



# **RESEARCH REPORT**

## **Coaching and Mentoring for Educators: Investigating the Cognitive-Affective- Behavioral Learning Outcomes of Training**

By

**Dr. Kanu Priya Mohan**

Assistant Professor,  
Behavioral Science Research Institute (BSRI),  
Srinakharinwirot University, Bangkok, Thailand.

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## **Executive Summary**

### **Project Name:**

**Coaching and Mentoring for Educators: Investigating the Cognitive-Affective-Behavioral Learning Outcomes of Training**

### **Introduction**

Our world is faced by many challenges and rapid changes in all spheres of life especially socio-economic and technological. At both global as well as national levels there has been a renewed focus on the importance of education that could develop graduates with 21<sup>st</sup> century skills to face the challenges. With the emphasis on education as one of the key factors to transform and develop the world, countries all over the world have initiated reforms in their educational system. An interesting feature of the reform process has been the application of the developmental techniques of coaching and mentoring (C&M) as one of the important practices that could facilitate many aspects of the educational change such as the student centered learning, or teachers' professional development. Researchers have noted that both C&M have proved successful in the reform process in many of the developed countries. However, there is not much research to note the application of C&M in the educational reform in the developing countries. Hence, this mixed method research was designed to empirically investigate the learning outcomes of training program for C&M as a part of the educational reform process in Thailand.

Designing a training program and its subsequent evaluation are important ingredients for the success of training. The main focus of this research was to evaluate the learning outcomes among the participants as a result of training about coaching and mentoring (C&M). The conceptual framework of this research was developed after reviewing relevant concepts and theories in training and development, and also behavioral science. The learning outcomes of the training were evaluated on the basis of a three dimensional behavioral science model that was developed by Kraiger, Ford and Salas (1993); measuring the cognitive-affective-behavioral outcomes. The independent variables in this framework were the learners' characteristics and the instructional characteristics. The role of work task motivation was also investigated in the relationship between

the independent variables, and the learning outcomes. Furthermore the perceived barriers and enablers of the training process were also analyzed.

### **The Research Objectives**

There were four objectives of this research. Specifically the research objectives were-

1. To evaluate the relationship of the learner's characteristics (in terms of learning goal orientation) and the instructional characteristics (instructional clarity) with the learning outcomes for the trainers. (*Quantitative study*)
2. To evaluate the relationship of work task motivation with the learning outcomes. (*Quantitative study*)
3. To evaluate the cognitive-affective-behavioral learning outcomes of training outcomes for C&M. (*Qualitative study*)
4. To understand the factors perceived as barriers and as enablers by the participants in the training process. (*Qualitative study*)

### **The Research Method**

This research was designed as a mixed method research (based on the review of paradigms by Creswell and Plano Clark, 2011). The sequential exploratory design of research seemed most appropriate to meet the research objectives; the first part included quantitative investigation and was followed by qualitative in-depth interviews.

**The Participants.** The participants in this study were educators who were training to learn about C&M, so that they could further train the target population in the educational reform process (such as the teachers in schools). The researcher was a trainer for C&M and directly trained these "master trainers". The quantitative phase included participants from a university in Thailand (n=15). The 2<sup>nd</sup> study, which had participants from the same group of Thai master trainers in the first study, was done using the qualitative approach. There were 11 key informants, which included four faculty members, five post-graduate students of this faculty, and two external experts.

**Instruments.** For the quantitative phase data was collected using survey questionnaires which were adapted from existing questionnaires by various researchers. Instruments were tested for reliability and all showed high reliability with Cronbach's Alpha scores ranging from .79 to .91.

For the qualitative phase open ended questionnaires were designed for conducting in-depth interviews.

**Data collection and analyses.** Data from the two studies was collected over several months in 2015-16. Participation in the research was voluntary and due to the nature of the training, only small sample sizes were present. The data from the different studies was analyzed using appropriate techniques and synthesized to answer the research questions.

## **Results**

The data was analyzed in two steps- first the quantitative data was analyzed, followed by qualitative data analyses.

*Quantitative analyses.* The quantitative analyses was done using correlation to answer the first two research objectives. The correlation analyses was conducted to investigate the relationships among the variables. The results showed that there was a significant positive correlation between instructional clarity and learning outcome ( $r = .55, p < .05$ ).

*Qualitative analyses.* Data gathered from the interviews was analyzed using qualitative analysis to answer the 3<sup>rd</sup> and 4<sup>th</sup> research objectives. Five themes emerged from the syntheses of the findings which were about, i) the cognitive learning outcomes; ii) the behavioral or skills based learning outcomes; (iii) the affective learning outcomes; iv) perceived barriers or challenges during the training; and v) perceived enabling factors during the training. Each theme could be further divided into sub-categories.

## **Discussion and Conclusion**

The findings of this research showed that the learning outcomes of training could be distinguished in terms of three dimensions- cognitive-affective-behavioral along with the perceived barriers and enablers of training. Quantitative results showed only one significant relationship, but caution has to be taken for analyzing as the sample size was rather small. These findings could be useful for developing training programs in the educational reform process.

This research aimed to contribute towards building empirically based information in the areas of educational reform and also training and development, specifically related to coaching and mentoring. So it is hoped that the findings of this research could be useful to various groups such as educational organizations, trainers and facilitators, and also researchers in the related areas.

**Keywords:** training evaluation, educational reform, mixed method research, teachers in Thailand.

# *Acknowledgements*

This research has roots in the significance of coaching and mentoring as techniques to empower individuals rather than just teach or train them. I would like to dedicate this research to all the educators who are in the process of revisiting the process of change and reforms in education!

I wish to thank the project team in Coaching and Mentoring (C&M) and especially the leader of our team. I learnt through participation and research as well. Most of all I express my deepest gratitude to the research participants who gave opened their hearts, spent their valuable time, and shared their significant insights about the training process.

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**Kanu Priya Mohan**

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# CHAPTER 1

## INTRODUCTION

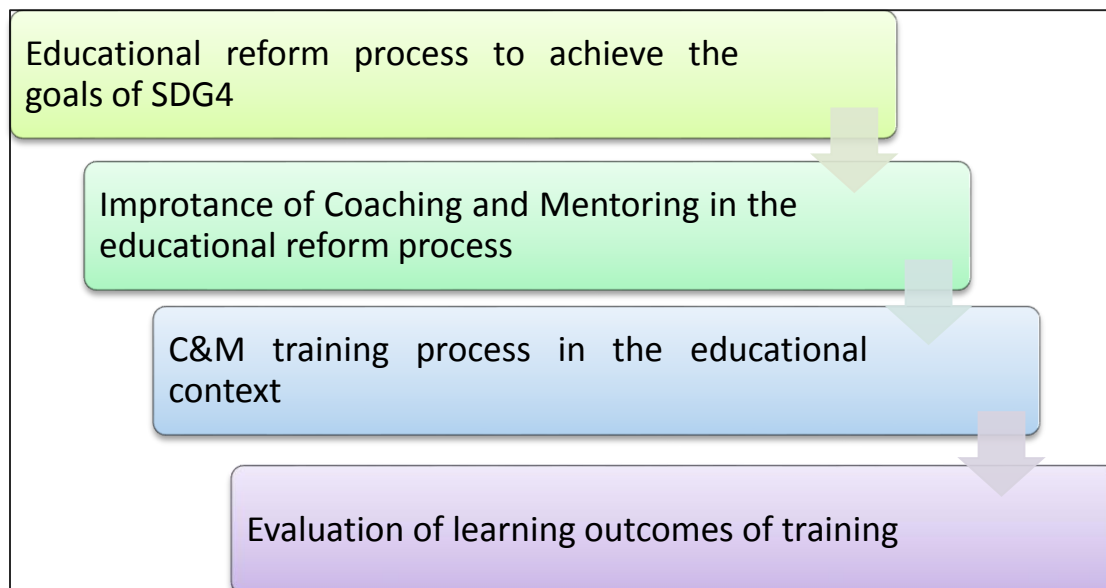
In a world that is transforming like never before and is facing rapid changes in the socio-economic and technological areas, there is a renewed focus on the importance of education that could develop graduates with 21<sup>st</sup> century skills. In 2015, all the countries in the United Nations adopted the 17 Sustainable Development Goals (United Nations, 2016), wherein the 4<sup>th</sup> sustainable development goal (or the SDG4) is the one with a renewed and clear focus on “quality education”. UNESCO (2016) has actively helped to frame the Education 2030 agenda which is encapsulated in SDG4. With the emphasis on education as the key to transforming and developing the world, countries all over the world have been reforming their educational system and policies.

An interesting feature of the reform process has been the application of the developmental techniques of coaching and mentoring (which would be referred to as “C&M” in this report) as one of the important techniques to facilitate the student centered learning. Both C&M have proved successful in the reform process in many countries as noted by various researchers such as Hargreaves (2008) in the context of UK, Joyce and Showers (2002) in USA, Ehrich (2013) in Australia, and Timperley (2009) in New Zealand. This brief research review shows the application of C&M in the developed countries. So are the developing nations undertaking educational reforms?

In their report on “learning from the best school systems in East Asia”, Jensen, Hunter, Sonnemann and Burns (2012) highlight the case of 4 outstanding East Asian countries (Hong Kong, Korea, Shanghai and Singapore) which have relentlessly pursued educational reforms and emerged strong in international standards. As mentioned by Hallinger and Bryant (2013),

Thailand, along with other South Asian countries, has been undergoing educational reform to support the goals of the globalized world. The context of the current research was one such reform policy in Thailand to introduce C&M in schools all over Thailand. Furthermore, in the current research, the investigation focused on understanding and evaluating the learning outcomes of the participants training about C&M in Thai educational context.

So the question then arises how can we train teachers about coaching and mentoring, and what are the salient outcomes of such training programs in the context of Asian countries? This current research was designed to empirically evaluate the outcomes of training about coaching and mentoring in the educational context. This research adopted a multi-method design of investigation, wherein in the first phase of quantitative research participants were Thai educationists undergoing training to become master trainers in C&M. The researcher was the trainer for the group. In the second phase of the research, in-depth qualitative investigation was done with the Thai participants to gather deeper insights about the outcomes of the training.



*Figure 1.1* The background of the research

To summarize the flow of information starting from understanding the background and leading towards the current research, we can refer to the figure 1.1. This shows the links at macro level wherein education is necessary to meet the sustainable development goals (United Nations, 2016), especially the SDG4. Next aspect of the research is the importance of coaching and mentoring (C&M) in the reform process. To develop the understanding and competency about C&M, there is first the requirement to train about C&M in the educational context. Finally this flowchart leads to the current research which focuses on the evaluation of the training outcomes of C&M.

### **Significance of the Research**

The *raison d'être* steering this research was mainly to contribute towards the applied behavioral science knowledge about training development in the field of coaching and mentoring. Another key aspect of this research was to empirically test the effectiveness of the training programs for developing educators to use coaching and mentoring techniques as tools to bring about reforms in their educational contexts. Other intended contributions from this research are enumerated further. Firstly, very few documented research efforts note the impact of how training could be made effective in developing the techniques of C&M. Secondly research is limited in the educational reform contexts in Asia. Thirdly, the researcher was a part of C&M training programs and this role provided valuable insights. Hence, the researcher aimed to not only evaluate the outcomes of the C&M training from the behavioral science perspective but also contribute towards the applied field of training development.

This first chapter of the report further outlines the research problem, and the research objectives; followed by the scope of research, the significance of the study and ends with the organization of the subsequent chapters in the report.

### **The Research Problem**

Review of research shows that C&M techniques are valuable tools in the educational reform process and also for the development of human resources. The ensuing question is how to develop C&M competencies in educationists? Training is one way to develop these competencies. Training programs for building C&M in the educational field have to be designed and implemented effectively with a deep understanding of the requirements and the objectives of the educational reform. So the next issue is, can we empirically test the impact of training? The current research aimed to investigate the process of training for C&M through a focus on the trainers of master trainers. The final issue was how do we measure the learning outcomes? To answer this, the research questions were designed to evaluate the impacts or the learning outcomes of the training program on the participants. Furthermore, the learning outcomes were measured in three dimensions based on the cognitive-affective-behavioral theoretical model. The study applied mixed methodology by the use of both quantitative and qualitative methods to study the research objectives.

### **The Research Objectives**

The main purpose of this research was to investigate the learning outcomes of training among the trainers of coaching and mentoring. There were three objectives of this mixed methods research, which first aimed to quantitatively investigate the relationships between the two independent variables of the learner's characteristics and the instructional characteristics with the

dependent variable of learning outcomes. The role of work motivation was also investigated. In the next phase, qualitative investigation was done to develop a deeper understanding about the cognitive-affective-behavioral dimensions of the learning outcomes, and also to find out the enablers and barriers of the training process. Combining both the phases of the research, the research objectives were-

1. To evaluate the relationship of the learner's characteristics (in terms of learning goal orientation) and the instructional characteristics (instructional clarity) with the learning outcomes for the trainers
2. To evaluate the relationship of work task motivation with the learning outcomes.
3. To understand the cognitive-affective-behavioral dimensions of the learning outcomes among the trainers.
4. To find out the factors that may be perceived as barriers and as enablers by the participants in the training process.

### **The Scope of Research**

The scope of the research is described in four main aspects, the content, the method, the research plan and the definition of the key terms.

#### **The Content**

The main focus of this research was to evaluate the learning outcomes among the participants as a result of training for coaching and mentoring (C&M). The conceptual framework of this research was developed after reviewing the behavioral science approach, particularly the person-environment interaction theories and also the relevant concepts and theories in training and development. The learning outcomes were evaluated with reference to the three dimensions of a

behavioral science model, namely the cognitive-affective-behavioral dimensions, based on the work of Kraiger, Ford and Salas (1993).

In this current research both the learners' characteristics, and the instructional characteristics were also evaluated in terms of their relationship with the learning outcomes of the C&M training. The role of work task motivation in the relationship between the learners and the instructional characteristics, and the learning outcomes were also assessed. Furthermore the perceived barriers and enablers of the training process were also investigated.

### **The Method**

This research was designed as a mixed method research, having two phases of investigation. The sequential design of research was based on the work of Creswell and Plano Clark (2011). The research began with a quantitative investigation and was followed by qualitative in-depth interviews. The quantitative phase included a study wherein the participants were from a university in Thailand, followed by the second study wherein some of the participants from the previous study were involved in an in-depth qualitative investigation. The participants in this study were educators who were training to learn about C&M and become master trainers for teachers and educational practitioners working in the government schools of Thailand.

The data from both the studies in the research was analyzed using appropriate techniques and synthesized to find answers for the four research objectives.

### **The Research Plan**

The duration of the research was approximately 18 months, from the time of preparing the research proposal to the time of publishing the research report which began in April 2015 and completed in October 2016.

## **Definition of the Terms**

The definitions of the main variables in the research are as follows.

### **Coaching**

Coaching as defined by the International Coaching Federation (<https://coachfederation.org/about/>): *“Coaching is partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential which is particularly important in today’s uncertain and complex environment.”*

### **Mentoring**

Shea & Gianotti (2009) define mentoring as *“a developmental caring, sharing, and enabling relationship in which two people collaborate by investing their time to enhance growth, knowledge, and skills”*.

### **Training evaluation**

The process of examining the training program to measure its impact is referred to as the evaluation of training. Hamblin (1974) defined training evaluation as, *“any attempt to obtain information (feedback) on the effects of training program and to assess the value of the training in the light of that information”*.

### **Mixed methodology**

The use of mixed methodology in the research is based on the explanation by Creswell (2003) which refers to- *“Integrating quantitative and qualitative data collection and analysis in a single study or a program of enquiry”*.



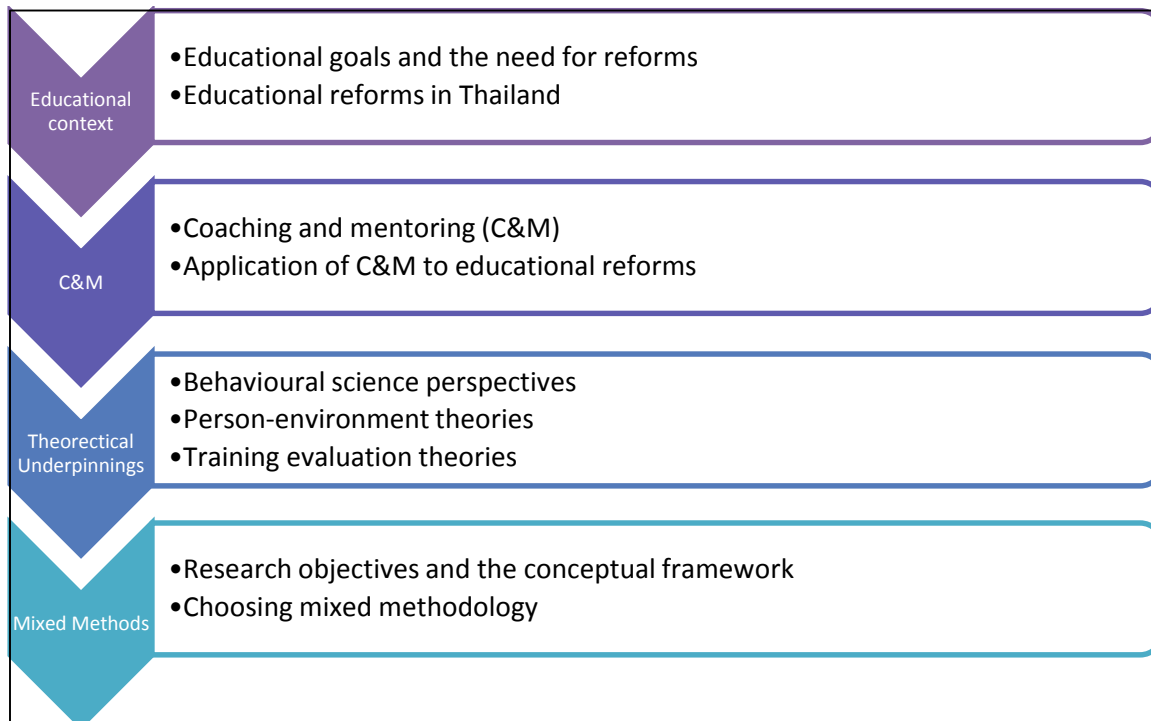
## **Organization of the Report**

The contents of this report are organized in the form of 6 chapters. The chapter 2 consists of 'Review of Literature' which sheds light on the main constructs and the context of the research; chapter 3 entails the 'Research Methodology'; the chapter 4 shares the 'Quantitative Research Findings' from the quantitative phase; the chapter 5 shares the 'Qualitative Research Findings' from the qualitative phase; and the last chapter 6 is the 'Discussion and Conclusion', which integrates the of the research findings from previous two chapters, and also includes the recommendations.

## CHAPTER 2

### REVIEW OF LITERATURE

This chapter presents the review of literature related to the research, by first explaining the context of the research, firstly by explaining the educational goal and the need for reforms, followed by sharing the Thai context of educational reform. This is followed by the explanation of the main concepts of coaching, mentoring, and their application to the educational reform process. The review goes on to deliberate upon the theoretical background of training development; followed by the research objectives and the development of the conceptual research framework. Finally the chapter describes the research methodology selected for the investigation with a focus on the mixed methodology, and how it was applied to the current research. Figure 2.1 summarizes the flow of information in this chapter.



*Figure 2.1* The flow of information in the research review

## **The Educational Context of the Research**

The educational context of the research is presented in three parts- first with an overview of the goals of education and the significance of reforms, then the educational reforms in Thailand and finally the context of the reform that lead to the C&M project- investigated in this research.

### **Educational Goals and Reforms**

Education is a significant development goal for the progress of counties across the world and especially for the developing countries. The role of education has been gaining in prominence both at a global level and also nationwide policy structuring. The following section traces the development and the significance of the current educational policies by first explaining the macro level perspective, followed by the reform process taking place in the education system in Thailand.

Globally, education has been recognized as one of the important goals for the development of any country and this has can be comprehended by taking a look at the goals of United Nations, UNESCO and others. On 21 May 2015, the Incheon Declaration for "Education 2030" agenda was adopted at the "World Education Forum 2015" by 120 ministers, heads and members of government delegations from 160 countries and development partners ([http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/FFA\\_Complet\\_Web-ENG.pdf](http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/FFA_Complet_Web-ENG.pdf)). Education 2030 goal states, "*Towards inclusive and equitable quality education and lifelong learning for all*".

In September 2015 the United Nations adopted the 17 sustainable development goals (United Nations, 2016), wherein the 4<sup>th</sup> sustainable development goal (or the SDG4) is the one with a renewed and clear focus on "quality education". SDG 4 aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". Another world

body focused on promoting education, UNESCO (2016), (<http://en.unesco.org/education2030-sdg4>) had actively helped to frame the Education 2030 agenda which is also encapsulated in SDG4.

Furthermore, the Incheon Declaration clearly recognized the importance of empowerment of teachers and educators. As explained by UNESCO (2016) the 1600 participants from 160 countries committed to “*ensure that teachers and educators are empowered, adequately recruited, well-trained, professionally qualified, motivated and supported within well-resourced, efficient and effectively governed systems*”. It is this feature of educational reforms that has been in focus in the current research- training teachers as a part of educational reform.

Educationists and researchers have been highlighting the need for reforms in education to achieve the educational goals. For instance, as Rotherham and Willingham (2009), wrote that policy makers urge for developing the 21<sup>st</sup> century skills in the children. However these skills have been always been the target outcome of education. What needs to be done is it to incorporate the educational goals into the national policies, in a way to make their implementation effective at individual and collective levels.

### **Educational Reform in Thailand**

The context of the current research was the educational system in Thailand, a country which actively initiated the process of restructuring education since 1999 when the first national policy was formally launched as the “National Education Act (1999)” (as noted in Education System Thailand, 2011). Consequently, the first decade of Thai educational reforms were launched from 1999-2009. Presently, Thailand is in the 2<sup>nd</sup> decade of the Educational Reform (2009-2018). As a part of the educational reform, various programs have been launched to develop the educators to incorporate the needed changes and achieve the national educational objectives. UNESCO

Bangkok (2011), also reiterates the importance of this reform, wherein the ultimate goal is to develop 21<sup>st</sup> century skills in the learners so as to enable them to thrive in the globalized world. Fry and Bi (2013) have shared that the “*Vision of the 2009-2018 Education Reform Decade: All Thai people will have access to high quality lifelong learning*” (quoting the Office of the Education Council, 2009).

In their review “*The evolution of educational reform in Thailand*”, Fry and Bi (2013) have highlighted the fact that reforms in Thailand have a long history but the desired goals are yet to be achieved. Previously too researchers such as Kantamara, Hallinger and Jatiket (2006) have noted that though the reforms initiated by Thailand match those of the western nations, yet the biggest challenges have been in their implementation.

### **Thailand’s Educational Reform and the “Coaching Lab”**

To meet up to the challenges of the educational reform process, the Ministry of Education and other educational bodies in Thailand continuously work to assess and review the reforms. As a part of their efforts the Ministry of Education, Thailand launched the “Education Reform and Coaching Lab” (Public Relations Department, Thailand, 2015) for the educational institutes in various Thai provinces. The Behavioral Science Research Institute (BSRI) at Srinakharinwirot University, Bangkok, was awarded a sub-project as a part of the above, and implemented this as a “Coaching and Mentoring project” at the BSRI. The researcher works as a faculty member at the BSRI and joined the C&M project as a trainer.

To understand the significance of coaching and mentoring in the reform process we first explain the concepts and their educational implications in the following section.

## **Coaching and Mentoring**

Coaching and mentoring (C&M) are new age techniques that have gained prominence due to their sustainable impact in the process of learning and growth. The Chartered Institute of Personnel and Development (CIPD, 2015) have given a succinct description of these techniques and their significance-

*“Coaching and mentoring are development techniques based on the use of one-to-one discussions to enhance an individual’s skills, knowledge or work performance.”*

In the current research C&M are in focus due to the value of their impact in the context of supporting reform process in the education. To understand more, the following sections cover the definition, the importance, and application of C&M in the field of education.

### **Definition and Scope**

According to the world renowned organization, International Coaching Federation-  
*“Coaching is partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential which is particularly important in today’s uncertain and complex environment.”*

Differentiated from coaching, Shea and Gianotti (2009) defined mentoring as *“a developmental caring, sharing, and enabling relationship in which two people collaborate by investing their time to enhance growth, knowledge, and skills”*.

According to Knight, Stinnett and Zenger (2008, p.9), *“the primary purpose of the coaching relationship is to empower adult learners to take the actions needed to achieve in their own professional growth goals”*.

From these definitions it can be understood that both coaching and mentoring aim to support the personal as well as professional development of individuals by focusing on their self-empowerment. Since last few decades, both the techniques of C&M have been useful in business organizations, government and private, as well as in various other fields such as education.

### **The Importance of Coaching and Mentoring**

The impact of coaching is clearly highlighted in a research by Joyce and Showers (1996) (as quoted by Knight et al., 2008), which stated that participants who received coaching support and follow-up implemented their new skills at a rate of 80–90%.

Researchers note that C&M are an important aspect of an educational reform process as it helps to build up the educational communities (Lofthouse, Leat, & Towler, 2010). Many researchers have recorded the impact of C&M in the educational reform process in several countries such as- in the context of UK (Hargreaves, 2008), in USA (Joyce and Showers, 2002), in Australia (Ehrich, 2013), and in New Zealand (Timperley, 2009). These are just some of the several researches that empirically document the application of C&M and its relevance in educational reforms.

As noted by UNESCO (2011), *“one of the ways to achieve the reform goal is through teachers, by strengthening their ability to incorporate pedagogical approaches that promote desirable qualities in students”*. These pedagogical and structural changes could be based on learner-centered teaching methods and project-based learning (PBL), creative problems solving and so on. To help teachers and educational leaders move forward on a sustained path of the reform process, both C&M provide the necessary support for the individuals and communities.

With an overview about the role of C&M in educational change process, this report moves on to share the details about the C&M project that was undertaken by at a Thai university.

## **The Role of BSRI and the Coaching and Mentoring Initiatives by the Thai Education Ministry**

To support the educational reforms in Thailand the academic community at the Behavioral Science Research Institute (BSRI), Srinakharinwirot University, Bangkok got involved in a project for building up Coaching and Mentoring (C&M) expertise among the educational professionals and teachers of Thailand. This C&M project at the BSRI was a part of the 2<sup>nd</sup> phase of Thailand's educational reform process, launched by the Ministry of Education's larger project termed as the "Education Reform and Coaching Lab" (Public Relations Department, Thailand, 2015). The BSRI designed the project proposal and bid for the government contract. Eventually the contract was awarded to the BSRI team for implementing the project of "Education Reform and Coaching Lab" for the schools in five provinces of Thailand.

The C&M project at BSRI aimed to assist the reform process in the educational system of Thailand by developing an appreciation of the knowledge and skills of C&M among the educational administrators in various provinces, among the principals and heads of educational institutes, and the educators/ teachers across the various provinces of Thailand. This top down approach intended to create awareness among the participants about coaching and mentoring, and also develop their ability to apply C&M skills to enable long lasting impacts that support the goals of Thailand's educational reforms. UNESCO (2011) had noted that there exist gaps between the government's reform efforts and the teachers' practice in the real educational scenario in Thailand.



Hence the program developed at the BSRI sought to focus on filling the gaps with an in-depth knowledge about the content as well as an understanding of the context of the teachers' work.

There were several reasons to support the case of BSRI as one of the project awardees. The rationale is guided by the importance of the discipline of behavioral science (BS), which could lead the way to bringing about the change and contributing to the reform, since it integrates knowledge from various disciplines and in this case the disciplines of psychology, education, management and social psychology. The project leader at BSRI, who has a rich experience as a project head, and the project team, developed the training program based on the rigors of systematically building behavioral science knowledge about C&M in the context of education.

### ***The Training for Coaching and Mentoring and its Evaluation***

An academic team was formed at the Behavioral Science Research Institute (BSRI), Thailand, to prepare for the proposal to implement the goals of the “Education Reform and Coaching Lab” in five provinces of Thailand. The researcher became a part of this team at the BSRI and the task of this project began by first training the team of master trainers at BSRI about coaching and mentoring (C&M). Other aspects of the training also included applying C&M to share the knowledge about applying innovative instructional techniques such as problem based learning, creative problem solving, scaffolding and project based learning.

As reviewed in the previous sections, C&M techniques are indeed very valuable tools in the educational reform process and also for the development of human resources. The next issue is about how to develop C&M competencies in educationists? Training is one of the frequently used techniques for developing these competencies. Training programs for building C&M in the educational field were designed at the BSRI with a deep understanding of the requirements and the objectives of the educational reform.

The researcher was a part of the training team at the BSRI. As the project developed the researcher developed a research project with an aim to evaluate the learning outcomes of the C&M training programs in the educational context. The guiding theoretical framework for this evaluation of the training was based on the work of Kraiger, Ford, and Salas (1993), who suggested that training should be evaluated in the three dimensions of cognitive, skill-based, and affective learning outcomes. The research was rooted in behavioral sciences and aimed to not only investigate the conceptual framework (figure 2.2) and but also to develop recommendations to build effective training programs in the chosen context of education.

In the research project investigating the outcomes of C&M training, a two phase mixed method design was implemented to first study the impact of other factors such as the learners characteristics, and the instructional characteristics and the role of work task motivation Furthermore the second phase of the study qualitatively investigated the perceived barriers and enablers of the learning outcomes of the training. The following section of the report highlights the building up of the conceptual framework of the study.

### **The Theoretical Underpinnings of the Research**

In this section we discuss about the theoretical underpinnings of the research, the researches linked to the research objectives and finally the conceptual framework of this research.

The current research is firstly based on the behavioral science perspective; particularly the fundamental theory of this research is based on the person-environment interaction. Furthermore the theoretical framework is developed on the research about the development of training evaluation. These three main aspects are explained further.

## **1. The Behavioral Science Perspective**

Embracing the behavioral science perspective allowed the researcher to build an understanding about the research framework and the core concepts from a multi-disciplinary review of literature. This helps in developing a holistic understanding of any behavioral issue. Furthermore as explained by Mohan (2015, p 30), behavioral science research (BSR) is interested in both internal factors and external factors that influence a behavioral outcome; hence taking into account causal factors within and outside of an individual. Behavioral science research also allows for the application of a large variety of research methodologies, such as qualitative, quantitative or mixed method approaches; whereas in some disciplines one approach is more eminent than another approach.

Summarizing about the development of behavioral sciences Mohan (2016), had said that some of the significant aspects of this discipline are that it embraces an inter-disciplinary approach towards understanding behavior; takes on the ecological view of individual behavior, or problems or any issues; and finally is the application of the knowledge created- which aims to solve some relevant issue in our society. Thus, the current research based its investigations using the multi-disciplinary approach of the behavioral sciences.

## **2. The Person-Environment Theories**

The theoretical framework of the current research is rooted in understanding the issue of training outcomes among learners based on the collective understanding provided by the person-environment theories, the interactionism model and the ecological theories. Lewin (1935) is known as the father of the person-environment theories. He gave the famous equation that “*Behaviour = f(PxE)*”; explaining that behavior is the outcome of the interactions between the person and

environment variables. The interactionism model (Endler & Magnusson, 1996) has also highlighted the dynamic interaction between an individual variables and environmental factors.

This research is based on the ecological view, adapted from the work of Bronfenbrenner (1979), who explained human development in terms of the interaction with the environment and the society. This ecological analysis allows the researcher to understand the individual behavior in terms of the interaction of the individual with his environment and thus develops a holistic perspective to understanding any issue.

### **3. Theoretical Framework of Training Evaluation**

The focus of the current research is evaluating the learning outcomes of training of coaching and mentoring among the study participants. In organizations and work places, training is one of the most prevalent approaches used for enhancing the productivity of individuals as well as communicating organizational goals to new personnel, and also developing new skills/performance in the existing personnel. However an important aspect of training is its evaluation that is aimed to measure the effectiveness of training and also to assess if any further improvements are needed (Hamblin, 1974). In training evaluation various methods can be used such as qualitative and quantitative. Along with it there are generally four types of evaluation done- 1) formative; 2) process; 3) outcome and; 4) impact.

Various researchers have developed evaluation models; the most popular in research has been that of Kirkpatrick's (1994). He developed the 4 levels of training evaluation to measure reaction, learning, behavior and results. However the current research is based on the learning outcomes model developed by Kraiger, Ford, and Salas (1993). They developed a model to assess learning outcomes in terms of three dimensions, namely cognitive, behavioral, and affective

(C-B-A). In the view of the researchers, this concept of learning outcomes supported a wide range of understanding from the different psychological domains, and was introduced partly to address the shortcomings of Kirkpatrick's (1976) popular training evaluation framework.

The proposed research aimed to investigate the training framework (shown in figure 2.2) which was developed on the training evaluation model by Kraiger et al. (1993) and also on the conceptual model of Klein, Noe and Wang, (2006), that was developed to understand the learner and instructional roles in the learning outcomes. Each of the selected variables in the framework is explained further.

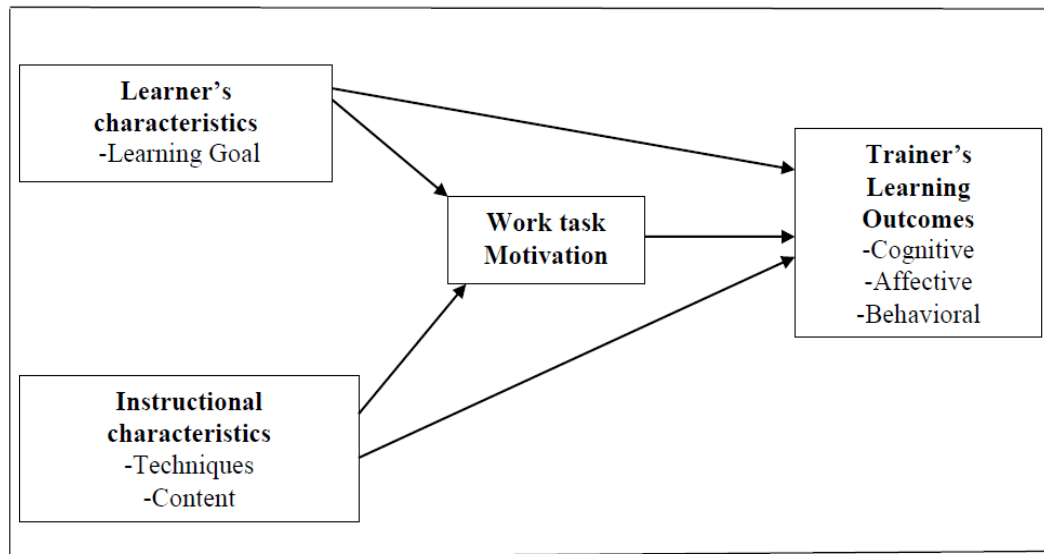


Figure 2.2. The Conceptual Framework of the Quantitative Research

### ***The learning outcomes***

The proposed research plans to investigate the learning outcomes among the educators who train for C&M. The concept of learning outcomes is based on the Kraiger, et al.'s (1993) classification scheme which was developed from those of Bloom's taxonomy of cognitive based learning (1956) and Gagne's (1984) taxonomy. Kraiger et al. (1993) developed a "Cognitive-Behavioral-Affective" (C-B-A) model that explained learning outcomes in terms of various

psychological domains. Prywes (2012) noted that this C-B-A framework “provides a holistic framework to organizing learning outcomes from coaching”.

Collins, Brown, and Newman (1987) explained that coaching is one of the important techniques at the core of cognitive apprenticeship and helps with cognitive and metacognitive development. Kraiger et al. (1993) said that goal setting is an important factor in the transfer of learned behavior to the actual practice/job. According to them there are three learning outcomes of training-

1. Cognitive
2. Skill based
3. Meta cognition/ affective

In the current research, all the three dimensions of learning outcomes were measured through a mixed method approach.

### ***The learner’s characteristics & the instructional characteristics***

As shown in figure 2.2, the proposed conceptual framework would investigate the role of learner’s characteristics (in terms of learning goal orientation) and that of instructional characteristics (in terms of content) on the learning outcomes for the trainers of C&M. The learning goal orientation (LGO) construct was first developed by Dweck (1986) and has important implications in training and employment contexts as well as performance as noted by Bell and Kozlowski (2002). VandeWalle (1997) developed the three dimensions of the LGO for measurement, which are-

1. Learning skills & competencies
2. Performance goal orientation (PGO)

### 3. Avoidance of performance goal orientation (PGO)

Brett and VandeWalle, (1999) have noted that both the learning goal orientation and the goal content together, can predict performance in a training program. The goal content in the proposed research is referred to as the content; which included the content that was taught about coaching and mentoring.

#### ***Work task motivation***

Another important variable in the proposed research is the concept of work task motivation. The theoretical framework for understanding work task motivation is based on the self-determination theory (Deci & Ryan, 1985). Furthermore the impact of goal setting in motivation and its impact on task performance has been highlighted by Locke and Latham (1990). To measure the concept, Fernet, Senécal, Guay, Marsh, & Dowson (2008) developed “the work task motivation scale for teachers” (WTMST). It was designed to assess the five sub-constructs of work task motivation- intrinsic motivation, identified, introjected, and external regulations, and amotivation toward work tasks of teachers (i.e., class preparation, teaching, evaluation, class management, administrative, and complementary tasks).

In the study the “task” in focus was the training program for C&M in the education context and the questionnaire for measurement was adapted from the WTMST.

#### ***Other Variables***

Based on the review of literature (Klein, Noe and Wang, 2006), the research also investigated the perceived barriers & enablers of the training outcomes. This information was collected through qualitative methods.

The summary of all the research variables and their source authors and researches are shown in table 2.1.

Table 2.1

*Theoretical background of the Research Variables*

<b>Variable</b>	<b>Theoretical reference</b>	<b>Reference Author/s</b>
Overall Conceptual framework	1. Person-environment interaction theory (PE interaction). 2. Based on the conceptual framework of Motivation for Learning and Learning Goal orientation.	-Lewin (1935).  -Klein, Noe & Wang (2006).
Learner's characteristics – <i>Learning Goal orientation</i>	Based on the concept of Learning Goal (GO) orientation , with its three goals- 1.Learning skills & competencies 2.Performance goal orientation 3.Avoidance of performance goal orientation	Vande Walle (1997).
Instructional characteristics - <i>Clarity of instructions</i>	1. Instructional clarity	Collins, Brown, & Newman, (1987); Brown, Collins, & Duguid (1989).
Learning Outcomes for the trainers	Learning Outcomes of training 1. Cognitive 2. Skill based 3. Meta cognition/ affective	Kraiger, Ford and Salas (1993).
Work Task Motivation	- Conceptual roots from the Self-determination theory. -Work task motivation. There are 5 kinds of motivations: 1. Intrinsic motivation 2. Identified regulation 3. Introjected regulation 4. External regulation 5. Amotivation	-Deci & Ryan (1985)  - Fernet, Senécal, Guay, Marsh, & Dowson (2008)
Perceived barriers & enablers	Identify the barriers and enablers for the learning outcomes	Adapted from the work of Klein, Noe & Wang (2006).

Hence in conclusion we can say that the overall conceptual framework that forms the backdrop for the research model has been investigated before (Klein et al., 2006) but its unique contribution lies in the current research which focuses on training for C&M in the educational reform context.



## **The Research Objectives and the Conceptual framework**

The main purpose of this research was to evaluate the learning outcomes of training programs for developing educators as trainers for coaching and mentoring (C&M). Furthermore the research empirically tested the conceptual model for training to understand the impact of learner's characteristics, and instructional characteristics on the learning outcomes among the participants. The role of work task motivation was also evaluated in its role on the above mentioned relationships (as shown in the figure 2.2).

There were four research objectives that were investigated through this research-

1. To evaluate the relationship of the learner's characteristics (in terms of learning goal orientation) and the instructional characteristics (instructional clarity) with the learning outcomes for the trainers
2. To evaluate the relationship of work task motivation with the identified variables.
3. To evaluate and understand the cognitive-affective-behavioral dimensions of the learning outcomes among the trainers.
4. To find out the factors that may be perceived as barriers and as enablers by the participants in the training process.

To address the research questions, a conceptual framework of research was designed and is illustrated as figure 2.2.

## **Choosing Mixed Methodology for this Research**

A mixed method approach based on the review of paradigms by Creswell and Plano Clark (2011) seemed most appropriate to meet the current research project objectives. Some of the main reasons guiding the acceptance of this approach were that it allowed for both the quantitative

analyses and also for the qualitative rich and in-depth description of the phenomenon. For the research objectives 1, 2 and 3, quantitative methods of evaluation were used. Furthermore, for getting more information about objectives 3 and 4, qualitative methods were used. More about the application to the research design is explained in the next chapter.

### ***Chapter Conclusion***

With the review of relevant literature, the next part of the research report moves on to sharing the research methodology.

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

In this chapter the research methodology of the study is explained in terms of the research design, study context, the measures and the procedures that were employed in both the phases of the research.

#### **The Research Design**

This research was based on the mixed methodology paradigm. Applying the definition of Creswell (2003) the research used both quantitative and qualitative method for collecting and analyzing data. The choice of mixed method approach was based on the review of paradigms of research by Creswell and Plano Clark (2011), and hence it seemed most appropriate to meet the current research project's objectives. The main reasons guiding the acceptance of this approach was that it allows for both the quantitative study and also for the qualitative rich and in-depth description of the phenomenon.

Moreover, in an attempt to categorize the specific design, it can be said that this research was based on the sequential explanatory design (Creswell, 2003; Creswell & Plano Clark, 2011); where the quantitative method was followed by the qualitative. This was deemed appropriate so as to present the data in a meaningful way as the numbers of participants of this research were limited.

#### **The Research Context**

The research was designed to evaluate the training outcomes of master trainers of coaching and mentoring in the educational context of Thailand. As mentioned in the previous chapter, the master trainers were a part of an academic project at the Behavioral Science Research Institute

(BSRI), at Srinakarinwirot University (SWU), in Thailand. The C&M project at the BSRI was designed after the project team won the contract approval to participate in the 2<sup>nd</sup> phase of Thailand's educational reform process, which was launched by the Thai Ministry of Education in a larger project termed as the "Education Reform and Coaching Lab" (Public Relations Department, Thailand, 2015). The master trainers at the BSRI underwent 3 months of rigorous preparation and training in early 2016 to implement reforms based on coaching for schools in five provinces of Thailand.

### **The Research Procedure**

The research was conducted in two phases- first quantitative and later qualitative. The participants for both the phases of the research were master trainers who were a part of the C&M team at the BSRI.

#### **Quantitative Phase: Study 1**

In the quantitative phase, a questionnaire was designed to collect data about the main study variables from the participants (n=15). The data was analyzed using the techniques of correlation and path analysis.

#### ***Instruments***

The instruments in this phase of the research were adapted from previous researches and are summarized in table 3.1. The first variable regarding learner's characteristics was measured in terms of Learning Goal orientation (LGO). From the original 3 dimensions, only 2 dimensions were selected for the research – 1.Learning skills & competencies and 2.Performance goal orientation. The last dimension of "learning goal avoidance" was deleted on the basis of low reliability and low construct validity. Since the participants in the research were

participating in the main C&M project based on their own choice and interest, the construct of “avoidance” was not applicable in their context. Overall this instrument has high reliability, with the Cronbach’s alpha coefficient = .78

The next section to measure the variable of instructional clarity was developed by the researcher based on the context of training. This instrument has high reliability, with the Cronbach’s alpha coefficient = .88.

For the construct of Work task motivation, only 2 out of the 5 dimensions were used in this research: 1.Intrinsic motivation, and 2.Identified regulation. The 3 dimensions of “Introjected regulation, External regulation and Amotivation” were deleted on the basis of low reliability and low construct validity. This instrument has high reliability, with the Cronbach’s alpha coefficient = .74.

Table 3.1

*The Research Instruments*

<b>Variable</b>	<b>Dimensions of the variable</b>	<b>Number of items</b>	<b>Research Instrument adapted from (reference)</b>
Learner’s characteristics – <i>Learning Goal orientation</i>	Based on the concept of Learning Goal (LGO) orientation 2 out of 3 dimensions were selected for the research - 1.Learning skills & competencies 2.Performance goal orientation	9	Vande Walle (1997).
Instructional characteristics - <i>Clarity of instruction</i>	1.Instructional clarity	6	Items developed by researcher based on work of Collins, Brown, & Newman, (1987) and Brown, Collins, & Duguid (1989).
Work Task Motivation	-Work task motivation. 3 out of 5 dimensions were used in this research: 1. Intrinsic motivation 2.Identified regulation	6	Fernet, Senécal, Guay, Marsh, & Dowson (2008)
Learning Outcomes for the trainers	Learning Outcomes of training measured in terms of 3 dimensions 1. Cognitive 2. Skill based 3. Meta cognition/ affective	9	Items developed by researcher based on work of Kraiger, Ford and Salas (1993).

The outcome variable in the research was *learning outcomes*, measured in terms of three dimensions- cognitive, behavioral or skills based, and affective. This instrument has high reliability, with the Cronbach's alpha coefficient = .90.

### **Qualitative Phase: Study 2**

In the second phase of the research qualitative methods was applied to investigate and analyze data. During this study 2 was carried out where in-depth interviews were conducted for which the researcher developed open-ended questions as guideline. There were 11 participants in this phase of the research. The questionnaire developed for the interview might be identified as a “standardized open-ended interview”, which is structured in terms of the wording of the questions but allows participants to give responses that are open-ended (Gall, Gall, & Borg, 2003). The data from the interviews was analyzed using the content analysis technique. The qualitative content analysis technique is used to make “sense” from the data by grouping information in codes and themes (Creswell, 2003). The procedure of qualitative content analysis by Mayring (2000) was adapted in the implementation during this phase of the research.

For both phases the participants were informed about confidentiality of their data and also that their participation was voluntary.

### ***Chapter Conclusion***

After clarifying the research methodology, the research results are shared in the subsequent part of the research report in two separate chapters; chapter 4 shares the quantitative results, while chapter 5 describes the qualitative findings. The final chapter offers the discussion and conclusion of the findings from the research.

## **CHAPTER 4**

### **QUANTITATIVE RESULTS**

The findings of this research are shared in two chapters- 4 and 5; wherein this chapter delineates the quantitative findings and the next chapter 5 describes the qualitative findings.

For the quantitative phase of investigation in this research, data was procured from study 1 and was analyzed using quantitative techniques. The sample in this study were the 15 participants who had attended special training programs on coaching and mentoring (C&M). They were working in the education sector and were undergoing the C&M training as a part of the educational reform process in Thailand.

The researcher collected the data using survey questionnaires after the training programs were over since the main aim of the research was to evaluate the learning outcomes of the training. Though it was a small sample, the descriptive quantitative analyses, and correlation analysis techniques were used to describe the findings and answer the research objectives 1 and 2. The following sections depict the main findings from the analyses.

#### **Demographic Characteristics of the Data**

The table 4.1 shows the demographic characteristics of the sample. As shown in the table 4.1, the 15 participants or sample from Thailand had more females (80%), and mostly followed the Buddhist religion (93.3%); most of the sample held PhD degree (93.3 %), and were in the age group of 30-39 years (40%). The sample was from a university and hence 66.7 % were faculty members while the rest were researchers (33.3%). Other details are shown in the table 4.1.

Table 4.1

*Demographic Characteristics of the Research Sample*

Characteristics	Frequency	Percentage
N=	15	
Gender		
1. Male	3	20
2. Female	12	80
Marital status		
1. Not married	9	46.7
2. Married	6	48.5
Religion		
1. Buddhism	14	93.3
2. Islam	1	6.7
Highest education level		
1. Bachelor	-	-
2. Master	1	6.7
3. PhD	14	93.3
4. Others	-	-
Age		
1. 20-29	2	13.3
2. 30-39	6	40
3. 40-49	3	20
4. 50-59	3	20
5. 60-69	1	6.7
Occupation		
1. Teacher	10	66.7
2. Researcher	5	33.3

**Correlation Analyses**

The correlation analyses was conducted to evaluate the relationships among the variables. The results in table 4.2 showed that there were two statistically significant correlations, between learning goal orientation and instructional clarity ( $r = .59, p < .05$ ), and instructional clarity and learning outcome ( $r = .55, p < .05$ ). The mean scores, standard deviations and the reliability scores (Cronbach's alpha) are also shown in the table 4.2.



Table 4.2

*Construct Correlations, Means, Standard Deviations and Reliabilities*

	1	2	3	4	Mean	SD	Alpha
1 LGO	-				4.46	0.47	.79
2 Instruction Clarity	0.59*	-			3.94	0.49	.88
3 WTM	0.44	0.45	-		4.84	0.566	.91
4 Learning Outcome	0.13	.55*	0.44	-	4.68	0.40	.90

Note: 1. n=15. 2. \* p< 0.05 level (2-tailed); \*\* p< 0.01 level (2-tailed)  
 3. LGO= learning goal orientation, WTM= work task motivation

**Answering the Research Objectives**

The information obtained in from the correlation analyses was used to answer the research objectives as is described below-

**Research objective 1:** To evaluate the relationship of the learner’s characteristics (in terms of learning goal orientation) and the instructional characteristics (instructional clarity) with the learning outcomes for the trainers.

Research finding 1.1: There was no significant relationship between the learner’s characteristics (in terms of learning goal orientation) and learning outcomes for the trainers.

Research finding 1.2: There was a significant positive correlation between instructional clarity and learning outcome ( $r = .55, p<.05$ )

**Research objective 2:** To evaluate the relationship of work task motivation with the identified variables.

Research finding 2: There was no significant relationship between the variable of work task motivation and the independent variable- learner’s characteristics, nor with the dependent variable of learning outcomes for the trainers.

### ***Chapter Conclusion***

The quantitative research findings have been share the preliminary information collected from the research. The following chapter 5 aims to share in-depth qualitative research insights from the experts or the key informants of this research.

## **CHAPTER 5**

### **QUALITATIVE RESEARCH FINDINGS**

This chapter presents the findings from the qualitative phase of the research. This data, collected through the in-depth interviews of the study participants in the phase 2 of the research, was analyzed based on the qualitative data analysis process.

#### **The Qualitative Data Collection & Analysis Procedure**

The data collection in the qualitative phase was done over a two month period after the project of C&M was over. All the project participants were invited to join this phase of the research. Participation in this project was voluntary. They were assured of the confidentiality of their information shared with the researcher. Out of a total of 15 participants in the project, 11 joined this phase of the research. The researcher contacted each participant and set up dates for in-depth interviews. A questionnaire guideline was developed for this phase with open ended questions. This guideline was shared with the participant or the interviewee before the interview since there was a language issue, the researcher was collecting data in English from all Thai participants with varying levels of English proficiency. The researcher took permission from the participants to record the interviews.

The data collected was analyzed according to the qualitative data analysis guidelines. Overall the stages followed:

- transcribing the data from the interviews,
- reducing and coding
- developing initial themes
- developing final themes

The data analysis was a lengthy and iterative process, and involved reviewing the emerging themes with the literature reviewed (Noble and Smith, 2014). The qualitative phase of the research yielded a rich and vast source of information from the in-depth interviews of the participants who were among the project team that underwent training in C&M for the Thai educational reform process at the faculty in the university. These included 4 faculty members, and 5 doctoral degree students from one faculty, and also 2 experts who worked outside this faculty. Data was collected by in-depth interviews of these 11 participants as shown in the table 5.1.

Table 5.1

*Demographic Characteristics of the Participants in Phase 2*

Participant	Frequency	Percentage
Faculty	4	36.36
Student	5	45.45
External Experts	2	18.18
Total	11	100.00

**Qualitative Results: Answering the Research Objectives**

The qualitative findings of the research are presented in two parts- to answer the research objectives 3 and 4 separately; part 1 reports the cognitive-affective-behavioral dimensions of the learning outcomes among the trainers, and part 2 the factors that may be perceived as barriers and as enablers by the participants in the training process.

## **Qualitative Findings Part I:**

### **The Cognitive-Affective-Behavioral Dimensions of the Learning Outcomes**

In the first part of the qualitative findings the researcher sought to find answers to the research objective 3.

**Research objective 3:** To evaluate and understand the cognitive-affective-behavioral dimensions of the learning outcomes among the trainers.

The findings are further divided into 4 parts:

1. The overall value of learning at multi-levels: 4 sub themes
2. The cognitive learning outcomes of the training: 2 sub themes
3. The behavioral learning outcomes of the training: 3 sub themes
4. The affective learning outcomes of the training: 7 sub themes

#### **1. The Overall Value of Learning for the Participants**

The participants were asked the question, “What has been your most valuable learning from participating in the C&M project?” Ten main categories of response emerged from asking this question. These were classified into 4 main themes, which were identified as the learning outcomes at 4 levels- at individual level, team level, project level and broader macro level- of the nation. Each of the emerging main theme and sub themes (categories) are delineated.

##### **1.1 Learning outcomes at Individual level**

The participants identified 5 sub themes at an individual level that they had acquired, which were knowledge, skills, opportunity, self-confidence, and new skills of coaching that they could apply in their daily life.

The participant P3 clearly summarized the knowledge acquired- “I have got new knowledge specifically about C&M, and differences between C&M. I know about the technique of active learning. I learnt how to prepare teaching plan”.

For the skills, P3 mentioned that “I learnt many new skills such as the skills of coaching... I know how to listen; I try to make them think... I know how to make people relax- make them comfortable”.

About the value of opportunity, P7 said “It’s a big opportunity for me. I learn new process, new techniques...all very new for me”. Another participant P10 said, “I had good opportunity to join the project. Before I know little but I can learn more about the steps of Coaching”.

Another outcome is the development of self-confidence, as mentioned by one participant, P8- “I have confidence to speak to the seniors”. The seniors referred to the people who were older than her in age and position.

The last sub-theme of the most valuable learning was that knowledge from this project could be applied in daily life. “I can use coaching in my daily life” (P8). Participant P10 said- “I learnt about research and skills to practice with my work”.

## **1.2 Learning outcomes at inter-personal level**

The participants clearly identified some of the outcomes at the inter-personal level which were-team and interpersonal relationships, team work and sharing, good leadership.

“Overall it’s a good experience...I learnt and made good relationships, team work and working with project participants” (P2).

Another participant P3, summarized the impact of the interaction in the project – “I learn about the good role model from the head of the project; and also from other people in the team”.

### **1.3 Learning outcomes at the Project level**

The participants emphasized some important aspects of the project participation and learning during their interviews.

About the significance of training for the project one participant said – “if we plan and train well, we can go and train anyone” (P1).

Another participant highlighted the importance of sharing during the project: “I can share my ideas or teaching with others... Sharing is the best way to change implicit knowledge to tacit” (P3).

### **1.4 Learning outcomes at the macro level**

An important theme that emerged was about the impact and overall value of the project’s contribution to the education system in Thailand. The participant could also recognize the importance of C&M for teachers in the 21<sup>st</sup> century, as well as the importance of the project in education reform process. Some of the quotes from the participant are shared-

“Most important is that I can help the children of Thailand... for 21<sup>st</sup> century education” (P2).

“Most valuable learning for me is to be a coach because C&M skills are very important for teachers of 21<sup>st</sup> century” (P7).

Another participant mentioned that for her the most valuable learning was “how the project contributes to the education system (P11).

## **2. Significant Knowledge Acquisition or Cognitive Learning Outcomes for the Participants**

This part of the qualitative research was aimed at collecting information to answer the research question 3 in one dimension of the learning outcomes- about “what were the cognitive

learning outcomes of the training?” So the participants were asked to answer the question- “What is the most significant knowledge that you have acquired from the project?” The findings were analyzed and categories re-analyzed to get the two broad themes related to, i) training outcomes and, ii) other knowledge acquired. The sub themes in each were further identified.

### **2.1. Training Related Cognitive Outcomes**

The first theme deals with the outcomes of training knowledge that the participants had acquired. Three main categories emerged from the data analyses-

1) Firstly it was about the knowledge of planning for the training of coaching program. These participants were master trainers for coaching others in the field. The data revealed that the significance of planning for the training and some interesting aspects about implementation of the training.

As one participant (P1) said, “If we prepare before we can go...we can train anyone”.

Another aspect was being able to change and adapt the training when in actual field, as pointed out by P7- “They were all different so we had to apply (*adapt*) the plan all the time”. (Here “they” referred to the participants that these master trainers went to train in the field). One more participant P6 also mentioned about this –“...first train and then re-train”.

2) Second was about the learning from the project leader.

“I learnt about observation skills from her” (P1).

“I can observe her I can learn many things from her and many skills- research, communication, feedback, trainer” (P2).

3) The third learning was about other important skills to carry out the coaching program in the field and related to communication ( P2& P5), specifically “how to communicate for coaching- with seniors” (P3).



## **2.2. Other Cognitive Outcomes**

Among the many cognitive learning outcomes shared by the study participants, were the knowledge acquired about coaching and mentoring, the skills needed for coaching, learning about the instructional techniques for building 21<sup>st</sup> century skills in the students, and about the Thai policy for educational reform. Some of the quotes to support these are shared –

“C&M and the 5 instructional techniques were the most learning for me” (P1).

“C&M were the new knowledge for me. I learnt new techniques, like the GROW model.” (P7).

“I feel C&M is important for education reform” (P5).

“I learn about the Thai Policy on education improvement” (P11).

## **3. The Behavioral Learning Outcomes for the Participants**

The behavioral domain refers to psychomotor dimension which includes simple manual tasks to more complex ones. In the current research the participants could identify a wide range of skills they acquired- and three sub themes emerged about the behavioral learning outcomes-from the skills of coaching, training and facilitating, and about communication. They also talked about improving their other interpersonal skills.

### **3.1. Behavioral skills related to Coaching-**

These included skills related directly to coaching and also to the Grow model of coaching (which these participants learnt), and the other instructional techniques learnt by the participants for the process of instructional coaching. The following statements from the participants highlight some of the different aspects-

“Coaching, communication with the participants... I look young but I can communicate the important parts- both content and technique” (P1).

“Coaching is the new skill that I have learnt. Mentoring is difficult as it is used for a long time for cultivating mentee” (P2).

“Coaching skills are the most improved from this project” (P3).

“Coaching is ok for our team but mentoring not appropriate now...something to learn in future. The 4 skills of coaching that we learnt- deep and active listening, asking questions, feedback (*feedback, feed up, feed forward*), and confronting... all these I can apply to my students” (P4).

“Coaching is important outcome for me, also Grow, and I can apply to my life” (P10).

“Clarity in differences between Coaching and Mentoring” (P10).

### **3.2. Training and facilitating-**

The theme about learning about the process of training and facilitation also emerged from the interviews. The participants mentioned about the process of implementing training and planning well, as well as after action review (AAR), and the need to adapt if needed. The following information was shared by the participants-

“Teamwork skills, problem solving in the field- we can listen to the problem and solve it. Also AAR- reflection skills” (P2).

“I learn about Feedback and AAR- apply to my students this semester” (P9).

Another important learning outcome was- “skills as a Note taker- use the skill of mind map and take notes. I can practice in every class/ training” (P3). It was also mentioned by other participants (P4, P8, and P9).

### **3.3. Communication –**

A change and improvement in all four skills of communication was told by the participants, which included listening, questioning, feedback, and reflection.

“I mentioned that I didn’t listen before...but this has changed my way from being a teacher to a Coach” (P3).

“Yes I can see my communication is different- better than before” (P4).

Another interesting aspect that emerged was about the confidence in communication especially how to communicate with seniors (a feature of the Thai culture)-

“I have confidence about communication with seniors and important persons” (P8)

## **4. Affective Learning Outcomes for the Participants**

The third dimension of learning outcomes was in the affective domain which deals with attitudes, motivation, interests, valuing the learning, willingness to participate and self-efficacy (Bloom, 1956; Krathwohl, Bloom, Masia, 1973; Schroeder & Cahoy, 2008 as cited by Cahoy & Schroeder, 2012). The participants could share many affective outcomes which have been summarized and discussed in 7 sub themes; presented along with the supporting quotations from the participants.

### **4.1 Self-awareness and change**

I think I have changed. I think I am bad listener before. But now I try to use every technique in this project in my life, in my research” (P7).

### **4.2 Self confidence**

“I have more confidence. I practice my communication and have confidence to teach older people” (P10).

### **4.3 Self -efficacy**

“Special thing that happened to me- I am not sure about my confidence if I can manage the group in the educational field. But now I am confident” (P3).

### **4.4 Motivation to learn more about coaching**

“I would like to know more techniques of coaching knowledge. I believe coaching is valuable in business- I would like to know that” (P5).

### **4.5 Ability to apply learning to other spheres of life-**

“I can apply C&M with my students at my work place. I can use GROW model to help my friends” (P2).

“I can use it within my life too. I’m already using with my students” (P3).

“Yes I use coaching skills with me advisee/ students” (P5).

“Yes I strongly believe in myself that I can do in another context” (P7).

### **4.6 Attitude change**

“I try to calm down and not judge others...I try to understand the reality” (P4).

### **4.7 Personal Improvement**

“I have more confidence... to teach older people” (P10).

“I have the confidence in myself in C&M skills” (P7).

## **Qualitative Findings Part II:**

### **Factors that acted as Barriers and Enablers in the Training Process**

The researcher gathered qualitative data through interviews to find the answers to the 4<sup>th</sup> research objective.

**Research objective 4:** To find out the factors that may be perceived as barriers and as enablers by the participants in the training process.

The findings for this section are further divided into 2 parts:

- 1) Barriers in the training process: with 6 identified themes
- 2) Enablers in the learning process: with 5 identified themes.

### **1) Factors that acted as Barriers in the Training Process**

To find about the factors that acted as barriers in the process of learning during the training, the participants were asked- *“What were the main challenges or difficulties that you faced during the implementation of your knowledge/skills during the project work?”*

Six themes emerged as the source of barriers for the participants which are described in details along with the quotes from the participants.

**1.1. Difficulty and wide scope of learning content-** The participants shared that they experienced difficulty in learning the content and also noted that the content of learning information about C&M was rather wide or large in scope.

“Knowledge of some techniques was very difficult” (P1).

“The 5 techniques along with C&M made me confused in the beginning but when we practice it became clear” (P4).

**1.2. Language barrier-** The participants highlighted the challenge of learning during the training in English language.

“I have to use English, it makes me nervous.... But when I read and talk in English, it became a turning point that made me love English” (P4).

**1.3 Need for practicing the skills and applying knowledge-** The knowledge and skills learnt during the training process had to be practiced many times since this was about coaching and mentoring.

“I need to train well-many times... with many teams and then take feedback to improve my coaching...so then I become confident of myself. And then I need to apply it” (P2).

“The training ... is very important- makes me confident...learning C&M and other techniques and feedback from my team” (P2).

**1.4. Time constraint** – The factor of limited time for learning and practice, as well as overall implementation of the project about C&M was highlighted by the participants.

“The main one is the time limitation – our team leader can manage the time for training. But there is pressure due to external bodies such as Ministry of education” (P2).

Another aspect shared by the participant was about not being able to fully participate in the project- “I cannot fully join the project all the time so I’m not clear about the coaching content” (P9).

**1.5. The context of training application** – Another serious challenge was developing an understanding about the context of the project goal. To explain this further I would like to remind the readers that the C&M project was aimed at creating reform in education at the various schools of the 5 provinces in Bangkok. However the master trainer had a different work/ research based experience. They had to learn and understand the needs and problems of the teachers and the administrators of the schools. The following quotes highlight these problems-

“When we role play- it is not the real person...so I have to imagine the situation” (P2).

“When I go to field, participants are head of schools, have old ideas about the education system...when I speak some don’t believe me. But I can manage myself. ” (P5).

“Someone is a good coach in the training but when in the real world they forget the coaching skills” (P7).

“Some areas teachers could not give cooperation- we tried hard to make them understand” (P8).

**1.6. Limited resources-** A challenge identified by the participants was about the limitation of resources such as time, money and the personnel in the project.

“Sometimes we have to change the teams. If we have more staff and may be budget is a limitation too” (P10).

## **2) Factors that Enabled the Learning Outcomes in the Training**

The question asked to elicit data for understanding the enablers was- *“Can you identify some specific factors that helped you to put into practice the knowledge and skills during the field work of the C&M project?”*

The data that emerged has been analyzed and categorized into 5 main themes.

**2.1. Team work and team spirit-** The participants captured the importance of team work as one of the enablers in the training and the project. Some quotes are shared-

“Working with close friends and students helped. If we have conflict, we can sort it out. We cooperate with each other” (P3).

“We have trust and motivation” (P3).

“Group relations and team work. We can talk to anyone anything” (P4).

“I must read and practice more and more...and share with everyone” (P5).

“But in this project I observed that learning in group is very valuable for me, for others and for students” (P6).

“Everyone found this interesting” (P8)

“I know everyone is willing to join this project... We try to help each other” (P9).

**2.2. Project leadership and management-** An important factor that helped in the success of the training and learning outcomes was the role of project leader and their management of the project.

“Project leader is very important to keep the project going on and in the right direction” (P3)

“She can manage everything- time, training...she’s the head and manager of the project” (P4).

“We plan well- the class plan within limited time” (P5).

“She’s a good model for coaching. She’s my motivation. I saw her love and work hard to prepare everyone for this project. She works hard and so I work hard too” (P7).

“She gave us many knowledge and skills” (P1).

Another is project management- She tried to manage and administer all the time...even when she have a problem, she can respond quickly” (P11).

**2.3. Good Training-** The data from participants revealed that the factor enabling the project learning was about training well.

“I think training is most important – this project started with training” (P 11)

**2.4. Personal factors-** Many personal factors could be identified as enablers by the participants such as motivation and commitment.

“It’s my personality- I can ask and learn...I learn as a coordinator in this project” (P1)

“My own motivation, previous experience related to qualitative research is the most important” (P4).



“I’m never absent for any training anytime in the project” (P7).

“Because I want to improve my skills- as I want to be a teacher I find it useful to learn these concepts” (P8).

“I’m motivated to do this project” (P9).

**2.5. Spirituality-** in the course of the interview another additional factor emerged about the role of spirituality in the training process. This point emerged from the team leader.

“The good excellent thing is where ever we go they can perceive it that they (team) have a heart to do it...a spirit to do it...we call it spirituality. I am very proud to work with them- our team is very good! ” (P6).

### ***Chapter Conclusion***

The qualitative findings of the research were presented in two parts- first part gave detailed information about the cognitive-affective-behavioral dimensions of the learning outcomes among the trainers, and the second part revealed the factors that were perceived as barriers and as enablers by the participants during the training of C&M.

## **CHAPTER 6**

### **Discussion and Conclusion**

This research was conducted to investigate the learning outcomes among the educators who trained for learning about Coaching and Mentoring (C&M) as a part of the educational reform process in Thailand. This research was conducted in two phases- first quantitative and later qualitative. The participants for both the phases of the research were educators/ master trainers who were a part of the C&M team at a university faculty in Thailand. This research was specifically targeted to examine the learning outcomes of training, as measured in three dimensions based on the cognitive-affective-behavioral theoretical model. The study applied mixed methodology by the use of both quantitative and qualitative methods to study the 4 research objectives.

This chapter summarizes the findings of the research and gives recommendations and conclusion based on the research findings, which are presented in 5 sections-

- I. Main results and discussion
- II. Researcher's reflections
- III. Recommendations
- IV. Value of this research
- V. Conclusions

#### **I. Main Results and Discussion**

This research sought to find answers to the 4 research objectives through mixed method approach, wherein first quantitative investigation was done, followed by qualitative. The previous two chapters presented the data collected separately, but this chapter seeks to “integrate the information”, which is one of the salient characteristics of mixed methodology (Creswell, Klassen,

Plano Clark, and Smith, 2011). Furthermore following the guidelines for a mixed method research (Creswell and Plano Clark, 2011), the data was collected by both methods, rigors of research were mentioned clearly, and data was integrated to answer the research objectives.

The key findings from this research are summarized and discussed in four parts.

## **Quantitative Investigation**

### **1.1. Research Objective 1: Results**

#### **Research Objective:**

*To evaluate the relationship of the learner's characteristics (in terms of learning goal orientation) and the instructional characteristics (instructional clarity) with the learning outcomes for the trainers.*

#### **Results:**

The quantitative analyses of the results showed that there was no significant relationship between the learner's characteristics (in terms of learning goal orientation) and learning outcomes for the trainers. The second finding showed that there was a significant positive correlation between instructional clarity and learning outcome ( $r = .55, p < .05$ )

### **1.2. Research Objective 2: Results**

#### **Research Objective:**

*To evaluate the relationship of work task motivation with the learning outcomes.*

#### **Results:**

Contrary to the hypothesized statement, the research finding showed no significant relationship between the variable of work task motivation and the independent variable- learner's characteristics, nor with the dependent variable of learning outcomes for the trainers.

## **Discussion of both results**

The findings from the research did not get support for the hypothesized relationships and it may be due to the small sample size in this research.

## **Qualitative Investigation**

### **1.3. Research Objective 3, Results and Discussion**

#### **Research Objective:**

*To understand the cognitive-affective-behavioral dimensions of the learning outcomes among the trainers.*

#### **Results and Discussion:**

The qualitative findings from the research were analyzed to reveal that the participants could distinguish between the three dimensions of learning outcomes as explained briefly-

1. The cognitive learning outcomes of the training could be identified by the participants as the new knowledge acquired in 2 sub themes that related to, i) training outcomes and, ii) other knowledge about the educational pedagogies that they had acquired.
2. The behavioral learning outcomes of the training were clearly specified by the participants, and hence three sub themes emerged from the behavioral learning outcomes, which were the acquisition of skills related to coaching, training and facilitating, and about communication.
3. The affective learning outcomes of the training were recognized by the research participants and could be categorized in to 7 sub themes of- Self-awareness and change, Self-confidence, Self –efficacy, Motivation to learn more about coaching,

Ability to apply learning to other spheres of life, Attitude change, and Personal Improvement.

The learning outcomes from the training of C&M were qualitatively analyzed on the three domains of cognitive, behavioral and affective or the “C-B-A” model developed by Kraiger, Ford and Salas (1993). According to the authors, learning is multidimensional in terms that it can impact changes in cognitive, affective and skills capacities. This is clearly evident in the findings of this research.

Further, many researchers noted that the cognitive outcomes of training comprise of improvement in knowledge and better mental models (Tannenbaum, Cannon-Bowers, Salas & Mathieu, 1993; Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). This aspect is highlighted in the current research as the participants shared that they not only acquired knowledge about training but also could understand more about the different educational pedagogies needed for the educational reform process.

Additionally, as pointed out by Kraiger et al. (1993), the cognitive outcomes could also influence training performance or behavioral outcomes. The researchers also noted the higher level outcomes of cognitive-level, which is “metacognition”, and can be revealed as self-awareness and the need for self-development. This aspect is shown in the current research as the participants could also identify learning outcomes at the metacognition level such as “self-awareness and change”.

Salas et al. (2012) explained that the behavioral outcomes adhere to the acquisition of a new skills and behaviors. In the current research too the participants could identify the acquisition of behavioural skills related to “coaching”, “training and facilitating”, and “communication”.

The affective learning outcomes found in this research gain support from previous researches. Kraiger et al. (1993) have shared that affective dimensions must be measured to evaluate training outcomes. Thus, the current findings gain support from previous research such as that of Bloom, Engelhart, Furst, Hill, and Krathwohl (1956), who noted the development of attitudes, values, and appreciations during training. Moreover, Tannenbaum, et al. (1995) noted improved motivation and self-efficacy among the trainees. Other researchers have also noted that attitudes, motivation, interests, valuing the learning, willingness to participate and self-efficacy are the affective aspects of learning outcomes of training (Bloom, 1956; Krathwohl, Bloom, Masia, 1973; Schroeder & Cahoy, 2008 as cited by Cahoy & Schroeder, 2012).

#### **1.4. Research Objective 4, Results and Discussion**

##### **Research Objective:**

*To find out the factors that may be perceived as barriers and as enablers by the participants in the training process.*

##### **Results and Discussion:**

Six themes emerged as the source of barriers for the participants which were-

- i) Difficulty and wide scope of learning content
- ii) Language barrier
- iii) Need for practicing the skills and applying knowledge
- iv) Time constraint
- v) The context of training application
- vi) Limited resources

The information from participants was analyzed to evaluate the “enablers” of the training process and there were 5 sub-themes that emerged-

- i) Team work and team spirit-
- ii) Project leadership and management-
- iii) good Training
- iv) Personal factors
- v) Spirituality

Previous researchers have found that the challenging factors and the enabling factors are often influenced by multi-level factors which exist at individual, or the organization levels, and also by the training itself. The findings from the current research gains support from previous researches. For instance research showed that individual factors such as trainee’s attitudes, interests, values and expectations can impact the training effectiveness (Noe, 1986; Noe & Schmitt, 1986). Álvarez, Salas, and Garofano (2004) also found that both the characteristics of the individual and of organizations as well as the training itself impact the training outcomes. Another research found that the impact of factors such as project management and relationship skills also influences training outcomes (Prywes, 2012).

#### **Additional findings: The metacognition aspect**

The findings from the interviews showed that the participants could also identify other valuable learning outcomes from participating in the C&M project. On analyzing these, it was found that that these ten categories of responses could be classified into 4 main themes. These themes related to the outcomes of this training which were at 4 levels- at individual level, team level, project level and broader macro level- of the nation. On evaluating these responses, it can

be said that these related to the “meta-cognitive” outcomes which relates to awareness and knowledge of the cognitive process as explained in the revised version of Bloom’s taxonomy by Anderson and Krathwohl et al. (2001). This general awareness and the contextual importance of what they were doing could be very useful in the transfer of training later. Furthermore as explained by Sart (2014), metacognition has a deep impact on the learners since “it also deals with awareness, observation, reflection and analysis which are needed to become an independent learner”. This aspect of metacognition outcomes of the training program indeed helped the participants remain engaged with the training and also later on its implementation process.

## **II. Researcher’s Reflections**

During this research, I had various roles to play as I was not just the researcher for the project but the trainer for developing the basic understanding of the coaching and mentoring processes. As the project progressed, I became an avid learner of the “applications” of C&M in the various pedagogies of education system such as problem based learning.

The researcher’s reflections were recorded during the complete project and are shared herewith-

### **1. Academic contribution**

The academic contributions from this research are hoped to be useful in the area of using C& M in the educational reform process. The researcher strongly believes that C&M are powerful tools that can empower the learners in the education context for developing self-directed learners.

Another academic expected output was to verify that behavioral science approach that seeks to integrate knowledge from various fields could be applied in evaluating training by understanding the domains of cognitive, behavioral and affective outcomes. The researcher found



this a challenge in the beginning but later as the interviews of the participants were analyzed, it yielded rich results.

## 2. Value of mixed method research

While initiating this research the researcher explored doing mixed method research even though in its basic form. All efforts were made to design the mixed method research in a systematic way (Creswell & Plano Clark 2011), as well document the process and adhere the guidelines in reporting as shared by various researchers (Leech & Onwuegbuzie, 2010). Ethical considerations were also adhered to while conducting the study and requesting the participation of the samples. The sample size was a consideration for meaningful quantitative study but the qualitative results gave a vast amount of meaningful data.

## 3. Personal learning

This research offered a wide scope of learning for the researcher from many different perspectives such as the trainer for C&M, researcher, being a part of the educational reform process in Thailand, and mostly from working as a team member with the research project team at the institute.

### **III. Recommendations**

This research was an exploration into the evaluation of training outcomes for C&M in the educational reform process. The nature of training for C&M limited the scope of the study through the limited sample size for quantitative evaluation, yet the qualitative findings of this study could be useful for developing and evaluating training programs about C&M or other such techniques in the educational reform process in Thailand. Additionally, these findings could be useful for:

1. Educational organizations that are undertaking the reform projects and need to organize and implement training programs for the master trainers; especially in Thailand and could be explored for application in other developing nations.
2. This information could be of value to trainers and facilitators of C&M programs as it involved the 3 dimensional evaluation of learning outcomes. The researcher recommends the verification of the model in other trainings related to the educational change processes.
3. The findings could be of value to other researchers who aim to investigate learning outcomes of the new age educational pedagogies for the development of 21<sup>st</sup> century skills and overall in the area of training evaluation.
4. For more impact based evaluation, future research in the area of training evaluation could also involve an evaluation of the impact of the training outcomes on performance in the actual work scenario.

#### **IV. Value of this Research Project**

The value of this research lies in the endeavor to contribute towards creation of empirically tested information about evaluation of training from the three dimensional aspects of cognition-affect-behavior. This research is also of significance as it provides detailed evidence about the application of a systematic training program for educators so as to empower them to apply coaching and mentoring as the keys to leading to support of educational reforms in their specific circumstances. This research based evidence gives key insights into making training more effective in Thai context of educational reform process. It is hoped that the results of this research could be of value to the sustainable change process in education that seeks to develop the human resource

capital in not only Thailand but also in other developing countries where educational reforms are also of strategic importance to development.

## **V. Conclusion**

In conclusion it may be summarized that the evaluation of training outcomes in the three domains of cognitive, behavioral and affective or the “C-B-A” model could be useful in understanding the outcomes and impact of training. Furthermore, the use of mixed method in this study may not have provided enough evidence in quantitative evaluation, but the qualitative method of inquiry provided deeper insights about the learning outcomes from training. Another noteworthy aspect of this research was that for all the master trainers, coaching and mentoring were valuable as techniques in making changes in the education process. It is hoped that these findings could perhaps be of value and contribute to more effective implementation of educational reform strategies.

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