学位論文の要旨（論文の内容の要旨）

Summary of the Dissertation (Summary of Dissertation Contents)

論　文　題　目
Dissertation title: Training Effectiveness of Skill Certification System: The Case of Automotive Industry in Thailand

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Evaluation in terms of training effectiveness is beneficial to both employees and management while it has not been implemented very well in organizations. Most of researches and practices on training effectiveness in Thailand, the case country of the present study, has focused on Kirkpatrick's level one (reaction) and level two (learning) because of the difficulty of obtaining relevant information on further levels, much training in Thailand ignores behavior (level three) and results (level four). Consequently, Thai human resource development (HRD) professionals will continue to make decisions based on reaction and learning level only (Yamnil and McLean, 2005). A skill certification system for the automotive industry in Thailand is also not the exception. It has not been evaluated comprehensively so far. The system was implemented under Automotive Human Resource Development Project (AHRDP). AHRDP was started in 2006, as part of the Japanese Official Development Assistance (ODA) program, in cooperation with the Thai government and private sectors in both countries. Thus, this study tries to evaluate the effectiveness of the skill certification system with training program by using Kirkpatrick's model and investigate the influence of moderator variables on training

effectiveness. By considering the role of trainees' individual and work environment characteristics as influencing training effectiveness, it will be possible to more comprehensively understand why training is or is not effective. Kirkpatrick's model doesn't explicitly incorporate these factors and, in effect, and it is assumed that the examination based on the model is not sufficient for appropriate training evaluation.

The main objective of the dissertation is to analyze effectiveness of skill certification system for automotive industry in Thailand by using Kirkpatrick's model. The specific objectives of this dissertation are: in the case of skill certification system with training program in Thai automotive industry, (1) to investigate Kirkpatrick's four-level hierarchy of training evaluation, focusing specifically on the type of reaction criteria, including affective and utility reactions, in predicting training outcomes (chapter 5); (2) to investigate four levels of Kirkpatrick's model with modification with a focus on the moderating influences of individual and work environment characteristic variables, which are learning motivation, self-efficacy, motivation to transfer, social and organizational support (chapter 6); and (3) to investigate specifically the relationship between learning and behavior change from training with a focus on moderating influences of social and organizational support, that is, supervisor, co-worker, and organizational support (chapter 7).

The research framework has been developed and empirically tested with Structural Equation Model (SEM) for analyzing the data in Chapter 5, which enables to identify the relationship among the variables all at once. As SEM has not been utilized in related studies, the analysis will be a new challenge in methodology. Moreover, Chapter 6 and 7 analyzed data by path analysis and the hierarchical regression analysis for assessing the influence of the moderating variables on independent-dependent relationships.

This study collected data by using a field survey. The questionnaire survey was implemented during November and December of 2012 through face-to-face interviews with 228 persons by 10 research assistants. However, considerable ratio of participants in a skill certification system could attend multiple levels training subjects. Therefore, they were asked about the last certificate that they obtained among others. All survey participants passed the skill certification exam after training in the sub-program and 228, all of those who were interviewed, provided valid responses.

Chapter structure of this dissertation is as follows. Chapter 1 describes the research background, the objectives of the study and research questions, the significance of the study, the

scope, conceptual framework, definition of terms, and organization of the study. Chapter 2 contains a theoretical background focuses specifically on Kirkpatrick's model. Chapter 3 is literature review: meta-analysis of training effectiveness and descriptive review on individual and work characteristics. The results of meta-analysis found that only aggregate of reaction tended to correlate positively with learning. Learning including declarative knowledge, procedural knowledge, and retention had significant relationships with behavior. The results of descriptive review on individual trainee and work environment characteristics indicated that self-efficacy, learning motivation, motivation to transfer and social support have direct effects on the training effectiveness. However, little previous empirical studies focused on those characteristics as moderators on the relationships between training outcome variables, specifically on the relationship of reaction, learning, and behavior. Chapter 4 presents overview of Thai automotive industry, skill certification system, and research methodology.

Chapter 5 investigated progressive causal relationship of Kirkpatrick's model from reaction, learning, behavior, to results and focused specifically on the type of reaction criteria, including affective and utility reactions, in predicting training outcomes. This study makes two specific findings. First, it shows the progressive causal relationship of Kirkpatrick's model was proved excluding the one between affective reaction and learning. Second, two kinds of reactions, affective and utility reactions, were hypothesized to impact learning. The results of the present study underlined that trainee utility reactions had a significant relationship to learning.

Chapter 6 integrated the individual and work environment characteristics on four-levels of Kirkpatrick's model. We adopted four variables concerning learning motivation, self-efficacy, motivation to transfer, social and organizational support. Not merely their direct effects on training outcomes, we also investigate their moderation on the relationships between reaction (L1) and learning (L2), and behavior (L3). The results of this chapter confirm the progressive causal relationship of reaction, learning, and behavior to results. In particular, this finding highlighted the direct relationship between (1) self-efficacy and learning, and (2) learning motivation and learning. Although the result of motivation to transfer as a moderating variable has negative effects on the relationship between learning and behavior, social and organizational support directly affects behavior change after training and moderates the relationship between learning and behavior. The results of this chapter confirm some aspects of the influence of the

individual and work environment characteristics on training outcomes and they have implications for enhancing training effectiveness.

Chapter 7 investigates specifically the relationship between learning and behavior from training with a focus on moderating influences of social and organizational support. The findings indicate that learning from training had a positive relationship with training transfer. Only co-worker support was significantly and positively related to transfer of training and moderates the relationship between learning and behavior; when trainees learning successfully and had high co-worker support, they displayed more behavioral change on the job. Furthermore, this chapter also provides an in-depth investigation on the role of social and organizational support as moderators into the training transfer by two groups of work, that is, blue-collar and white-collar works. The results of both blue-collar and white-collar works indicate that a co-worker support as a moderating variable has a positive effect on the relationship between learning and behavior.

The overall findings of this dissertation are considered to provide a useful contribution to academic research and HRD professionals in Thai automotive industry (as implementers). The evaluations can be useful to improve the program and suggest the appropriate HRD policies and practices for organizations in the industry. As to academic knowledge, this study expands our understanding of the progressive causal relationship of reaction, learning, and behavior to results. In addition, this study contributes to our understanding of individual and work environment characteristic variables, which are: learning motivation, self-efficacy, motivation to transfer, social and organizational support, as moderators of the relationship between training and its outcome.

The implications of the expanded hierarchy model of training evaluation are quite important for HRD professionals in Thai automotive industry. For training evaluation, if the extent of behavior does not improve as intended, we should examine the amount and types of learning that occurred. However, we should also think about the opportunities that trainees have had to use the training on the job. Organizations can improve learning by ensuring that trainees believe that they have the capabilities to successfully learn the new knowledge and skills from training (self-efficacy for learning). This can be improved by (1) showing trainees that other employees who have received the training have successfully improved their knowledge and skills and (2) providing information for trainees on how the learner can achieve success under the training context.

In terms of training transfer in the workplace, the role of social and organizational support in directly affecting behavior change after training and moderating the relationship

between learning and behavior demonstrates the practical implications from the training. HRD practitioners should be supporting infrastructures that can be used to further enhance co-worker learning. Although the skill certification system is designed for the automotive industry, we have a variety of occupations for skill certification. If, following training, trainees are able to develop a peer networking or learning system from different organizations for sharing knowledge and skills, it may be potentially beneficial to each organization. In addition, for the longer term, organizations must improve the quality of other types of social and organizational support as well to exploit the opportunities for transfer of training more effectively.

This study has several limitations. First, this study relied on self-assessment measures, which may have caused some common-method variance problems that may inflate observed relationships between variables. Further, where possible, these appraisals should be performed by multiple sources, including the individual receiving the training, the person's supervisor(s), the person's subordinates, and the person's peers. Second, this study didn't control for a variety of course features and demographic variables that may influence trainees' experiences and evaluation of the training they received. Finally, further empirical studies of training effectiveness need to conduct return on investment (ROI) of skill certification system in Thai automotive industry.