

CHAPTER III. METHODOLOGY

This chapter is to present the structure, method, process, and data collect and analysis. All of these are presented as the following sections.

Research Structure

This research uses several factors which are from literature review to engage in a survey. After receiving questionnaires, finding out the influential factors which are considered have influence on trainee satisfaction by significant samples to develop questions for interview. Then, by interviewing five companies (ten people), the purpose is to understand the three points more deeply: what influences of these factors on employees' WBT satisfaction are, what solutions to solve obstacles of fulfilling these important factors of satisfaction are , what their suggestions to promote or facilitate WBT are. And the structure of this research is as Figure3.1.

Factors affecting trainee satisfaction on WBT					
Characteristics of trainees/learners	Instructors	Instructions	Technology	Design of system	Characteristics of online environment
Experiences of computers The frequency for using Internet Experiences of participating discussion board Different character of jobs Educational level How many online courses that learners take	Interaction between learners and instructors Receiving timely comments from instructors The speed to reply questions which are posted The instructor in terms of his devotion to the course The teaching style of instructor	Difficulty to learn conceptual materials from lectures Interactions between students and instruction Collaborative interaction of activities in class	The quality of technological tools The speed to link Internet	The variety of methods to evaluate how learners studied The discussion board which included in system or not Access the online web-links to important sites	Choose any place to study Flexible to study by following their own plans Learn in their leisure time

Stage1. To find out

Survey

Important factors which are considered by significant samples that have influences on trainee satisfaction of WBT

Satge2. To understand

Interview

What are influences of important factors on trainee satisfaction, solutions of obstacles to fulfill these factors, and suggestions to promote and facilitate WBT.

Figure 3.1 Research structure

Research Method

In this study, both of qualitative and quantitative methods are engaged. The main method to gain information to find out results is interview (qualitative). Survey (quantitative) is used to identify what factors are considered by significant samples that have influences on trainee satisfaction of WBT. In this part, some descriptive statistics is used to analyze the result. Then, use the result of survey to develop questions of interview. The purpose of interview is to understand how these important factors affect satisfaction on WBT and how they solve obstacles when they want to increase or maintain satisfaction which is related to these influential factors. Besides, some suggestions to promote WBT are also studied. By interview, it is not only helpful to know what factors have influences on satisfaction of WBT, but also understand these factors more detailed and deeply.

Sampling

Sampling for survey and interview are different. The numbers and sources of samples for the two methods are as following:

1. Survey

Owing to the population of companies which has a web-based system now is difficult to estimate and gain the complete name list, the sample companies are from the name list of E-learning Industry Promotion and Development Plan from Industrial Development Bureau of Ministry of Economic Affairs (MOEA) and list of companies which cooperate with e-learning suppliers from Digital Content Industry Promotion Office of MOEA.

Participants of each company are one manager of HR or training department which involved in WBT and one employee who ever received WBT. Because the total numbers of companies which chose are 60. So, there are 120 participants attend this survey. And these companies are chose by random sampling.

2. Interview

Companies which chose are from the name list of companies who won the bounty and rewards of E-learning Industry Promotion and Development Plan from MOEA in 2006. The number of participative companies is 5. And there are two participants who is one manager of HR or training department which involved in WBT and one employee who ever received WBT in each company.

Instruments

The instrument used in this study is questionnaire. In survey and interview, the items are different.

1. Survey

The items included in the questionnaire are factors of six categories from table 2.1. And, these items are showed by multiple-choices questions to let participants choose. Beside, there is no scale in this questionnaire. And this questionnaire is a survey for perspectives and status of the present. In order to increase the validity of this questionnaire, after completing the questionnaire, it is examined by experts and peers to see if there is any question needs to be revised. This is also advocated by Glesne and Peshkin (1998). They mentioned that peer reviewing and debriefing which are external reflection and input on studies. This is one of verification procedures used in research. (The questionnaire for survey is attached as Appendix B.)

2. Interview

The items of questionnaire are from results of survey. Because the purpose of this step is to understand some important influential factors more deeply and gain participants' suggestions. And after developing questions for interview, the interview questions are also examined by experts and peers to see if there is any item not appropriate.

Research Procedure

This research is done by following these procedures to get the findings. And in this section, research procedures will be introduced in detail as following:

1.To identify the research topic and purposes

The extent of HRD and HRM are very wide. There are many issues in this field. In order to identify various topics, reviewing many journals and dissertations is necessary. And the topic of this study was generated after reading many data. At the same time, purposes of this research also be identified to find out the reason that why the researcher wants to engaged in this study.

2.To review related literature

In order to generalize the factors which affect trainee satisfaction on WBT and develop the questionnaire, many related literatures were reviewed. Predecessors' researches, journals, and books which related to WBT, training satisfaction, training evaluation, and research methods were included in the part of related literature.

3.To establish the framework to write a proposal

After reviewing literature, a basic framework was formed to write a proposal. The framework includes several parts which are introduction of this research, literature review (introduction of WBT, satisfaction, and influential factors), and research methods (qualitative and quantitative research methods) which are the previous chapters of this study.

4.To develop the questionnaire

When the proposal was completed, the instrument which is questionnaire be developed. Items of the questionnaire are generated based on the part of literature review. And this instrument is only for survey.

5.To examine and revise

In order to make questionnaires more valid, experts' examination is very

important. At this step, the proposal and questionnaire are examined by professors and the advisor. Besides, revisions are made which based on their professional suggestions.

6.To Sample

Samples are divided into two groups. Group1 is used to survey and group2 is used to interview. The name list of sample companies is from MOEA.

7.To survey via mail

Send questionnaires to managers and employees who are samples of group1 by mails to collect data.

8.To analyze data

Using descriptive statistics to analyze questionnaires to see what factors these managers and employees think have influences on satisfaction of WBT.

9.To generalize findings

After analyzing these data, important influential factors can be found based on the result of survey. In this step, all of factors are categorized into influential and non-influential factors. And how many percentages of managers and employees think that each factor has influences on satisfaction of WBT are showed. Besides, differences between managers and employees' viewpoints are also presented in this part.

10. To develop questions

Questions for interview are designed from the result of survey.

11. To interview and collect data

Interview can understanding about people's experiences and opinion more deeply. In this step, it helps understand factors which be considered have influences on WBT satisfaction by significant managers and employees more deeply.

12. To analyze data

After interviewing, transcriptional scripts need to be engaged. And it is analyzed by categorized each paragraphs or answers in to subcategories to find out which factor has influences on trainee satisfaction on WBT and how they affect trainee satisfaction on WBT.

13. To discuss the findings

After analyzing data from survey and interview, the discussion about the common and different influential factors of satisfaction on WBT among managers and employees' opinions is engaged. Besides, some other findings are also mentioned.

14. To draw conclusions and suggestions

Not only findings, but also some limitations and other problems, suggestions.....etc are concluded in this step.

15. To write a thesis

All of these findings and results from survey and interview are written down as a thesis.

16. Finish

After completing the thesis, this study is finished.

Figure3.2 shows the research procedure of this study.

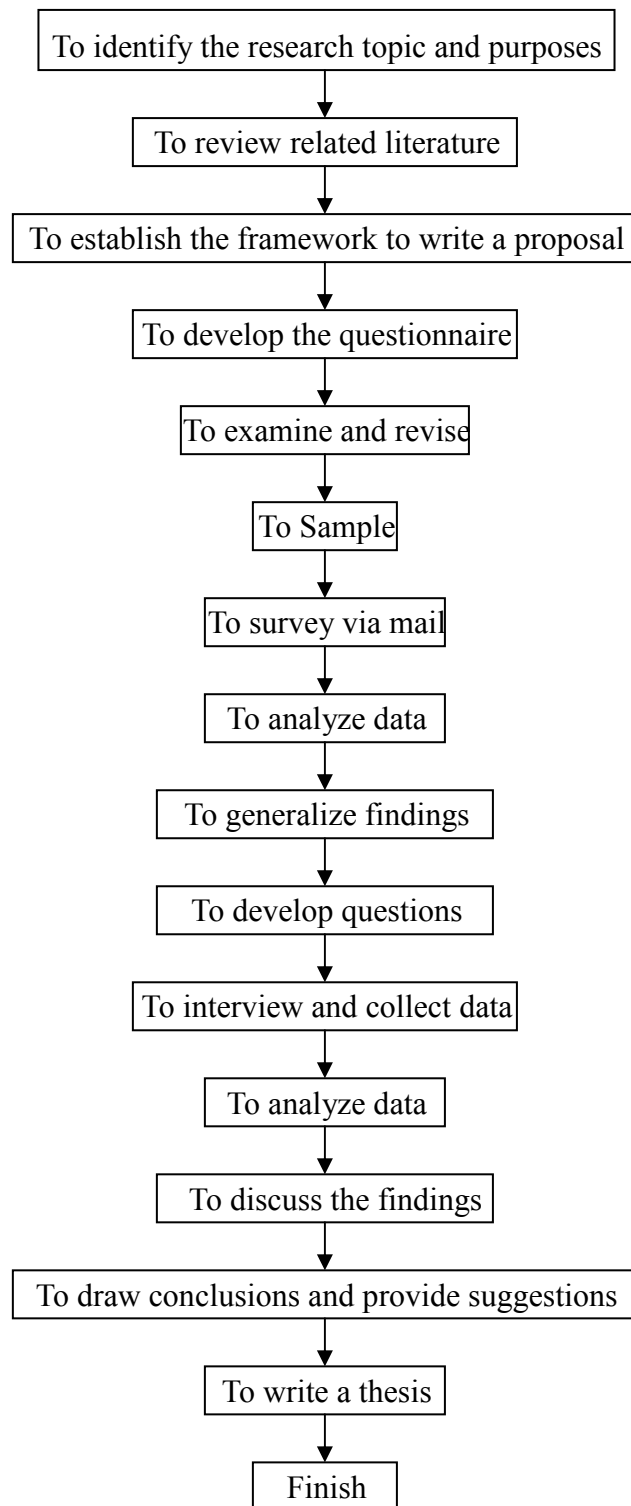


Figure 3.2 Research procedure

Data Collect and Analyze

In order to achieve four research purposes of this study, different kind of data need to be collected. And ways to gain data are literature review, survey, and engaging interview.

Literature review

In order to make a comprehensive understanding of factors which affect employees, trainees, and learners' satisfaction on WBT/E-learning, many data are collected. And these literatures are from three sources which are journals, thesis, and books. After reading these data, they are categorized in to three part which are WBT-related, satisfaction-related, and influential factors-related. By this way, it is helpful to know what to be used, find out answers, and understand basic concepts of different research questions.

Survey

In order to know the general status of managers and employees' opinions for influential factors of satisfaction on WBT, survey is engaged. The purpose of this part is not only to find out the influential factors, but also want to know the percentage of each factor that how many participants of this research think it has influences on WBT. At this step, the descriptive statistics is used to analyze data from survey. It is used to compute the percentage and frequency. Then, find out the important factors which are considered as influential factors by significant samples based on results of survey to develop questions for interview.

Interview

The purpose of interview in this study is in order to know influential factors which are gained from results of survey more deeply. Managers and employees' opinions and suggestions for satisfaction on WBT are obtained by this ways. Besides, this research is also to know how these influential factors affect satisfaction on WBT

and how organizations fulfill these influential factors. These data are good suggestions for WBT satisfaction. Interviews are very important when one is interested in gaining participants perspectives, the language and meanings constructed by individuals (Maykut, P & Morehouse, R., 1994). And the purpose of this research focuses on managers and employees' perspectives of satisfaction on WBT. So, adopting this way to collect data is necessary for understanding participants' thoughts more deeply.

The way to analyze what are gained from interview is by transcript which is from the tape recorded during interview. Then, all of answers on transcript are categorized into several categories by influential factors which from results of survey. And, each category is analyzed further more. Each category is coded to identify that which parts are influences, solutions for obstacles, and suggestions to understand the findings.

Table3.1. shows the summary of different methods to collect data for research questions.

Table 3.1 *Data collect methods for each research question*

Purposes	Research questions	Data collect methods
Purpose1	Q1: After implementing WBT, what are managers' feeling and reflections on that in their companies?	Interview
	Q2: After using WBT, what are employees' feeling and reflections on that in their companies?	Interview
Purpose2	Q1: What are the categories of influential factors on WBT satisfaction?	Literature review
	Q2: In the category of characteristics of trainees, what factors are included?	Literature review
	Q3: In the category of instructors, what factors are included?	Literature review
	Q4: In the category of instructions, what factors are included?	Literature review
	Q5: In the category of technology, what factors are included?	Literature review
	Q6: In the category of design of system, what factors are included?	Literature review
	Q7: In the category of characteristics of online environment, what factors are included?	Literature review
Purpose3	Q1: What are factors that managers think they have influences on trainee satisfaction of WBT?	Survey and interview
	Q2: What are factors that employees think they have influences on satisfaction of WBT?	Survey and interview
	Q3: What are the commons and differences of answers between Q1 and Q2?	Survey and interview
Purpose4	Q1: What are managers' suggestions to improve trainee satisfaction on WBT?	Interview
	Q2: What are employees' suggestions to improve their satisfaction on WBT?	Interview