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스포츠 매니지먼트 석사 학위논문

**Assessing the Effectiveness of
Thai Sports Coaches' Development
Program**

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Abstract

Assessing the Effectiveness of Thai Sports Coaches' Development Program

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The Sports Authority of Thailand (SAT) is a state enterprise responsible for sports development of Thailand. SAT has its duties to promote, support and manage sports across the country for the sustainability of elite sports. SAT emphasizes the development of sports coaches to meet international standards. The International Certification in Sports Coaching (ICSC) program is a sports science and training program which is a partnership between SAT and the United States Sport Academy (USSA). It aims to develop the knowledge and skills of sports coaches, who can apply the

knowledge and experience gained from the program to perform or officiate for the sports association or organization at both national and international levels.

Despite its 10 years of existence, and more than 300 coaches have participated in it, the ICSC program has not been evaluated thoroughly in terms of the knowledge and skills imparted, as well as its applicability and effect on the career of participants after the program. Even the things that need to be done in order for the program to be more effective in the future are unknown. Therefore, the researcher aims to investigate how successful the ICSC program has been for the past 10 years.

Data was collected through the use of secondary data, online questionnaire and in-depth interviews. The target group of this study is the sports personnel who complete the ICSC program from 2004 – 2014.

From the result of the study, it can be seen that the ICSC program is effective and contributes to the development of the sports personnel in Thailand, both theoretically and practically, as knowledge and experience gained from the program were applied to improve the sports association or organizations in both national and international levels.

Keywords: Assessing Program, Effectiveness, Logic Model, Sports

Coaches

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Table of Contents

List of Tables	xii
List of Figures	xii
I. INTRODUCTION	1
1. Background	2
2. Purpose of the study	4
3. Research questions	5
3.1. How can the ICSC program be described using the logic model?.....	5
3.2. How successful has the ICSC program been in supporting the participants' career?	6
3.3. What needs to be done in order for the program to be more effective in the future?	7
II. LITERATURE REVIEW	8
1. The human resource training or development in sport organization.....	8
1.1. Sport organization	8
1.1.1. Sports Authority of Thailand (SAT).....	8
1.1.2. United States Sports Academy (USSA).....	10
1.2 The theory of human resource training or development.....	12
1.2.1 Human resources.....	12
1.2.2 Human resource management.....	12
1.2.3 Human resource development.....	13

1.2.4	Differences between HRM and HRD	14
1.2.5	Training and development.....	15
2.	Introduction of Thai sport personnel development program.....	16
2.1.	The International Certification in Sports Coaching program	18
3.	Logic model	18
III.	METHODOLOGY	21
1.	The secondary data.....	21
2.	The survey-online questionnaire	21
2.1.	Population	22
2.2	Data collection	22
3.	In-depth interview	23
3.1.	Participants.....	23
3.2.	Data collection	23
3.3.	Data analysis	23
IV.	RESULTS.....	25
1.	How can the ICSC program be described using the logic model?.....	25
1.1	Inputs.....	25
1.2.	Activities	26
1.3.	Outputs.....	27
1.4.	Outcomes	28

2. How successful has the ICSC program been in supporting the participants' career?	28
2.1. Participants.....	28
2.2. The level of knowledge and understanding before and after participating in the program.....	30
2.2.1. The knowledge and understanding before participating in the program.....	30
2.2.2. The knowledge and understanding after participating in the program.....	33
2.3. The difference of knowledge and understanding between before and after participating in the program	35
2.4. Hypothesis testing.....	42
2.5. The usefulness of the acquired knowledge in performing tasks	53
3. What needs to be done in order for the program to be more effective in the future?	59
V. DISCUSSION & CONCLUSION	64
1. Discussion and Conclusion	64
2. Implication	65
3. Limitation, future research and suggestion	65
VI. REFERENCE	67
APPENDIX.....	73

List of Tables

Table 1. Difference between HRM and HRD	15
Table 2. Example of sports personnel training/development program in Thailand	17
Table 3. Example of sports personnel training/development program in Asia	17
Table 4. Demographic statistics	30
Table 5. Summary of the knowledge and understanding before the program..	32
Table 6. Summary of the knowledge and understanding after the program....	34
Table 7. Descriptive statistic for each variable	37
Table 8. Correlation of paired samples	40
Table 9. Paired sample tests	41
Table 10. The usefulness of the acquired knowledge in performing tasks.....	54
Table 11. The effectiveness of the ICSC program to sport development within Thailand.....	60

List of Figures

Figure 1. The means and adjusted 95% confidence interval of sports coaching methodology course.	43
Figure 2. The means and adjusted 95% confidence interval of ethics in sports course	45
Figure 3. The means and adjusted 95% confidence interval of sports biomechanics course	47
Figure 4. The means and adjusted 95% confidence interval of sports strength and conditioning course	49
Figure 5. The means and adjusted 95% confidence interval of seminar in sports medicine course	51
Figure 6. The means and adjusted 95% confidence interval of sports psychology course.....	53
Figure 7. The average of the improvementof the ability after participating in the program	58
Figure 8. The necessary to improve or change anything in the program.....	61
Figure 9. The new order of courses according to participant feedback	62

I. INTRODUCTION

Employees' development is a sufficiently complex concept to defy a simple definition. However, employees' development refers to the process, programs and activities whereby employees of an organization enhances and improves the knowledge, skills, competencies and overall performance of its employees and workers in directions that are advantageous to their role in the organization (Marriss, 2010). Essentially, employees' development is an ongoing procedure of education, training, learning and support activities. Also is concerned with helping staff or employee to grow within the organizations where they are employed.

According to the United Nations' developing effective policies and programs, Sport is a low-cost, high-impact tool for advancing a broad range of development objectives especially the Millennium Development Goals (MDG). Globally, the sports area is valued at US\$36 billion and is predicted to expand by 3% to 5% per year (World Bank, 1999).

Sports also contributed the growth of nation. For example, in the UK, the value added of sports was evaluated to be 1.7% of GDP, with sport-related turnover comparable to that of the automotive and food industries (Lalkaka, 1999).

On the other hand, the lack of capability-building opportunities in a developing country leads to less return on the little investment put into local talent, further incapacitating local sport development structures and sport career pathways. The provision of financial and technical assistance, such as coach training is highly beneficial and provides the support to initiate a virtuous circle that leads to long run economic development of a country (Universitas, 2001).

In sport areas, the sports personnel such as the coach are really important in process of the performance of to the athlete. But when higher level and long – term, sports personnel need to learn new process, methods or catch up on trends, if they don't receive training, they do not undergo development. Just like their charges, they also need to undergo constant training to develop their skills.

The ways to developments can be specific training courses, attendance at seminars, cross training or an increase in time spent on specific work activities.

1. Background

Sports Authority of Thailand (SAT) is a state enterprise responsible for sports development of the country that aims to develop the excellence and professional athletes to be the best in Asia”.

As the national sports controlling body, SAT has its duties to promote, support and manage sports across the country for the sustainability of elite sports. SAT emphasizes the development of sports personnel to meet international standards by supporting sports coaches, judges, referees and administrators to enhance their skills and knowledge while promoting Thailand as a hub of regional and international sports personnel training programs.

SAT also altered its policies for human resource development to recognize the importance of sports personnel development. An example of it was coaching, where the SAT has conducted sports exchanges with the United States Sports Academy (USSA) since 2002. It established the International Certification in Sports Coaching (ICSC) program to support and develop coaches' skills to meet international standards, improve sports performance of Thai athletes so as to also be able to show their abilities at national and international sporting events. This sports science and training program has been consecutively conducted since 2004.

The problem that plagues coaching development in Thailand today is the lack of empirical research supporting the efficacy of the coaching development program. Even though more than 300 coaches have participated in the ICSC program, it has not been properly evaluated. It is not known how

successful the program has been in identifying, recruiting, and enhancing the coaching skills of coaches in Thailand.

In Thailand, one of the roadmaps of the strategic plan of 2012 to 2016 is to develop and support sport science and technology to be the main driver of successful elite sport, professional sport and sport services (MOTS, 2012). Also the budget for sport personnel development for Thailand is growing by 7.41% (US\$935,484 in 2014 compared with US\$870,968 in 2013) (MOTS, 2014).

Though over 300 coaches have been trained in the 10 years since the inception of the ICSC program, it has not been evaluated in terms of the knowledge applicability and competences required for working with specific categories of athletes (SPDD annual report, 2013).

Without the evaluation information on its process and implementation, we will be not able to understand the important questions relating to the outcome of the program.

2. Purpose of the study

The purpose of this study is to evaluate the ICSC program in terms of enhancing coaching knowledge and skill in Thailand.

Apart from Japan, China and South Korea, many countries in Asia currently conduct similar sports training programs. This will obviously push Thailand into a high competitive environment.

Thailand also has many sports personnel development programs from different organizations. But in this thesis, the focus will only be on the ICSC program which is under the agreement between SAT and the USSA.

3. Research questions

In order to evaluate how successful the program has been. First, I would use the logic model to describe the ICSC program. Followed by 2) How successful have the ICSC programs been in affecting the participants' careers? and 3) What needs to be done in order for the program to be more effective in the future? In the following section, each question is explained in more detail.

3.1. How can the ICSC program be described using the logic model?

A logic model (otherwise called a theory of change) is a tool used most often by administrators and evaluators of programs to assess the effectiveness of a program.

This question aims to provide the comprehensive description of four components and aspects of the ICSC program which are inputs, activities, outputs and outcomes.

3.2. How successful has the ICSC program been in supporting the participants' career?

The program has been running for more than 10 years, yet it has never been evaluated. SAT does not know the effect the ICSC program has on the participants' respective careers. It also does not keep track of the participants' career.

This question is divided in two sub-questions. Firstly, is there a difference in knowledge and understanding level of participants before and after participating in the program? Secondly, was the acquired knowledge helpful in their performing tasks?

The first sub-question aims to identify how they can improve the knowledge and skills they have gained, and the other benefits they have reaped through the program. In addition, there will be a look into how they apply the knowledge and skills to their work by using the questionnaire in form of the training outcome evaluation as the process of follow-up.

To seek the answers of the difference in knowledge and understanding level after participating in the program, the researcher will use the hypothesis which focuses on six courses of the program.

The second sub-question aims to see how successful their coaching careers have been after completion of the training program, the progress of their career and the effect after completion of the program.

3.3. What needs to be done in order for the program to be more effective in the future?

According to academic area the training program has to be analyzed and evaluated for any improvement and development. Thereafter the organizing team can identify the problem(s), difficulty or challenges and implement solutions to improve the effectiveness of the program.

This question aims to identify the problem, difficulty or any obstacle that hinders the program and find out the solutions to be implemented that can apply to improve the effectiveness of the program to be better equipped in adapting to the ever changing sporting world.

II. LITERATURE REVIEW

There are many pertinent theories that could be of use for this research. This chapter will be presented in three sections including; the human resource training or development in sport organization, the introduction of Thai sport personnel development program, and logic model.

1. The human resource training or development in sport organization

1.1. Sport organization

1.1.1. Sports Authority of Thailand (SAT)

Since international sport activities were brought to Thailand in the period of King Chulalongkorn the Great (King RamaV), they were supported and promoted to become part of nation's sport along with the national sport or traditional sport. At that time, government had set up programs to promote excellence in sport. Through its sports promotional schemes, government provided requisite infrastructure, equipment, coaching facilities and competition exposure.

Sport in Thailand focuses on the rounded development of the human personality, but the international competition exposure during that time was entrusted to the Sport Committee with no support fund from the government. That resulted in shoddy management of sports in the country. It was not until

1964 did Thailand manage to shine on the international stage. King Chulalongkorn, The Great (King RamaV) in September 1964 announced the establishment of the Sports Organization of Thailand by referring to state law no. 3 (of 1953 act). The Sports Organization of Thailand was set up as a government institution, authorized to implement and manage.

At the beginning, the Sports Organization of Thailand did not have its own office, but it did not stop their support of the government policy and concern for sport management. They still took full responsibility for both national and international sport activities. Their first international sport mission was to be the secretary office and organizing committee of the fifth Asian Games in 1966.

Though the Sports Organization of Thailand was, by royal decree, the government organization responsible for the country's sport activities it faced a number of challenges and difficulties in national sport administration, especially in the budget, then the problem of monitoring sport activities and having the private sector conform to government policy. At the same time, many athletes were in agreement that the sports in Thailand was not well-organized; there was a lack of promotional effectiveness on sport utilities and no organization had direct responsibility in taking care of, and preventing, the cheating in the various sports which spoils the country's reputation

On Oct 17, 1985, His Majesty King Bhumibol Adulyadej Rama IX amended the act on the athletic law with the announcement of matter no.102 section 149 that moved responsibility of sport management to the Sports Authority of Thailand (SAT) from the Sports Organization of Thailand. Thus SAT from then on had all the authority to take care and control all sport concerns for highest effective and efficient quality services provision. These were to be attained through its mandate, vision, mission and objectives.

In the present, the SAT is a state enterprise responsible for sports development of the country under the vision “SAT is the main principal office to develop the excellence and professional athletes to be the best in Asia” (SAT, 2014). As the major sports supporter, SAT has to encourage Thai sports personnel to apply the knowledge and the experience they have acquired to their work at national sports associations or other related sports organizations for the reputation of the country and establishing a network among sports associations and organizations at all levels. Thai sports coaches must have an insight into the overall sports system in both theoretical and practical aspects to fit with the present sports world.

1.1.2. United States Sports Academy (USSA)

The United States Sports Academy, known around the world as “America’s Sports University” (USSA, 2014), is an accredited, sport – specific

institution located in Daphne, Alabama. The academy was founded in 1972 by Dr Thomas P Rosandich, the current president and chief executive officer, in response to an inferior performance by the United States Olympic team at the 1972 Munich Games.

From the starting point, the academy's general mission has been to serve the country and the world as a sport education resource, upgrading sport through programs of instruction, research and service. In 1983, the academy became the nation's first and only free standing, accredited institution dedicated only to professional graduate studies in sport.

Be an "university without walls" is one of the academy's leadership visions which mean the academy can teaching sport in any location in the world. The academy has met this challenge and has offered a great deal of adaptability to students through innovative teaching practices, for example, the mentorship, and the distance learning delivery system that enables for all students to take their entire course while away from the campus is widely recognized.

The strength point of the academy is its "National Faculty" (NAFAC), which was developed during the academy's developmental years and continues to present to support the academy's resident faculty. Members of the NAFAC are former faculty or professionals who have served as sport specialists throughout the world in the academy's cultural exchange programs.

1.2 The theory of human resource training or development

1.2.1 Human resources

The business dictionary states that human resources (HR) are the division of an organization that is focused on activities relating to employees includes recruiting and hiring, orientation and training, employee benefits, and retention. It was formerly called Personnel.

Tracey (2003) defines human resources as "the people that operate an organization". HR can also refer to the organizational function that deals with the individuals and issues related, for example, compensation, hiring, performance management, and training.

1.2.2 Human resource management

Brendan (2014) mentioned that HR, also referred to as human resource management (HRM), as basically an expression of an organizations belief in the employee component of that organizations' achievement.

In other words, HRM is "a function in organizations designed to maximize employee performance in service of their employer's strategic objectives" (Johnason, 2009).

Collings and Wood (2009) argued that HRM is primarily concerned with how people are managed within an organization, focusing on policy and

system. While Schuler (1992) proposed that the elements of the HRM mix are the philosophy, policies, programs, practices and processes.

It was observed that HRM is about the forecasting of organizational needs, managing people in organization to meet current and future requirements, including sub disciplines of selection, training, appraisal and rewards.

It can therefore be said that HR is a term used to describe the individuals who comprise the workforce of an organization. Meanwhile, HRM means employing people, developing their capacities, utilizing, maintaining and compensating their services in tune with the job and organizational requirement (CRK, 2011).

1.2.3 Human resource development

Human Resource Development (HRD) has been defined by various scholars in various ways. For Nadler and Nadler (1989), “HRD is organized learning experiences provided by employees within a specified period of time to bring about the possibility of performance improvement and/or personal growth.”

"HRD is sorted out learning encounters gave by workers inside a determined time of time to realize the likelihood of execution change and/or self-awareness."

Technically, human resource development is presently a prominent and central part of HRM but the purpose of HRD is to focus on the resource that humans bring to the success equation in both personal success and organizational success. The two core threads of HRD are individual and organizational learning, and individual and organizational performance (Ruona, 2000; Watkins & Marsick, 1996; Swanson, 1996a).

Some perceive learning and performance as alternatives or rivals, while most see them as partners in a formula for success. Thus, assessment of HRD successes or results can be categorized into the domains of learning and performance. But in all cases, it is observed that the intent is improvement.

1.2.4 Differences between HRM and HRD

Both are very important concepts of management specifically related with the human resources of an organization. HRM and HRD can be differentiated as in shown in Table 1.

Table 1. Difference between HRM and HRD

Human Resource Management (HRM)	Human Resource Development (HRD)
A routine and administrative Function	Continuous process
Function more independent with separate roles to play	Sub – system of a large system, more organizational oriented
Mainly a reactive function responding to the demands which may arise	More proactive; it copes with changing needs of the people as well as anticipate these needs
Concerned with people only	Developing the whole organization
It is basically the responsibilities of the HR department	Involvement of the entire workforce from top to bottom is more and a must of the cases

However, HRD is the part of HRM that specifically focuses on training (immediate concern) and development (long term). HRD practice can also be used to narrow skill gaps and to conduct career planning. Pfeffer and Veiga (1999) have emphasized that training is an essential component of a high performance work system because these system rely on frontline employee skills and initiatives to identify and resolve problems, to initiate changes in work methods, and to take responsibility for quality.

1.2.5 Training and development

Training is the opportunities and courses for individuals to develop skills, knowledge and attitudes that help the organization to achieve its

objectives while development is the provision of opportunities and courses for individuals to develop skills, knowledge and attitudes that help themselves to achieve personal objectives.

Training and development needs analysis of the opportunities and experiences are required for individuals to train and develop in according to meet organizational and personal goals. A training and development plan can then be created to set out how these needs can be addressed in practical steps.

2. Introduction of Thai sport personnel development program

Nowadays sports science and technology is really important and it is involved in every process from training to competition. Sports science is a branch of science that studies the application of scientific principles and techniques whose goal is to improve the performance of an athlete. It covers a wide background of subjects that deals with sports, such as anatomy, biomechanics, nutrition, diet, physiology, psychology, motor control, sports technology and performance analysis. Therefore, we can say that sports science is a multi-faceted study.

Because of sport science and technology's potential to improve performance, knowledge of this area has become so important. The current situation of the sports industry with its competitiveness, both at national and

international level, motivates sports coaches to be dedicated to training the sports personnel in a large of number of programs as shown in tables 2 and 3.

Table 2. Example of sports personnel training/development program in Thailand

Organization	Name of the program	Language	Target
Sports Authority of Thailand	International Certification in Sports Coaching	English	Coaches
The Institute of Physical Education and Sports	Training coaches	Thai	Coaches
Football Association of Thailand under patronage of the King	A, B, C licenses	Thai	Football coach
Thailand Swimming Association	Thailand swimming coach seminar	Thai	Swim coach
Mahidol University	The certification of personal trainer	Thai	Personal trainer

In this study, the focus will only be on the ICSC program which is a sports science and training program that has been continually conducted since 2004 under the agreement between SAT and the USSA.

Table 3. Example of sports personnel training/development program in Asia

Organization	Name of the program	Language	Target
Sports Authority of Thailand	ICSC	English	Coaches
Minister of Youth and Sport, Malaysia	Academy Preparing for Physical Education and Sports Coaching Program in Malaysia	English	Coaches
National Sports Association of Singapore	Singapore Coach Excellence, Singapore Continuing Coach Education	English	Coaches
Saigon Sports Academy, Vietnam	Multi-sports Training	English	Coaches
Myanmar Football Federation	Myanmar Football Coach and Referee	English	Coaches, referees

2.1. The International Certification in Sports Coaching program

For coaches to develop successful athletes, sports sciences, technology and other related areas are vital. That is why the institutions and sports personnel development programs were established to provide the knowledge and skills to coaches for the process of formation, develop and successful athletes in their own sport.

The ICSC was established formally in 2004 between SAT and the USSA. The purpose of this program is to develop the knowledge and skills of sports personnel, while the knowledge and experience gained from the program will enhance their performance at both national and international level.

The ICSC program provided six courses: ethics in sports, sports coaching methodology, sports biomechanics, sports strength and conditioning, seminar in sports medicine, and sports psychology, which are modified with additional training program have been developed since the start of the program.

3. Logic model

A logic model (also known as theory of change) is a tool used most often by managers and evaluators of programs to evaluate the effectiveness of a program. Logic models are usually a graphical depiction of the logical

relationships between the resources, activities, outputs and outcomes of a program (McCawley, no date).

Logic models are most often used in the evaluation stage of a program; they can however be used during planning and implementation. In addition, Logic models support design, planning, communication, and learning. They are often used when explaining an idea, resolving a challenge, or assessing progress. They can untangle and clarify complex relationships among elements or parts.

In the simplest form, a logic model has four components as illustrated by Kellogg (2001) which are

1) Inputs: what are needed to ensure the program can operate (e.g. funding, staff, office space, etc.)

2) Activities: the action that need to fulfill the program. Also include all those action steps necessary to produce program outputs (e.g. event, service education and training programs, etc.)

3) Outputs: the measurable, tangible and direct products or result of program activities (e.g. number of courses taught or workshop held, people trained and hours of service provided, etc.)

4) Outcomes: the changes or benefit that result from the program. Includes short-term outcomes (e.g. acquisition of knowledge), intermediate outcomes (e.g. changes in behavior), and long-term outcomes (e.g. larger-scale outcomes related to the ultimate impact on the program)

As we draft each component of the logic model, consider the relationship between the components. If we cannot make a connection, we should identify the gaps and adjust our work. This may mean revising some of our activities to ensure that we are able to achieve our outcomes, or revising intended outcomes to be feasible with available resources.

III. METHODOLOGY

This is a pilot study in assessing the effectiveness of Thai sports coaches' development program in Thailand in particular the ICSC program; no data was accessible in advance with respect to the examination subject. A mixed method approach was chosen in order to evaluate the success of the ICSC program in Thailand as secondary data, survey-online questionnaire and in-depth interview provide the necessary evaluation process required in this research.

1. The secondary data

Secondary data helps to “better understand and explain our research problem” (Ghuri & Grønhaug, 2005).

In terms of describing the ICSC program using the logic model in accordance to the four components, the information that already appeared from website or documents act as a secondary data for each component.

2. The survey-online questionnaire

“A questionnaire is a cost effective way to collect data, from large numbers of population,” (Clarke and Jack, 1998).

For this questionnaire, researcher used the evaluation of each course as the basis of all questions and performed text mining by extracting keywords from the evaluation. Certain questions also were drafted based on researcher's experiences and observations during a working stint there.

The survey-online questionnaire was distributed via email, Facebook group page, and chat application sent by researcher.

2.1. Population

The population of this study is 300 sports coaches who complete the program from 2004-2014.

2.2. Data collection

After reviewing information of online survey sites that are available, the web-based survey company Survey Can (www.surveycan.com) was chosen. The advantages of using an online survey cover cost efficiency, faster delivery and quicker response time. On the other hand, the disadvantages are technical related issues. For example, certain email of sports coaches could not be delivered which meant the researcher could not get a response from them.

The survey was sent out on Oct 19, 2014 with a deadline for submission of on Nov 6, 2014. A total of 105 sports coaches responded with a 35% return rate.

3. In-depth interview

In addition, to strengthen the result, in-depth interviews were conducted. The purpose was to get more information about the appropriateness of the program in terms of content of the courses, the participants, its problems and its implementation.

3.1. Participants

The interviews were conducted with organizing team and six coaches who complete the program during the duration of the period under review.

3.2. Data collection

The researcher contacted the participants and asked for interviews, of which four of six coaches and the chief of sports personnel development-international section agreed. The interviews were conducted by phone call, Skype and via email.

3.3. Data analysis

Data will be analyzed using Descriptive statistics, which is “the discipline of quantitatively describing the main features of a collection of information” (Mann, 1995). The result in the difference of the knowledge and understanding before and after participating in the program were calculated

using the Paired T-Test to determine whether the result is significant, while the other result were calculated using the Descriptive analysis. All forms of statistic were calculated using SPSS version 18.

To find out the value of Cohen's d and the effect-size correlation, $r_{\gamma\lambda}$ in the difference in knowledge and understanding level of participants before and after participating in the program, the researcher used the means and standard deviation of two groups (before and after). The formula (Becker, 2000) of this calculation is as follow:

$$\begin{aligned} \text{Cohen's } d &= \frac{M1 - M2}{\delta_{\text{pooled}}} \\ \text{where } \delta_{\text{pooled}} &= \frac{\sqrt{[(\sigma_1^2 + \sigma_2^2)]}}{2} \\ r_{\gamma\lambda} &= \frac{d}{\sqrt{(d^2 + 4)}} \end{aligned}$$

Note: d and $r_{\gamma\lambda}$ are positive if the mean difference is in the predicted direction.

IV. RESULTS

1. How can the ICSC program be described using the logic model?

The simplest form to describe the ICSC program is the four components by Kellogg (2001) which are inputs, activities, outputs and outcomes.

1.1. Inputs

Inputs are the items needed to ensure the program can operate, such as money, staff, and equipment.

The ICSC program is a partnership between SAT and the USSA which mean the inputs will come from SAT and USSA.

The USSA are required to designate appropriate faculty members/sports experts to teach each course, and provide the appropriate course material such as syllabus, slides, handouts, textbooks and similar educational aids.

The major and important parts of inputs are on SAT side, for instance funding, staff, participants, and place. As a government entity, SAT receives funding from government.

The officers in the sports personnel development-international section are responsible for the program. They are the ones who plan and operate the

program. The participants for the program are the sports coaches who apply under the sports association of Thailand.

The program also provided training venues and other required facilities such as audio visual aids, consumable supplies and interpreters for the proper presentation. The consumable supplies include materials such as athletic tape and materials for the Seminar in Sports Medicine course. The AV equipment includes the laptop computer with digital camera within which the Dartfish program is loaded for the Sport Biomechanics course.

1.2. Activities

Activities are the actions that are needed to fulfill the program. For instance, events, service, education and training programs come under this category.

The ICSC program is designed to address the development/training program which SAT needs to enhance the knowledge, skills and understanding of sports coaches in Thailand, both theoretically and practically, as knowledge and experience gained from the program can be applied to improve the sports association or organization in both national and international level.

To recruit sports coaches to participate, the organizing team approaches 77 sport associations by sending them the details of the program such as the regulation of the qualification of applicants including the

application form. The association then will select the coach or sport personnel to participate the program. SAT will then choose the final participants according to the qualifications, number and the perceived benefits for the participants.

1.3. Outputs

These are the measurable, tangible and direct products or result of program activities, such as the number of course taught or workshops held, people trained, and hours of service provided.

The ICSC program is a training program with six courses on sports coaching methodology, ethics in sports, sports biomechanics, sports strength and conditioning, seminar in sports medicine, and sports psychology. The courses focus on theoretical and practical which are modified with additional training program that was developed prior to the start of the program. Each course varies from 40 hours to five days.

Each year the number of participants will be determined by the budget provided by government. In order to get the maximum benefit, the number of participants should not exceed 50 students in each course. Therefore, SAT has set a number of 30 participants in each year.

To receive the certification, participants must take all six courses within five years from the first registration. Participants are required to attend

at least 80% of the course to be eligible to take the final examination and to score a minimum of 50% on the respective examinations.

1.4. Outcomes

These are the changes or benefits that result from the program including increased skills/ knowledge/ confidence, leading in longer-term to promotion and new job.

The aim of the ICSC program is to develop both the theoretical and practical, knowledge, skills and understanding of Thai sports coaches which then can be applied in the course of their coaching duties for the sports association or organization on both national and international levels.

The outcome of this program is to increase the knowledge, skills and understanding of the participants. The sports coaches who complete the program also get promoted, are eligible to apply for another training course provided by SAT, and get higher compensation.

2. How successful has the ICSC program been in supporting the participants' career?

2.1. Participants

A total of 105 samples were collected from the respondents and subsequently used to be analyzed for the study. Table 4 shows the

demographic breakdown of this study. Forty respondents (38.1%) were female, and 65 (61.9%) were male. The demographical information for age among the people showed that 17 (16.2%) were in the age group of under 31, a total of 48 (45.7%) were in the age group of 31-40, a total of 23 (21.9%) were in the age group 41-50, a total of 14 (13.3%) were in the age group of 51-60, and a total of 3 (2.9%) were in the age group of above 60. The education status had 4 categories where the first group was diploma or equal graduates with a number of 5 (4.8%) people, a total of 43 (41%) were college graduate with bachelor degree, a total of 46 (43.8%) were college graduates with a master's degree, those with a Ph.D. degree were 11 (10.5%) of the whole respondents.

The occupation status had 5 categories where the first group was government employee with a number of 41 (39%) people, a total of 28 (26.7%) were in the group of state enterprise employee, a total of 13 (12.4%) were in the group of private sector employee, a total of 17 (16.2%) were in the group of self-employed, those with others being 6 (5.7%) of the whole respondents. The total career experiences status had 6 categories where the first group was less than 6 years with a number of 23 (21.9%) people, a total of 29 (27.6%) were in the group of 6-10 years, a total of 25 (23.8%) were in the group of 11-15 years, a total of 11 (10.5%) were in the group of 16-20 years, those with more than 25 years being 9 (8.6%) of the whole respondents.

Table 4. Demographic statistics

Variable	Category	N	%
Gender	Female	40	38.1
	Male	65	61.9
Age	Under 31	17	16.2
	31-40	48	45.7
	41-50	23	21.9
	51-60	14	13.3
	Above 60	3	2.9
Education	Diploma or equal	5	4.8
	Bachelor's degree	43	41.0
	Master's degree	46	43.8
	PhD	11	10.5
Occupation	Government employee	41	39.0
	State enterprise employee	28	26.7
	Private sector employee	13	12.4
	Self employed	17	16.2
	Others	6	5.7
Total career experiences	Less than 6 years	23	21.9
	6-10 years	29	27.6
	11-15 years	25	23.8
	16-20 years	11	10.5
	21-25 years	8	7.6
Current job in the association or club	More than 25 years	9	8.6
	Coaching	74	70.5
	Administration	14	13.3
Total	None	17	16.2
		105	100.0

2.2. The level of knowledge and understanding before and after participating in the program

2.2.1. The knowledge and understanding before participating in the program

The knowledge and understanding before participating in the program of sports coaching methodology course had five levels where the majority of

respondents said that they were fair (45.7%) followed by good (35.2%). The least in knowledge and understanding of sports coaching methodology course

before participating in the program is extremely poor (1%). The knowledge and understanding before participating in the program of ethics in sports course had six levels where the majority of respondents said they were good (41.9%) followed by fair (41%). The least in knowledge and understanding of ethics in sports course before participating in the program is none (1%).

For the sports biomechanics course, majority said their knowledge and understanding prior to the program was fair (44.8%), followed by poor (27.6%). The least in knowledge and understanding of sports biomechanics course before participating in the program is excellent (1%).

Meanwhile, the knowledge and understanding before participating in the program of sports strength and conditioning course had five levels where the majority of respondents said that they were fair (56.2%) followed by good (26.7%). However 1.9% of the participants were found to have both excellent and extremely poor levels of knowledge and understanding.

Table 5. Summary of the knowledge and understanding before the program

Course	Level	N	%
Sports coaching methodology	Extremely poor	1	1.0
	Poor	17	16.2
	Fair	48	45.7
	Good	37	35.2
	Excellent	2	1.9
Ethics in sports	None	1	1.0
	Extremely poor	2	1.9
	Poor	10	9.5
	Fair	43	41.0
	Good	44	41.9
Sports biomechanics	Excellent	5	4.8
	None	3	2.9
	Extremely poor	13	12.4
	Poor	29	27.6
	Fair	47	44.8
Sports strength and conditioning	Good	12	11.4
	Excellent	1	1.0
	Extremely poor	2	1.9
	Poor	14	13.3
	Fair	59	56.2
Seminar in sports medicine	Good	28	26.7
	Excellent	2	1.9
	None	1	1.0
	Extremely poor	1	1.0
	Poor	26	24.8
Sports psychology	Fair	61	58.1
	Good	15	14.3
	Excellent	1	1.0
	Extremely poor	3	2.9
	Poor	21	20.0
Sports psychology	Fair	52	49.5
	Good	27	25.7
	Excellent	2	1.9

The knowledge and understanding before participating in the program of seminar in sports medicine had six levels where the majority of respondents reported fair (58.1%) followed by poor (24.8%). The lowest score of 1% was

found among those participants that had excellent, extremely poor and none in their knowledge and understanding of the seminar in sports medicine.

The majority of respondents said their knowledge and understanding before participating in the sports psychology course were fair (49.5%) followed by good (25.7%). The least in knowledge and understanding of sports psychology course before participating in the program is excellent (1.9%).

2.2.2. The knowledge and understanding after participating in the program

The knowledge and understanding after participating in the program of sports coaching methodology course had five levels where the majority of respondents said that they are good (57.1%) followed by excellent (35.2%). Only 1% of the participants were found to be both poor and extremely poor in their knowledge and understanding of the sports coaching methodology course after participating in the program.

Table 6. Summary of the knowledge and understanding before the program

Course	Level	N	%
Sports coaching methodology	Extremely poor	1	1.0
	Poor	1	1.0
	Fair	6	5.7
	Good	60	57.1
	Excellent	37	35.2
Ethics in sports	None	1	1.0
	Extremely poor	2	1.9
	Fair	3	2.9
	Good	60	57.1
	Excellent	39	37.1
Sports biomechanics	Extremely poor	2	1.9
	Fair	27	25.7
	Good	61	58.1
	Excellent	15	14.3
Sports strength and conditioning	Poor	2	1.9
	Fair	9	8.6
	Good	64	61.0
	Excellent	30	28.6
Seminar in sports medicine	Extremely poor	1	1.0
	Fair	13	12.4
	Good	72	68.6
	Excellent	19	18.1
Sports psychology	Extremely poor	1	1.0
	Fair	16	15.2
	Good	60	57.1
	Excellent	28	26.7

For the ethics in sports course, majority of respondents said their knowledge and understanding after the program was good (57.1%), followed by excellent (37.1%). The least in knowledge and understanding of ethics in sports course after participating in the program was none (1%).

The knowledge and understanding after participating in the program of sports biomechanics course had four levels where the majority of

respondents said that they are good (58.1%) followed by fair (25.7%). The least was extremely poor (1.9%).

The knowledge and understanding after participating the program of sports strength and conditioning course had four levels where the majority of respondents said that they are good (61%) followed by excellent (28.6%). The lowest level was poor (1.9%).

The knowledge and understanding after participating in the seminar in sports medicine course had four levels where the majority of respondents said that they are good (68.6%) followed by excellent (18.1%). The least was extremely poor (1%).

Lastly, the knowledge and understanding after participating in the program of sports psychology course had four levels where the majority of respondents said that they are good (57.1%) followed by excellent (26.7%). The least in knowledge and understanding of sports psychology course after participating in the program was extremely poor (1%).

2.3. The difference of knowledge and understanding between before and after participating in the program

In order to find out the difference of knowledge and understanding between before and after participating in the program, we used the descriptive statistic for the variable, paired samples correlations, and paired t-test as

shown in tables 7, 8, and 9 respectively. The dependent variable is the level of knowledge that is measured twice; that is before and after. The independent variable is the courses.

Table 7. Descriptive statistic for each variable

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Knowledge before participating in the program (Methodology)	4.21	105	.768	.075
	Knowledge after participating in the program (Methodology)	5.25	105	.690	.067
Pair 2	Knowledge before participating in the program (Ethics)	4.35	105	.866	.084
	Knowledge after participating in the program (Ethics)	5.25	105	.818	.080
Pair 3	Knowledge before participating in the program (Biomechanics)	3.52	105	.982	.096
	Knowledge after participating in the program (Biomechanics)	4.83	105	.740	.072
Pair 4	Knowledge before participating in the program (Strength)	4.13	105	.735	.072
	Knowledge after participating in the program (Strength)	5.16	105	.652	.064
Pair 5	Knowledge before participating in the program (Medicine)	3.87	105	.735	.072
	Knowledge after participating in the program (Medicine)	5.03	105	.627	.061
Pair 6	Knowledge before participating in the program (Psychology)	4.04	105	.808	.079
	Knowledge after participating in the program (Psychology)	5.09	105	.709	.069

Table 7 shows the mean of the knowledge and understanding before and after, the number of respondents, the standard deviation and the standard error. The important results are the mean and the standard deviation.

The standard deviation values are not the same in all courses which shows that there is variation in the sample. The mean of the knowledge and understanding after participating in the program are greater than the mean of the knowledge and understanding before participating in the program in all courses. This shows that the knowledge and understanding after participating in the program is greater than the knowledge and understanding before participation. Implying that there is gain in knowledge and understanding. The significance of difference in mean before and after participation will be determined by the paired sample t-test.

Table 8 shows the correlation coefficient among the variable. The value of the correlation are not much higher than 0.5 and they are highly significant as shown by p-value. This shows that the variables have a weak correlation, meaning that the knowledge before and after are not moving at the same level.

Table 9 is the result of the paired t-test which shows the mean difference between the mean value of knowledge and understanding before and after participating in the program, standard deviation, standard error mean,

95% confidence interval of the difference, t-value, degree of freedom, and the 2-tailed significant level (p-value).

The negative or positive sign of the mean does not matter. It depends on the arrangement of the variable for mathematics. The significant level is determined by the p-value. Usually if $p < 0.05$ it implies that it is significant at 95%, but in this study, the p-value shown here is $p < 0.001$ which implies that it is 99% significant, showing that the difference in knowledge and understanding is highly significant.

Another result we can get from Table 8 is the 95% confidence interval of the difference which shows what kind of difference we are expected to see in the sample. If one sign is positive and the other sign is negative of the upper and lower confidence interval, it means we don't know if the knowledge and understanding before are higher or lower than the knowledge and understanding after participating in the program. But if the upper and lower confidence interval are both either positive or negative then it means that there is a difference between the knowledge and understanding before and after. An example of that is the sports coaching methodology course, as it shows from the lower value that the knowledge and understanding before participating in the program is at least -1.201 lower than the knowledge and understanding after participating in the program. And from the upper value that the knowledge and understanding after participating in the program is at most -

0.875 greater than knowledge and understanding before participating in the program. This means that the true difference between the means lays between the two values: between -1.201 and -0.875 and we are 95% certain.

Specifically, the interpretation of each result according to the APA style of representation is also shown below.

Table 8. Correlation of paired samples

Pairings	N	Correlation	Sig.
Pair 1 Knowledge before & after participation (Methodology)	105	.336	.000
Pair 2 Knowledge before & after participation (Ethics)	105	.500	.000
Pair 3 Knowledge before & after participation (Biomechanics)	105	.549	.000
Pair 4 Knowledge before & after participation (Strength)	105	.416	.000
Pair 5 Knowledge before & after participation (Medicine)	105	.342	.000
Pair 6 Knowledge before & after participation (Psychology)	105	.532	.000

Table 9. Paired sample tests

	Paired Differences						t	f	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Upper			
				Lower	Upper				
Pair 1 Knowledge before – after (Sports Coaching Methodology)	-1.038	.843	.082	-1.201	-.875	-12.624	104	.000	
Pair 2 Knowledge before - after (Ethics in Sports)	-.895	.843	.082	-1.058	-.732	-10.886	104	.000	
Pair 3 Knowledge before – after (Sports Biomechanics)	-1.305	.845	.082	-1.468	-1.141	-15.823	104	.000	
Pair 4 Knowledge before – after (Sports Strength and Conditioning)	-1.029	.753	.073	-1.174	-.883	-14.003	104	.000	
Pair 5 Knowledge before – after (Seminar in Sports Medicine)	-1.162	.786	.077	-1.314	-1.010	-15.148	104	.000	
Pair 6 Knowledge before – after (Sports Psychology)	-1.048	.739	.072	-1.191	-.905	-14.531	104	.000	

2.4. Hypothesis testing

The first hypothesis said there is no significant difference between the mean of the knowledge and understanding before and after participating in the sports coaching methodology course.

To test the hypothesis that the means of the knowledge and understanding of the sports coaching methodology course before participating in the program ($M = 4.21$, $SD = 0.768$) and after participating in the program ($M = 5.25$, $SD = 0.690$) were equal, a dependent sample t-test was performed. Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the Skew and Kurtosis levels were estimated at 1.547 and 5.715, respectively, which is less than the maximum allowable values for a t-test (i.e., $Skew < |2.0|$ and $Kurtosis < |9.0|$; Posten, 1984). The correlation between the two categories was estimated at $r = 0.336$, $p < 0.001$, suggesting that the dependent sample t-test is appropriated in this case.

The null hypothesis of equal means of the knowledge and understanding of the sports coaching methodology course was rejected, $t(104) = -12.624$, $p < 0.001$. Thus, the mean of the knowledge and understanding of the sports coaching methodology course after participating in the program was statistically significantly higher than the mean before participating in the program. Cohen's d was estimated at -1.424 which is a large effect based on

Cohen's (1992) guidelines. A graphical representation of the means and adjusted 95% confidence interval (Loftus and Masson, 1994) is displayed in Figure 1.

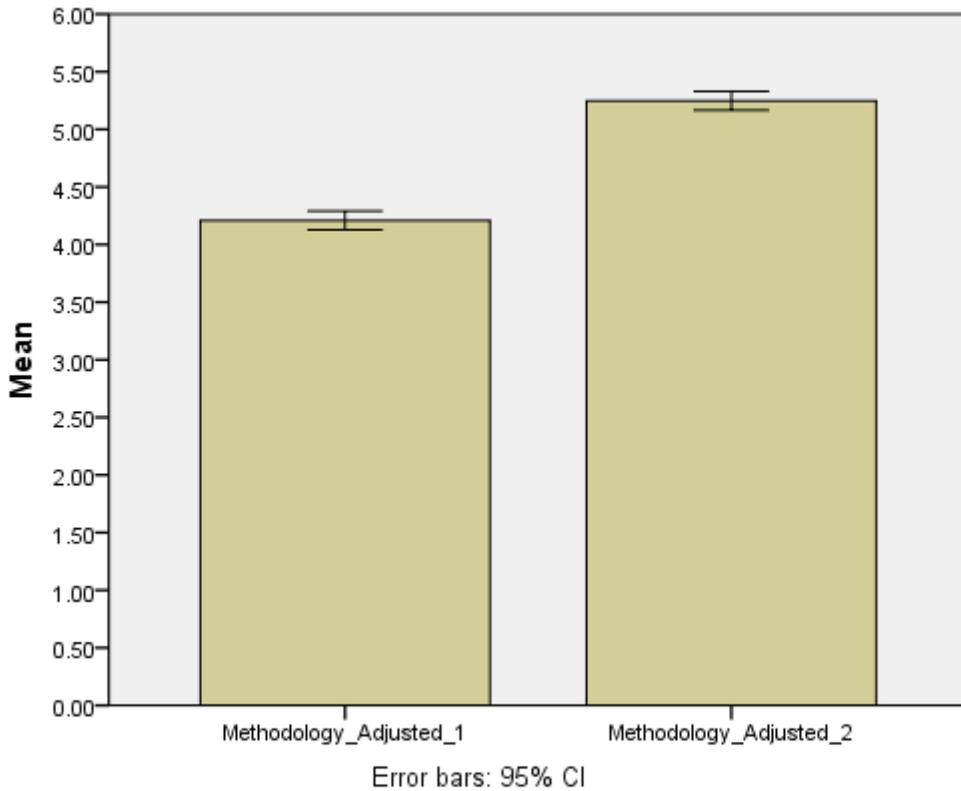


Figure 1. The means and adjusted 95% confidence interval of sports coaching methodology course.

For the ethics in sports course, there is no significant difference between the mean of the knowledge and understanding before and after participation in the program.

To test the hypothesis that the means of the knowledge and understanding of the ethics in sports course before participating in the program ($M = 4.35$, $SD = 0.866$) and after participating in the program ($M = 5.25$, $SD = 0.818$) were equal, a dependent sample t-test was performed. Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the Skew and Kurtosis levels were estimated at -0.104 and 1.533 , respectively, which is less than the maximum allowable values for a t-test (i.e., $Skew < |2.0|$ and $Kurtosis < |9.0|$; Posten, 1984). It must be noted that the correlation between the two categories was estimated at $r = 0.500$, $p < 0.001$, suggesting that the dependent sample t-test is appropriated in this case.

The null hypothesis of equal means of the knowledge and understanding of the ethics in sports course was rejected, $t(104) = -10.886$, $p < 0.001$. Thus, the mean of the knowledge and understanding of the ethics in sports course after participating in the program was statistically significantly higher than the mean before participating in the program. Cohen's d was estimated at -1.068 which is a large effect based on Cohen's (1992) guidelines. A graphical representation of the means and adjusted 95% confidence interval (Loftus & Masson, 1994) is displayed in Figure 2.

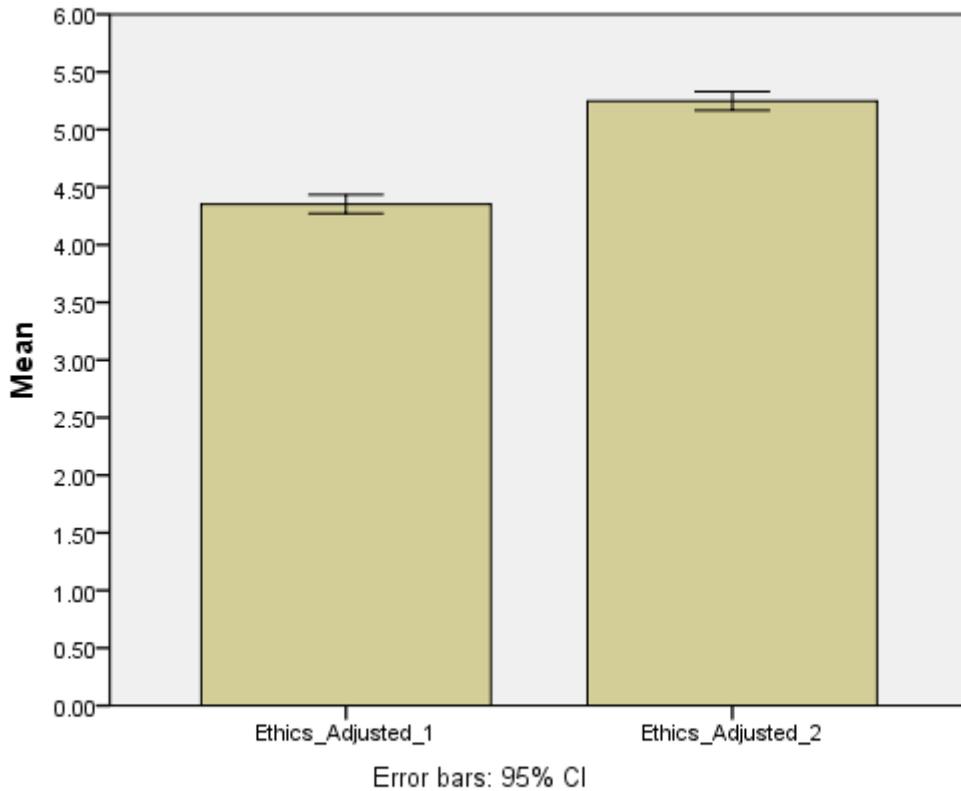


Figure 2. The means and adjusted 95% confidence interval of ethics in sports course

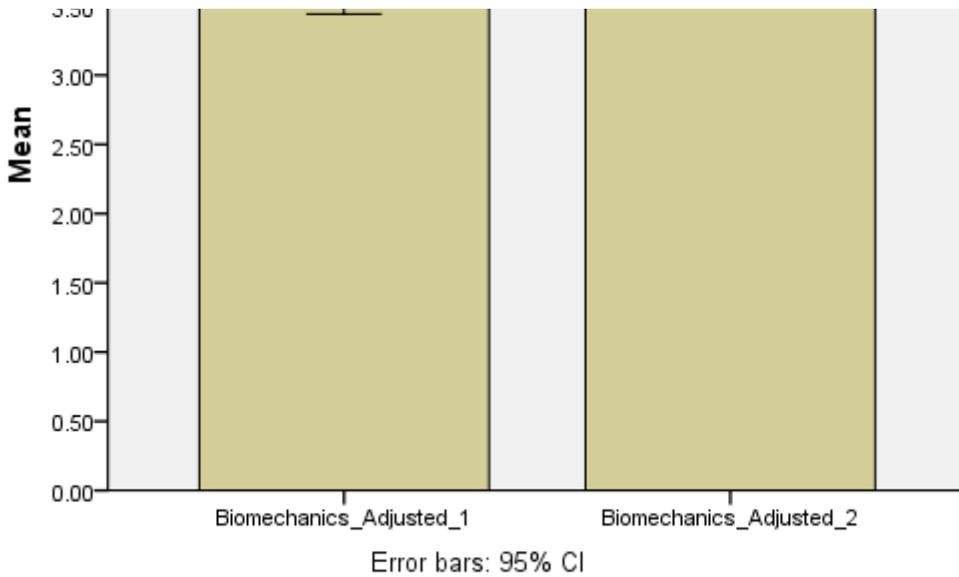
The third hypothesis was there is no significant difference between the mean of the knowledge and understanding before and after participating in the sports biomechanics course.

To test the hypothesis that the means of the knowledge and understanding of the sports biomechanics course before participating in the program ($M = 3.52$, $SD = 0.982$) and after participation ($M = 4.83$, $SD = 0.740$) were equal, a dependent sample t-test was performed. Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the Skew and Kurtosis

levels were estimated at -0.149 and 1.839, respectively, which is less than the maximum allowable values for a t-test (i.e., Skew < |2.0| and Kurtosis < |9.0|; Posten, 1984). It must be noted that the correlation between the two categories was estimated at $r = 0.549$, $p < 0.001$, suggesting that the dependent sample t-test is appropriated in this case.

The null hypothesis of equal means of the knowledge and understanding of the sports biomechanics course was rejected, $t(104) = -15.823$, $p < 0.001$. Thus, the mean of the knowledge and understanding of the sports biomechanics course after participating in the program was statistically significantly higher than the mean before participating in the program. Cohen's d was estimated at -1.506 which is a large effect based on Cohen's (1992) guidelines. A graphical representation of the means and adjusted 95% confidence interval (Loftus and Masson, 1994) is displayed in Figure 3.

Figure 3. The means and adjusted 95% confidence interval of sports biomechanics course



The fourth hypothesis was there is no significant difference between the mean of the knowledge and understanding before and after participating in the sports strength and conditioning course.

To test the hypothesis that the means of the knowledge and understanding of the sports strength and conditioning course before participating in the program ($M = 4.13$, $SD = 0.735$) and after participating in the program ($M = 5.16$, $SD = 0.652$) were equal, a dependent sample t-test was performed. Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the Skew and Kurtosis levels were estimated at 0.047 and 1.068,

respectively, which is less than the maximum allowable values for a t-test (i.e., Skew < |2.0| and Kurtosis < |9.0|; Posten, 1984). It must be noted that the correlation between the two categories was estimated at $r = 0.416$, $p < 0.001$, suggesting that the dependent sample t-test is appropriated in this case.

The null hypothesis of equal means of the knowledge and understanding of the sports strength and conditioning course was rejected, $t(104) = -14.003$, $p < 0.001$. Thus, the mean of the knowledge and understanding of the sports strength and conditioning course after participating in the program was statistically significantly higher than the mean before participating in the program. Cohen's d was estimated at -1.483 which is a large effect based on Cohen's (1992) guidelines. A graphical representation of the means and adjusted 95% confidence interval (Loftus and Masson, 1994) is displayed in Figure 4.

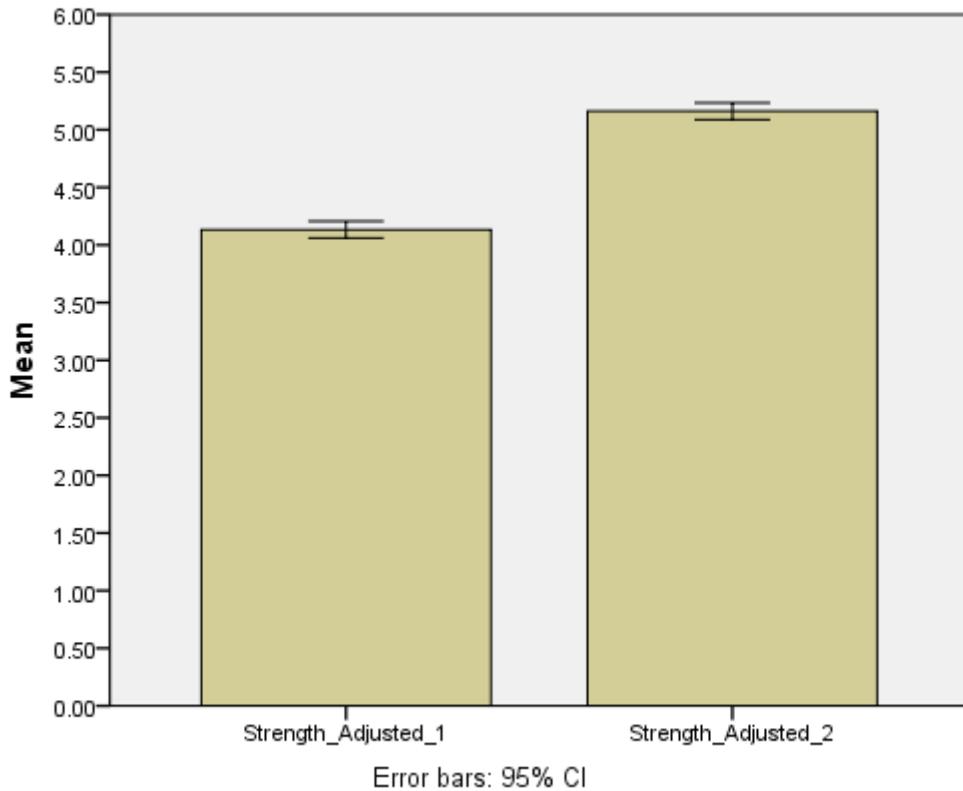


Figure 4. The means and adjusted 95% confidence interval of sports strength and conditioning course

The next hypothesis was there is no significant difference between the mean of the knowledge and understanding before and after participating in the seminar in sports medicine course

To test the hypothesis that the means of the knowledge and understanding of the seminar in sports medicine course before participating in the program ($M = 3.87$, $SD = 0.735$) and after participating in the program ($M = 5.03$, $SD = 0.627$) were equal, a dependent sample t-test was performed.

Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the Skew and Kurtosis levels were estimated at 0.175 and 3.382, respectively, which is less than the maximum allowable values for a t-test (i.e., Skew < |2.0| and Kurtosis < |9.0|; Posten, 1984). It must be noted that the correlation between the two categories was estimated at $r = 0.342$, $p < 0.001$, suggesting that the dependent sample t-test is appropriated in this case.

The null hypothesis of equal means of the knowledge and understanding of the Seminar in sports medicine course was rejected, $t(104) = -15.148$, $p < 0.001$. Thus, the mean of the knowledge and understanding of the seminar in sports medicine course after participating in the program was statistically significantly higher than the mean before participating in the program. Cohen's d was estimated at -1.698 which is a large effect based on Cohen's (1992) guidelines. A graphical representation of the means and adjusted 95% confidence interval (Loftus and Masson, 1994) is displayed in Figure 5.

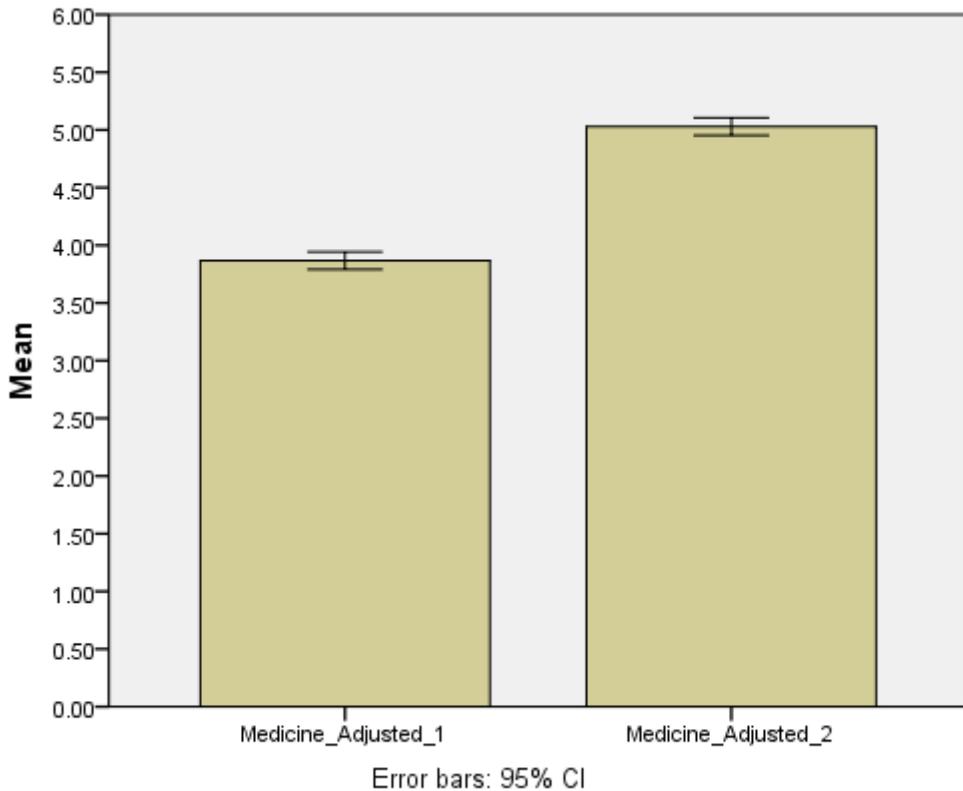


Figure 5. The means and adjusted 95% confidence interval of seminar in sports medicine course

Lastly, hypothesis number six posits that there is no significant difference between the mean of the knowledge and understanding before and after participating in the sports psychology course.

To test the hypothesis that the means of the knowledge and understanding of the sports psychology course before participating in the program ($M = 4.04$, $SD = 0.808$) and after participating in the program ($M = 5.09$, $SD = 0.709$) were equal, a dependent sample t-test was performed. Prior

to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the Skew and Kurtosis levels were estimated at 0.222 and 0.945, respectively, which is less than the maximum allowable values for a t-test (i.e., Skew < |2.0| and Kurtosis < |9.0|; Posten, 1984). It has to be noted that the correlation between the two categories was estimated at $r = 0.532$, $p < 0.001$, suggesting that the dependent sample t-test is appropriated in this case.

The null hypothesis of equal means of the knowledge and understanding of the Sports psychology course was rejected, $t(104) = -14.531$, $p < 0.001$. Thus, the mean of the knowledge and understanding of the Sports psychology course after participating in the program was statistically significantly higher than the mean before participating in the program. Cohen's d was estimated at -1.381 which is a large effect based on Cohen's (1992) guidelines. A graphical representation of the means and adjusted 95% confidence interval (Loftus and Masson, 1994) is displayed in Figure 6.

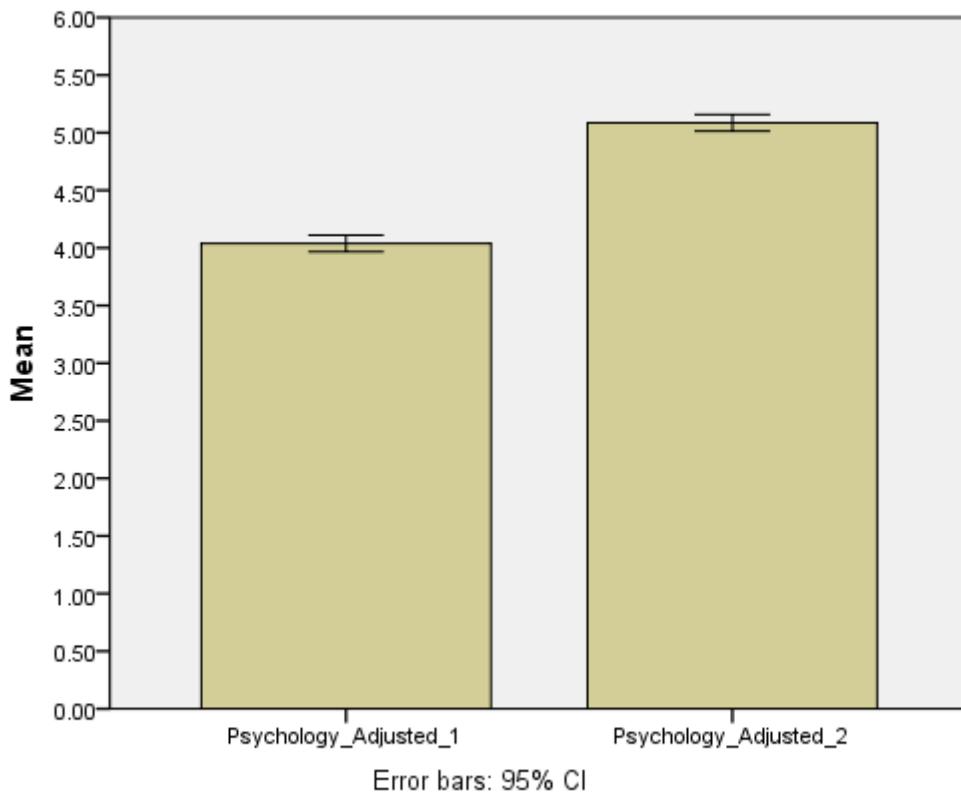


Figure 6. The means and adjusted 95% confidence interval of sports psychology course

2.5. The usefulness of the acquired knowledge in performing tasks

Of the 105 respondents, 66 of them (62.9%) said that after participating in the program their coaching plans were much improved and 25 respondents (23.8%) indicated that they have very much improved while 12 of them who constitute 11.4% of the population said that they were average in improving their coaching plan. Only two (1.9%) respondents saw little improvement.

Table 10. The usefulness of the acquired knowledge in performing tasks

Tasks	Level	N	%
Coaching plan	Little	2	1.9
	Average	12	11.4
	Much	66	62.9
	Very much	25	23.8
Pass on knowledge as lecturer	Little	6	5.7
	Average	18	17.1
	Much	49	46.7
	Very much	32	30.5
Knowledge of how to coach pragmatically and responsible	Little	6	5.7
	Average	18	17.1
	Much	49	46.7
	Very much	32	30.5
Ability to apply the knowledge and expand it to other sports	Little	1	1.0
	Average	18	17.1
	Much	62	59.0
	Very much	24	22.9
Ability to use the knowledge to promote coaching and to arrange a competition	Very little	1	1.0
	Little	1	1.0
	Average	16	15.2
	Much	59	56.2
Ability to apply the knowledge for consultation and advice for participants	Very much	28	26.7
	Average	5	4.8
	Much	61	58.1
	Very much	39	37.1
ability to use the knowledge to improve the development of organization	Very little	1	1.0
	Little	2	1.9
	Average	12	11.4
	Much	51	48.6
	Very much	39	37.1

For improvement on the ability to pass on knowledge as a lecturer, of the 105 respondents after participating in the program, 49 of them who constitute 46.7% of the population saying that they were much improved and 32 respondents (30.5%) indicated that they were very much improved while 18 of them who constitute 17.1% said they were average in improving their

ability to pass on knowledge as a lecturer. Only six (1.9%) respondents saw little improvement.

Of the 105 respondents, 49 of them who constitute 46.7% of the population said that their knowledge of how to coach pragmatically and responsibly after participating in the program were much improved and 32 respondents who make 30.5% of the population indicated that they were very much improved while 18 (17.1%) said that they were average in improving their knowledge for coaching pragmatically and responsibly. Only six (1.9%) respondents saw little improvement.

Out of the 105 respondents, 62 (59%) said their ability to apply the knowledge and expand it to other sports were much improved, while 24 respondents (22.9%) indicated they were very much improved. However, 18 (17.1%) said they were average in improvements. Only one (1%) respondent saw little improvement.

Of the 105 respondents show in Table 24, 59 of them (56.2%) said that the ability to use the knowledge to promote coaching and to arrange a competition after participating in the program were much improved and 28 respondents who make 26.7% of the population indicated that they were very much improved. Meanwhile, 16 of them who constitute 15.2% of the population said that they were average in improving their ability to use the knowledge to promote coaching and to arrange a competition. Only one (1%)

respondent saw little improvement, while another respondent indicated very little improvement.

For the ability to apply the knowledge for consultation and advice for participants after the program, 61 (58.1%) said that they were much improved and 39 respondents who make 37.1% of the population indicated that they were very much improved. Only five respondents (4.8%) were average in improvements.

Of the 105 respondents, 51 (48.6%) reported that the ability to use the knowledge to improve the development of organization after participating in the program were much improved and 39 respondents who make 37.1% of the population indicated that they were very much improved. Twelve (11.4%) indicated that they were average in improving and the other 2 (1.9%) saw a little. Only 1 (1%) respondent was very little in improving.

From the results we can conclude that the knowledge and understanding after participating in the program is significantly higher than before participating in the program. This addresses the question of the ICSC's effect on the participants' career in terms of difference in knowledge and understanding of sports coaches before and after the program.

In addition, the results also show that the ICSC program is effective in improving the abilities of sports coaches after they have participated in the program. Results show that the ability is the most improved are the knowledge

for coaching pragmatically and responsibly; the knowledge for consultation and advice for others; the applicability of the knowledge to improve the development of organization; the knowledge to improve their coaching plan; the knowledge to promote coaching and arrange a competition; the applicability of the knowledge and expand it to other sports; and the ability to pass on the knowledge as a lecturer as shown in Figure 7.

In order to strengthen the result of the success the ICSC program had in affecting the participants' career, researcher conducted in-depth interviews with four sports coaches who were former participants of the program. The interviewees were asked about the effect of the ICSC program on their career and to detail that change.

The sport coach who participate the program in 2010 said:

After completed the program, I've got promoted to be Deputy Secretary of Technical for Thai Amateur Weightlifting Association because the committee of the association want me to work as administrator. I use the knowledge as coach like periodic to encourage, inspired and motivated the young athletes. Also applied the knowledge I gained in selecting the athlete for the event.

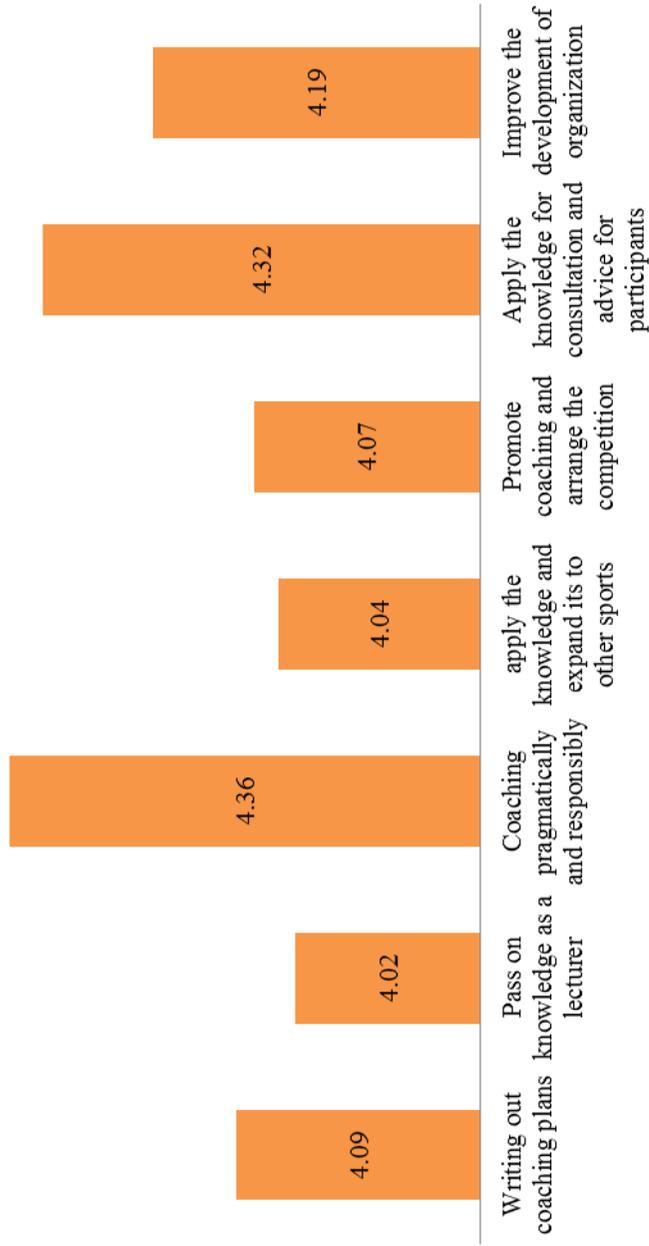


Figure 7. The average of the improvement of the ability after participating in the program

In addition, the sport coach who participate the program in 2011 stated that they were selected to be the coach for the women's national handball team for the 16th and 17th Asian Games that took place in China and South Korea respectively. Another sport coach who completed the program in 2012 was selected to be team coach for beach kabbadi women's national team in the 4th Asian Beach Games in Phuket.

From the results and the interviews, we can see that after completed the ICSC program, the coaches can utilize the knowledge and understanding, not to mention the experiences they gained to improve their career. The data also shows that the program is successful in enhancing the abilities of sports coaches by providing them with useful knowledge.

3. What needs to be done in order for the program to be more effective in the future?

This question aim to identify the effectiveness, problems, difficulties or any obstacles that hinders the ICSC program and the solution that can improve the program in the face of rapid changes in the sporting world.

Table 11. The effectiveness of the ICSC program to sports development within Thailand

Level	N	%
Average	9	8.6
Effective	39	37.1
Very effective	57	54.3
Total	105	100.0

In table 11 shows that, of the 105 respondents, 57 of them (54.3%) said that the ICSC program was very effective to sports development within Thailand and 39 respondents who make 37.1% of the population indicated that the program were effective. Only nine (8.6%) claimed that the program was average in the effectiveness to sports development within Thailand.

When asked if it was necessary to improve or change anything in the program, 68 (64.8%) said that it is unnecessary to change anything in the program while 37 of them who make 35.2% of the population indicated that it is necessary to improve the ICSC program which can be seen in Figure 8

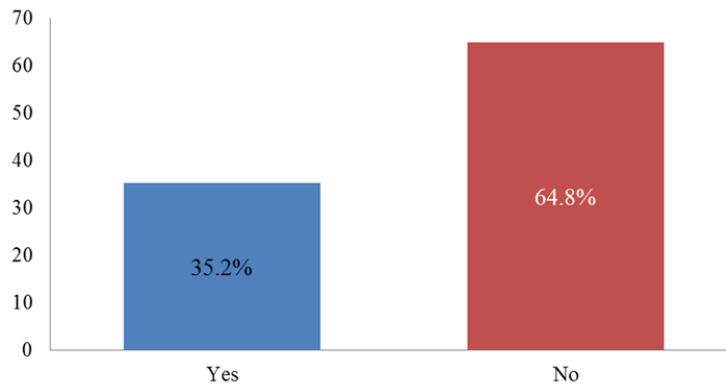


Figure 8. The necessary to improve or change anything in the program

In the open-ended questionnaire, respondents were given the opportunity to offer their personal comments on the program. As indicated previously, 35.2% saw the need to improve the ICSC program. The changes are (a) more practical aspects in the course such as sports strength and conditioning; (b) the length of the course should be appropriate to the subject matter; (c) the textbook should be translated into Thai; (d) foreign speaker should allow participant to asked more specific questions regarding their sport; and (e) foreign speakers should share more of their experience to facilitate learning.

According to the program information the organizing team sent to the sport associations during the period of recruitment, courses are listed in the order below:

- Sport coaching methodology

- Ethics in sports
- Sports biomechanics
- Sports strength and conditioning
- Seminar in sports medicine
- Sports psychology

However, result of the questionnaire shows that the largest group of the respondents, 84%, said that the order of the courses is appropriated while 16% of the population indicated the order of the courses should change.

	1	2	3	4	5	6
Sport Coaching Methodology	11.8%	47.1%	11.8%	17.6%	5.9%	5.9%
Ethics in Sports	58.8%	0.0%	11.8%	5.9%	11.8%	11.8%
Sports Biomechanics	0.0%	23.5%	11.8%	47.1%	17.6%	0.0%
Sports Strength and Conditioning	5.9%	5.9%	47.1%	0.0%	23.5%	17.6%
Seminar in Sports Medicine	5.9%	5.9%	11.8%	5.9%	5.9%	64.7%
Sports Psychology	17.6%	17.6%	5.9%	23.5%	35.3%	0.0%

Figure 9. The new order of courses according to participant feedback

As indicated by 16% of the population, the order of the courses should change. The rearranged new order of the courses Figure 9 show that 47.1% of them said the order of sports coaching methodology should be placed second,

while 58.8% said ethics in sports should be top. In addition, 47.1% of them said sports biomechanics should be in fourth, and 47.1% said the sports strength and conditioning course should be third. Meanwhile, 64.7% said the seminar in sports medicine should be last, while 35.5% of them said the sports psychology course should move to fifth.

V. DISCUSSION & CONCLUSION

1. Discussion and Conclusion

The SAT is a state enterprise responsible for sports development of the country. As the national sports controlling body, SAT has its duties to promote, support and manage sports across the country for the sustainability of elite sports. SAT emphasize the development of sports personnel to meet international standard.

This study aims to evaluate the success of the ICSC program in Thailand and also its effect on the sports coaches' career. Even though this is the first study of this program but result show that the ICSC program is effective and contributes to the development of sports personnel in Thailand, as knowledge and experience gained from the program can be applied to improve the sports organization on both national and international levels.

In addition, the ICSC program also support sports coaches career after the program. We also concluded that the knowledge and understanding after participating in the program is higher than before participating in the program.

At the same time, the usefulness of the knowledge acquired from the program enhanced their abilities which they then could further improve their career.

2. Implication

For the sports association or organization, it is recommended to come to an agreement with the participant on a sharing of knowledge after completion of the program.

On the other hand, the organizing team faces the issue of unqualified participants despite the presence of regulation. It is recommended that the organizing team coordinate with the sport associations to emphasize the importance and the benefits of the program to the association and the development of sports in Thailand.

As for foreign speakers, they should share more of their experiences to facilitate further learning and understanding. In-depth knowledge of a specific sport also is another component in which they should share.

Lastly, the language skills of the participants may be an obstacle for the participants which are why they suggested that the textbook should be translated into Thai. It is recommended that the organizing team should provide a language course for them prior to the program even though the interpreters provided for each courses.

3. Limitation, future research and suggestion

This study is the first study to assess the effectiveness of Thai sports coaches' development program in Thailand by focusing on the ICSC program.

The limitation of this study is the lack of standard evaluation criteria for the successful evaluation of the program.

For an effective evaluation process, a periodic assessment that will be carrying out every three years is recommended to monitor the success of the program. Instead of evaluating the entire program, it is also recommended that the evaluation can be carrying out based on individual courses.

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APPENDIX

Annex 1 On-line survey questionnaire

Part 1: The level of knowledge and understanding before and after the training

1. The level of knowledge and understanding before the training.

Course	Excellent	Good	Fair	Poor	Extremely poor	None
1. Sports Coaching Methodology						
2. Ethics in Sports						
3. Sports Biomechanics						
4. Sports Strength and Conditioning						
5. Seminar in Sports Medicine						
6. Sports Psychology						

2. The level of knowledge and understanding after the training.

Course	Excellent	Good	Fair	Poor	Extremely poor	None
1. Sports Coaching Methodology						
2. Ethics in Sports						
3. Sports Biomechanics						
4. Sports Strength and Conditioning						
5. Seminar in Sports Medicine						
6. Sports Psychology						

Part 2: Please evaluate your improvement in the following ability after training

	Very much	Much	Average	Little	Very little
1. Was the ICSC program effective in improving your writing out coaching plans?					
2. Was the ICSC program effective in improving your ability to pass on knowledge as a lecturer?					
3. Was the ICSC program effective in improving your knowledge for coaching pragmatically and responsibly?					
4. Was the ICSC program effective in improving your enable to apply the knowledge and expand its to other sports?					
5. Was the ICSC program effective in improving your enable to use the knowledge to promote coaching and to arrange a competition?					
6. Was the ICSC program effective in improving your enable to apply the knowledge for consultation and advice for participants?					
7. Was the ICSC program effective in improving your enable to use the knowledge to improve the development of organization?					
8. Others (please specify).....					

Part 3: Please evaluation and improvement for the program

1. How effective do you think International Certificate in Sports Coaching (ICSC) program can be advantageous to sports development within your country?

- Very Effective Effective Average Less Effective
- Not Effective

2. Do you think it is necessary to improve or change anything in training program?

- Yes No

3. If your answer is Yes in question 2, what do you think to improve the program? Please specify

4. Do you think the sequence of subjects in the table below is appropriate?

- Yes
- No.

The order of the course should be rearranged into a new order. (Please specify in number from 1 to 6.)

Number	Subject
	Sports Coaching Methodology
	Ethics in Sports
	Sports Biomechanics
	Sports Strength and Conditioning
	Seminar in Sports Medicine
	Sports Psychology

Part 4: General information

1. Gender Male Female

2. Age Less than 31 31 – 40 41 – 50
 51 – 60 Above 60

3. Education High School or equivalent
 Bachelor's degree Master's degree
 PhD

4. Occupation University student Government employee
 State enterprise employee Private sector employee
 Self-employed
 Others (please specify)

5. Total career experience

- Less than 6 years 6 – 10 years 11 – 15 years
 16 – 20 years 21 – 25 years
 More than 25 years

6. Name of association or club that you belong to

7. In what year did you complete the training?

8. What is your current job in the association or club you belong to?

- Coaching Administration None

Annex 2-1 Interview question for organizing team

1. What are the criteria for annual participants and what is the process in selecting them? (i.e. qualifications, number of participants, etc.)
2. After application closing date, the applicants will be assessed whether or not they have met the selection requirements.
3. In the case of Sports Association selects the applicant who does not meet the requirements of the program, how will the organisation resolve the issues and improve the program to be applicable and benefit the other participants in the following year?
4. Suggestions and ideas for the future improvement of the program.

Annex 2-2 Interview question for participants

1. Whilst attending the program which Sports Association/Organisation did you belong to?
2. Which Sport Association/Organisation are you currently with?
3. What is your current job in the Sports Association/Organisation?
4. What did you gain from participating in the program? And can you please give an example if you get to apply any knowledge or skills that you have learnt since the program?
5. Since completing the ICSC program, do you think the program is effective to your career? Can you please explain how it is or how it is not?
6. If you are currently not working for any Sports Association/Organisation or not involving in any sports, can please tell the reasons why?
7. Any suggestions or ideas for further improvement for the program and subjects that are in the program?

국 문 초 록

태국 스포츠 코치 양성 프로그램 효과 분석

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체 육 교 육 과

태국 체육부는 정부 조직으로 태국의 스포츠 발전을 위해 힘쓰고 있다. 체육부의 역할은 스포츠를 국가적인 차원에서 촉진, 지원, 관리하여 엘리트 스포츠 발전에 기여하는 것이다. 따라서 체육부는 스포츠 선진국들과 어깨를 나란히 하기 위해 스포츠 코치 양성에 힘쓰고 있는 실정이다. 국제 스포츠 코칭 자격 프로그램 (ICSC)은 과학적인 스포츠 트레이닝 프로그램으로 태국 체육부와 미국 스포츠 아카데미가 협력하여 개발한 프로그램이다. ICSC 의 목적은 지식과 기술을 겸비한 스포츠 코치를 양성하는 것으로 프로그램을 통해 양성된 코치들로 하여금 국가적 혹은 세계적 스포츠 단체 및 조직에서 스포츠 코치로 활동하도록 돕는 프로그램이다. ICSC 프로그램은 지난 10 년 동안 300 명 이상의 참여자를 두고 있지만 ICSC 프로그램 자체에 대한 평가가 부재한 상황이고, 뿐만 아니라 프로그램이 참여자들의 커리어에 얼마나 큰 영향을 미쳤는지에 대해서도 조사된 적이 없다. 이는 프로그램 개선 및 발전에 필요한

기초자료가 부재한 상황이라고 할 수 있다. 따라서 본 연구는 ICSC 프로그램이 지난 10 년간 얼마나 성공적이었는지 혹은 부족한 점은 무엇인지를 알아보고 결과를 통해 프로그램이 앞으로 나아가야 할 방향을 제시하는데 본 연구 목적이 있다.

분석자료는 현존하는 2 차 자료를 활용하였으며, 추가적으로 온라인 설문과 인터뷰를 통해 수집하였다. 연구 표본은 2004 년부터 2014 년까지 ICSC 프로그램 이수자들로 선정하였다. 연구결과에 따르면 ICSC 프로그램은 이론 및 실무적으로 스포츠 코치들에게 긍정적인 영향을 미친 것으로 나타났다. 특히 프로그램을 통해 습득된 지식과 경험은 프로그램 참여자들이 향후 스포츠 코치로 생활하는데 큰 도움을 준 것으로 나타났다.

주요어: 분석프로그램, 효과, 로직모델, 스포츠 코치

학 번: 2013-23933