BEHAVIORAL & ORGANIZATIONAL INFLUENCES TOWARDS TRAINING EFFECTIVENESS

Chong Siaw Fung
BEHAVIORAL & ORGANIZATIONAL INFLUENCES TOWARDS TRAINING EFFECTIVENESS
BEHAVIORAL & ORGANIZATIONAL INFLUENCES TOWARDS TRAINING EFFECTIVENESS

Chong Siaw Fung

Universiti Malaysia Sarawak
2013
Dedicated to

Madam Yong Su Yee, Master Chong Wyern, and Master Chong Xannon

"Your presence in my life is truly the evidence of God's eternal blessings and providence."
# Table of Contents

Table of Contents................................................................................................................. ix
List of Tables ......................................................................................................................... xii
List of Appendices .................................................................................................................. xii
List of Figures ......................................................................................................................... xiii
List of Abbreviations .............................................................................................................. xiv
Acknowledgement .................................................................................................................. xv
Preface ...................................................................................................................................... xix

Chapter 1  How Did Your Training Go?.............................................................................. 1
  Measuring Training Effectiveness ....................................................................................... 5
  Possible Influences on Training Effectiveness .................................................................. 6
  Overview of Contents ......................................................................................................... 13
  Significance of the Study ................................................................................................... 14

Chapter 2  Theories & Models ......................................................................................... 17
  Evaluation of Training Effectiveness .................................................................................. 18
  Model of Training Transfer (Baldwin & Ford, 1988) ....................................................... 35
  Motivational Influences on Training Effectiveness (Noe, 1986) ..................................... 36
  Process Approach Model to Transfer of Training (Foxon, 1993) .................................... 38
Chapter 3 Previous Studies

On Behavioral Factors

On Organizational Factors

Behavioral Influences on Training Effectiveness

Organizational Influences on Training Effectiveness

Effects of Reactions and Learning on Training Transfer

Maintenance of Training Transfer

Critical Reviews of Previous Empirical Studies

Considerations for Future Research

Summary and Discussion

Chapter 4 Training Scenario in Malaysia and Sabah

Training Activities in Malaysian Organizations

Training in the Malaysian Manufacturing Industry

Studies on Training Effectiveness in Asia and Malaysia

Industrialization and Increasing Training Needs in Sabah

Sabah Skills and Technology Centre
List of Tables

Table 1. Analysis of Proposed Training Effectiveness Schemes ............................................. 25
Table 2. Summary of Links with Training Transfer  
(Burke & Hutchins, 2007) ................................................................................................. 95
Table 3. Significant Results in Regression Analysis ......................................................... 147
Table 4. Results of Hypotheses Testing ........................................................................... 149
Table 5. Key Ideas from Observations .............................................................................. 169
Table 6. Percentage of Journal Entries ............................................................................ 180
Table 7. Stages of Training Transfer ................................................................................ 188
Table 8. Training Transfer Support System ..................................................................... 202

List of Appendices

Appendix A. Two-Axis Matrix for Qualitative Analysis ................................................... 233
List of Figures

Figure 1. Alliger and Janak's (1989) Review of Kirkpatrick's Model ............... 20
Figure 2. Classification Scheme of Learning Outcomes ........................................ 22
Figure 3. Taxonomy of Training and Development Outcomes Framework ................. 27
Figure 4. Whole-Organization Evaluation Strategy .................................................. 30
Figure 5. Example of Causal Chain Analysis ............................................................ 32
Figure 6. Suggested Structure of a Stakeholder Scorecard for Training ...................... 34
Figure 7. Baldwin and Ford's Model of Training Transfer ....................................... 36
Figure 8. Noe's Model of Motivational Influences on Training Effectiveness ................. 37
Figure 9. Foxon's Process Approach to Transfer of Training .................................... 40
Figure 10. HRD Evaluation Research and Measurement Model ................................ 42
Figure 11. Revised HRD Evaluation and Research Model ........................................ 44
Figure 12. Climate of Transfer Model ................................................................. 45
Figure 13. Integrated Model of Training Effectiveness and Evaluation ...................... 46
Figure 14. Best Practices Model of Transfer ........................................................... 48
Figure 15. Organizational-Level Training Outcomes Model .................................... 50
Figure 16. Components of Training and Development Research ............................ 52
Figure 17. Research Model 1: On Reactions .......................................................... 134
Figure 18. Research Model 2: On Learning ............................................................ 135
Figure 19. Research Model 3: On Training Transfer ............................................... 136
Figure 20. Research Model 4: Training Outcomes and Transfer .............................. 138
Figure 21. Revised Model of the Study ................................................................. 153
Figure 22. Alternative Revised Model of the Study ............................................... 154
Figure 23. Pattern of Training Transfer ............................................................... 164
List of Abbreviations

BIMP-EAGA  Brunei-Indonesia-Malaysia-Philippines East Asian Growth Area
GSES  General Self-Efficacy Scale
HRD  Human Resource Development
HRDC  Human Resource Development Council
HRDF  Human Resource Development Fund
IMTEE  Integrated Model of Training Effectiveness and Evaluation
KKIP  Kota Kinabalu Industrial Park
LTSI  Learning Transfer System Inventory
OCQ  Organizational Commitment Questionnaire
SME  Small and Medium Enterprise
SMI  Small and Medium Industry
SPOS  Survey of Perceived Organizational Support
SSTC  Sabah Skills and Technology Centre
TECS  Trainees’ Entry Conditions Survey
TOTADO  Taxonomy of Training and Development Outcomes
TRS  Training Reactions Survey
TTNA  Transfer of Training Needs Analysis
TTSS  Training Transfer Support System
ACKNOWLEDGEMENT

This book is the result of my doctoral research conducted during the period of 2001-2005. In the process of conducting this study, I encountered various problems and challenges that were, at some points, rather frustrating and disheartening. However, I realized later that such hardships were not without rewards. My efforts were eventually compensated by the joy and comfort of meeting a considerable number of frontline operations personnel in the manufacturing sector of Sabah and Labuan Federal Territory. I had the opportunity to invest a part of my life with them, and earned the privilege to count some of these as friends and associates in human resource development at the end of the process.

To a certain extent, this study can be considered as a special tribute to the frontline workforce of Sabah in particular, and Malaysia in general. This group of people is actively and directly contributing towards state- and nation-building. Day by day, they do their parts quietly and relentlessly to move the machine of development of the state and country. I wish to acknowledge the contributions of these respectable people, the operations personnel who were directly involved as participants in this study.
I am greatly indebted to the participating organizations in this project. I would like to offer my thanks to the directors and managers of these organizations, who graciously opened their doors to allow me to conduct this study among their workers. I am obligated to keep their confidence, and thus am unable to produce a list of these organizations in acknowledgement herein, but I am compelled to record my utmost respect and gratitude to these organizations and their officers for their support, assistance, and participation.

Apart from the participants and the participating organizations, there are some people who had contributed significantly to the success of this study. I would like to thank, particularly, Ms Natalie Fung and Ms Devyne Koh of the Sabah Skills and Technology Centre (SSTC) for their physical and administrative support. Among other things, Natalie had suggested the idea of using 5S Housekeeping Practices as the training topic for this study, and Devyne had supported me in the process of communication with a significant number of prospective participating organizations and coordinated the physical arrangement of the training programs conducted at SSTC.

Several prominent figures in the social and political arena of Sabah provided their assistance and moral support for this project. Datuk Tham Nyip Shen, who was the Deputy Chief Minister cum Minister of Industrial Development of Sabah at the initial stage of this study, provided valuable comments on the position of human resource development of the State. Datuk Yong Teck Lee, former Chief Minister of Sabah, and YB Melanie Chia, then Assistant Minister of Resource Development
and Information Technology of Sabah, provided positive moral support for me to complete the study.

I would proudly mention my research supervisor Prof. Dr Peter Songan with utmost sense of respect and appreciation. Prof Peter has been a great mentor and friend throughout the project. He was never slow to help, but also very generous with his critical comments. He encouraged me in all respects from the very beginning of my doctoral candidature, and remained so until the final stage of my research work. He encouraged me to present my work to wider scholastic circle to pursue excellence in the quality of research. To me, he is the true example of a devoted and diligent scholar, always demonstrating the spirit to seek the truth through scientific and objective means. God bless you, Prof.

I thank Universiti Malaysia Sarawak (UNIMAS) for the interest to publish my work, and hope that this book will spark off more research initiatives and more scientific and empirical approach in the management of training and development in Sabah and Malaysia. Specifically, I would like to offer my salutation to Dr Ahi Sarok of the Publication Division of UNIMAS and his team for their tireless efforts to make this project a success.

Last but not least, to all the others who had directly or indirectly contributed to the success of this project, I would like to offer my sincere gratitude.
PREFACE

Training can be an expensive investment with little assurance of returns. Thus, training effectiveness is of great concern for enterprises and Human Resource Development (HRD) practitioners. Positive training outcomes and transfer is perhaps a viable result to be expected from any training intervention.

Early research related to training effectiveness has often focused on training design and implementation. By the end of 1980's, there has been a renewed research interest in the possible effects of attitudinal and environmental factors on training outcomes and transfer. Knowledge of such influences would help enterprises and HRD practitioners to plan and implement training programs more effectively in order to maximize results.

This book reports a study conducted in order to examine possible effects of selected behavioral and organizational factors on training outcomes and maintenance of transfer. A one-day training course on 5S housekeeping practices entitled "Amalan 5S untuk Operasi Perusahaan" was conducted to achieve the purpose of this study. A total of 235 participants who are operations workers and supervisors from 12 manufacturing organizations in Sabah and Labuan Federal Territory were put through the training course, and measures of the related factors
were taken before, during, and after the training course. Only 221 participants remained at the end of the data collection period.

Specifically, seven behavioral and organizational factors were considered as the independent variables in the study. These seven factors are categorized as cognitive behaviors (self-efficacy and expectancy), job attitudes (job involvement and organizational commitment), and organizational factors (job support, supervisory and managerial support, and organizational support). These factors were measured immediately before the 5S training course, using items that were validated through confirmatory factor analysis in a pilot study.

Pre-test and post-test were conducted immediately before and after the 5S training course to assess the extent of learning among the participants in terms of declarative knowledge and application-based knowledge. The participants' affective and utility reactions to training were measured using a validated instrument immediately after the course. Related work behavioral performance measures were made one week before the 5S training course as the baseline measure. Subsequently, measures were taken at five points of measure after the 5S training course (1 week, 3 months, 6 months, 9 months, and 12 months). Gains in the behavioral performance scores against the baseline measure were regarded as training transfer.

The pattern of the maintenance of transfer was examined through a plotted maintenance curve. Training transfer mean scores plotted on a timeline yielded the observation of sharp increase of transfer at the earlier period (0-6 months), gradually arriving at a plateau at the later period after the 5S training course. This seemed to indicate that training transfer at the earlier period immediately after a training experience is crucial to efforts of transfer maintenance.
Correlations and multiple regression analysis were conducted to test the hypotheses. Effect size and power of the statistical tests performed was estimated to verify the findings. Among the significant findings, cognitive behaviors were found to be the dominant factor contributing to trainees' reactions to training and gain in declarative knowledge. Organizational factors were observed to have dominant influence over training transfer at all points of measure except one week immediately after the 5S training course.

Consistent with critical suggestions by some researchers, reactions were found to have no effects over learning and transfer. However, learning in application-based knowledge contributed positively to training transfer at 9 and 12 months after the training, indicating that retention of learned knowledge, especially that which is related to application, is important for longer term transfer.

Negative influences from job support and job involvement to training transfer may be a reflection of the participants' over-dependence on resources and support provided at work, and their reluctance to initiate changes. This suggestion is supported by journal notes made during post-training assessment which revealed that corporate initiatives could have significant effects over transfer effort. So, practical support from the organization to initiate transfer efforts is likely to improve training transfer. It is thus recommended that some form of Training Transfer Support System (TTSS) should be established in organizations to facilitate collaborative action-planning, and to initiate, monitor, and evaluate the process of training transfer after a training intervention.
How Did Your Training Go?

Training represents an expensive investment organizations make in their human resources and, therefore, it is important that organizations evaluate the effectiveness of their training efforts. (Mathieu, Tannenbaum, & Salas, 1992, p. 828)

The effectiveness of a training program is indeed a crucial issue in human resource development (HRD). All parties involved, such as the trainers, the trainees, and the enterprise, have their own concerns over the issue of training effectiveness. The trainers would be concerned about the reactions of trainees to the program, which might affect program effectiveness. The trainees would expect training programs to help them improve in performance and that the contents presented will be relevant to their daily work. Meanwhile, having invested strategically, financially, and allocated manpower to train its employees, the enterprise would undoubtedly anticipate returns from such investment in terms of quality, productivity, and ultimately profitability.

Although education enables the acquisition of basic knowledge and skills, training intervention is inevitable to improve
workers' performance in organizations. Noe and Schmitt (1986) aptly defined training as "...a planned learning experience designed to bring about permanent change in an individual's knowledge, attitudes, or skills" (p. 497). Training is often required upon new hires, promotion, and new placement of employees to prepare them for the work assignments. For existing employees, training is conducted to maintain and improve morale and performance level. In Malaysia, business trends survey reports revealed that training efforts were mostly aimed at changing employee attitudes and adjusting to new technology (Malaysia Institute of Management, 1996; Wong, 2000).

Training could be a costly investment with little assurance of returns. In the United States of America (USA), the cost of training had been increasing over the years. Between 2003 and 2007, total training expenditures of organizations in the USA ranged from US$51.1 billion (in 2005) to US$58.5 billion (in 2007) (2007 Industry report, 2007). Top management executives in best-in-class US organizations were reported to spend an average 45 hours and the managers and supervisors spent 51 hours in training annually (Olian, Durham, Kristof, Brown, Pierce, & Kunder, 1998). In 2011, each employee of companies in USA registered 39.3 training hours in average; and for large companies with 10,000 or more employees, each employee spent 49.5 training hours in average (2011 Training industry report, 2011).

As early as two decades ago, it has already been reported that an estimated US$200 billion are being spent for workforce training in the USA annually (McKenna, 1990). In early 1980's, Georgenson (1982) suggested that probably only 10% of the US$100 billion spent on training and development in USA led to positive transfer. Baumgartel, Reynolds, and Pathan (1984) found
that less than half of their subjects reported significant attempts to transfer training to job environment after training. Marx (1986) suggested that transfer failure may be as high as 90%. In a similar note, Broad and Newstrom (1992) suggested that more than 80% of investment in training is ultimately wasted.

In Malaysia, the results of the study of Zakaria Ismail and Rozhan Othman (1993) suggested that Malaysian firms may have invested in considerably more training hours than US firms. Thus, the seriousness of considering training effectiveness should not be taken lightly.

In its plan for national development, Malaysian Government had always view education and training as an important sector for consideration. In 2004, the former Prime Minister of Malaysia Datuk Seri Abdullah Badawi declared the Malaysian commitment for human capital development in the Agenda Asia Conference in 2004 ("PM: Asia at a crossroad," 2004):

Any program to eradicate large-scale poverty must involve the wider issue of human development. ...

Nations pursuing economic prosperity cannot ignore their most valuable resource – their own people. ...

We must be prepared to foster a quality education system supplemented by skills training and life-long learning facilities. (p.35)

Financial allocation for development in the education and training sector had most often been one of the most substantial in the national development plans of Malaysia. In the Ninth Malaysia Plan (2006-2010) and Tenth Malaysia Plan (2011-2015), human capital development initiatives formed one of the main thrusts of development (Economic Planning Unit, 2006,
Development expenditures for education and training during the Eighth Malaysia Plan (2001-2005) was estimated to be around RM42.4 billion, whereas RM45.1 billion was allocated during the Ninth Malaysia Plan period (2006-2010) (Economic Planning Unit, 2006). In the Tenth Malaysia Plan (2011-2015), it is reported that the allocation for development in the education and training sector is about 23% of the total budgeted RM230 billion, the largest allocation for a single sector of development in the Plan (Anuwar Ali, 2011). The trend of increasing allocation for the development of education and training in Malaysia is likely to continue into the distant future.

Yet, the demands for investment and uncertainty for returns in HRD is so high that some organizations, especially Small and Medium Industries (SMIs) and Small and Medium Enterprises (SMEs), are reluctant to move ahead. To spearhead and to aid HRD efforts, the Human Resource Development Act 1992 of Malaysia requires manufacturing firms to contribute 1% of their total payroll figures to the Human Resource Development Fund (HRDF). The HRDF formed a pool of fund that is available to be granted to contributing firms to sponsor employees for approved training programs (Shahril bin Hassan, 1999; Yau De Piyau, 1994a, 1994b).

Therefore, the question “How did your training go?” is a rather serious one. It is important for organizations to acquire knowledge related to the enhancement of training effectiveness in order to maximize returns from their investments in training.
Measuring Training Effectiveness

The question "How did your training go?" is essentially related to the issue of training effectiveness. To answer this question, one must first ascertain what is meant by training effectiveness. In the coming Chapter, the related theories and models will be discussed in greater details. At this point, we will briefly explore some crucial concepts related to training effectiveness.

Training effectiveness is generally perceived as some form of positive outcome from a training intervention. Kirkpatrick (1967, 1987, 1994) proposed four criteria of evaluation, namely trainee's reactions to training, learning outcome, behavioral change, and job performance. These alleged four levels of training evaluation have been used as the basis of many studies over the years. Although the empirical soundness of the model has met with heavy criticism in recent years (Alliger & Janak, 1994; Andrews & Crewe, 1999; Holton, 1996), Kirkpatrick's ideas had established profound grounds pertaining to training outcomes and transfer.

Through the idea of Kirkpatrick's levels of training evaluation, the concept of training outcomes and transfer gradually took shape. Wexley and Latham (1981) defined transfer of training as the degree of application of knowledge, skills, and attitudes gained in a training context to the job. The proposed definition is most influential to later researches on the subject. On the basis of this understanding of transfer of training, Noe (1986) and Baldwin and Ford (1988) attempted to present their models of transfer of training, relating attitudinal and environmental factors to training transfer, laying the foundation for the study of behavioral and organizational influences on training outcomes and transfer. Noe (1986) applied Kirkpatrick's (1967, 1987, 1994)
four-level model of training evaluation in his model, and tested it later (Noe & Schmitt, 1988). Baldwin and Ford (1988), however, considered only learning and retention as training outcomes, and training transfer in terms of maintenance and generalization.

By mid 1990s, researchers such as Thayer and Teachout (1995) and Holton (1996) consolidated the ideas from previous researches and proposed their model of training transfer and training evaluation. Their models considered learning, training transfer, and organizational results, which are synonymous to the three upper levels of Kirkpatrick’s (1967, 1987, 1994) criteria of training evaluation, and had ceased to regard reactions to training as direct outcome from training.

**Possible Influences on Training Effectiveness**

Besides instructional effectiveness, training contents and other training design factors, researchers acknowledge that effectiveness of training programs can be influenced directly or indirectly by the behavioral inclination of the trainees and their work environment (Baldwin & Ford, 1988; Campbell, 1988; Foxon, 1993; Holton, 1996; Noe, 1986; Noe & Schmitt, 1988; Thayer & Teachout, 1995). How positively and readily the trainees respond to training experiences would affect their motivation and efforts to learn, and subsequently the application of the acquired knowledge and skills on the job after the training. Supportive organizational climate would stimulate efforts to learn in training experience and to apply learned knowledge and skills at work.

Earlier studies on training outcomes and transfer dwelt a lot on issues of training designs and conditions. Some traditional transfer strategies include conducting training to teach underlying principles in addition to the applicable skills,