation might occur differences in results analyzed by this study. Results might be influenced also by selection of calculation methods, which differs widely in previous studies focused on improvements in personal empowerment. The translation of questionnaires is possible to

consider as strength as well as a limitation of this research. Using the mother tongue of all participants might bring better understanding of meanings from participant's point of view. Unfortunately, doubled translations for data analysis might cause slight dissimilarity in answers.

7. Conclusion and Recommendation

This study was conducted to report the analyze the higher educational institutions in Cambodia impact of personal empowerment training, specified as OPERACY by HEDC International, on undergraduate students of agriculture from two Cambodian universities. Overall results confirmed positive effect of OPERACY training by 9.4% in first post-test and 9.2% in second post-test. Also statistical significance of SOS to POS Person Scale was confirmed by t-test calculation. 27.94% of participants were able to specify their future goal and 66.18% found their personal principles within the OPERACY training.

Was found considerable influence of field of study on score improvement within OPERACY training, which might be used as a recommendation for future selection of participants. The training had very positive impact on students' motivation, which is important for students' long-term empowerment. Positive results of this study may serve as recommendation for policy makers among higher education institutions. Personal empowerment training, called OPERACY, is possible to increase soft skills and employability of graduates in Cambodia.

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APPENDICES

Appendix 1: Pre-test questionnaire

SOS to POS person scale

Instructions:

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1	I feel in control of my life, my future and my success	Strongly Agree	Agree	Disagree	Strongly Disagree
2	I do not like myself very much and I wish I could be someone else	Strongly Agree	Agree	Disagree	Strongly Disagree
3	I am not afraid to take the necessary risks to achieve what I want	Strongly Agree	Agree	Disagree	Strongly Disagree
4	I am persistent and refuse to give up until I get result I want	Strongly Agree	Agree	Disagree	Strongly Disagree
5	I blame people and the situation for mistakes and failure in my work and my life	Strongly Agree	Agree	Disagree	Strongly Disagree
6	I tend to focus on problems especially when I see opportunity	Strongly Agree	Agree	Disagree	Strongly Disagree
7	I am friendly, caring and generous person	Strongly Agree	Agree	Disagree	Strongly Disagree
8	I am jealous and unhappy when I	Strongly Agree	Agree	Disagree	Strongly Disagree

	see people more successful than I	Agree			Disagree
9	I am worry about making mistakes and criticize myself constantly for doing it	Strongly Agree	Agree	Disagree	Strongly Disagree
10	I have a positive view of myself, my world and my future	Strongly Agree	Agree	Disagree	Strongly Disagree

Student Motivation Scale

Instruction:

Place an “X” over the number in the space between the colons that represents your immediate “feelings” about your university lectures.

11	Unmotivated	1	2	3	4	5	Motivated
12	Interested	1	2	3	4	5	Interested
13	Involved	1	2	3	4	5	Involved
14	Bored	1	2	3	4	5	Excited
15	Look forward for that	1	2	3	4	5	Scared of it

Open-ended questions

16	Where did you received information about OPERACY training?				
	Internet	Printed leaflet	From lecturers	From friends	Other

17	What is your expectation about the impact of the training?
18	Why did you decided to join the OPERACY training?
19	How do you think you will use what you will learn from the training?
20	What is your clearly set goal for your future?
21	What are your personal principles for your life?

Demographic Data

22	Name:		
23	Gender :	Female	Male
24	Age:		

25	Your University:	Royal University of Agriculture	Cheha University of Agriculture	Sim of	
26	Field of Study (please fill in)				
27	Year of Study	1	2	3	4
28	Province of your residence (please fill in)				

Appendix 2: First post-test

SOS to POS person scale

Instructions:

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1	On the whole, I am satisfied with myself	Strongly Agree	Agree	Disagree	Strongly Disagree
2	At times I think I am no good at all	Strongly Agree	Agree	Disagree	Strongly Disagree
3	I feel that I have a number of good qualities	Strongly Agree	Agree	Disagree	Strongly Disagree
4	I am able to do things as well as most other people	Strongly Agree	Agree	Disagree	Strongly Disagree

5	I feel I do not have much to be proud of	Strongly Agree	Agree	Disagree	Strongly Disagree
6	I certainly feel useless at times	Strongly Agree	Agree	Disagree	Strongly Disagree
7	I feel that I'm a person of worth, at least on an equal plane with others	Strongly Agree	Agree	Disagree	Strongly Disagree
8	I wish I could have more respect for myself	Strongly Agree	Agree	Disagree	Strongly Disagree
9	All in all, I am inclined to feel that I am a failure	Strongly Agree	Agree	Disagree	Strongly Disagree
10	I take a positive attitude toward myself	Strongly Agree	Agree	Disagree	Strongly Disagree

Training Motivational Scale

Instruction:

Place an "X" over the number in the space between the colons that represents your immediate "feelings" about the OPERACY training.

11	Unmotivated	1	2	3	4	5	Motivated
12	Uninterested	1	2	3	4	5	Interested
13	Uninvolved	1	2	3	4	5	Uninvolved

14	Bored	1	2	3	4	5	Excited
15	Look forward for that	1	2	3	4	5	Scared of it

Open-ended questions

16	Did the training fulfilled your expectation? If yes, please write down which one.
17	Can you see any changes in your behavior after joining the OPERACY training?
17	Will you recommend OPERACY training to others?
19	What will you recommend to make OPERACY training better?

Appendix 3: Second post-test

SOS to POS person scale

Instructions:

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1	On the whole, I am satisfied with myself	Strongly Agree	Agree	Disagree	Strongly Disagree
2	At times I think I am no good at all	Strongly Agree	Agree	Disagree	Strongly Disagree
3	I feel that I have a number of good qualities	Strongly Agree	Agree	Disagree	Strongly Disagree
4	I am able to do things as well as most other people	Strongly Agree	Agree	Disagree	Strongly Disagree
5	I feel I do not have much to be proud of	Strongly Agree	Agree	Disagree	Strongly Disagree
6	I certainly feel useless at times	Strongly Agree	Agree	Disagree	Strongly Disagree
7	I feel that I'm a person of worth, at least on an equal plane with others	Strongly Agree	Agree	Disagree	Strongly Disagree
8	I wish I could have more respect for myself	Strongly Agree	Agree	Disagree	Strongly Disagree
9	All in all, I am inclined to feel that I	Strongly	Agree	Disagree	Strongly

	am a failure	Agree			Disagree
10	I take a positive attitude toward myself	Strongly Agree	Agree	Disagree	Strongly Disagree

Open-ended questions

16	Did the training fulfilled your expectation? If yes, please write down which one.
17	Can you see any changes in your behavior after joining the OPERACY training?
17	Will you recommend OPERACY training to others?
19	What will you recommend to make OPERACY training better?

Appendix 4: Results from Statistica 12 StatSoft

Table 9. Results of T-test for SOS to POS person scale

	Mean	SD	N	t	p- value
Pre-test	29.60294	3.158215			
1.Post-test	32.54412	2.964636		-7.23094	0.000***
Pre-test	29.60294	3.158215			
2.Post-test	32.33824	2.868305		-6.02433	0.000***
1.Post-test	32.54412	2.964636			
Pre-test	29.60294	3.158215		7.23094	0.000***

Note: *** are statistically significant at 95%



Figure 6. OPERACY training participants and providers, Source: Ms. Pen Bopha



Figure 7. Data translation and analysis, Source: Ms.Pen Bopha