READINESS OF BUSINESS ORGANIZATION FOR HUMAN RESOURCE DEVELOPMENT BY WEB-BASED TRAINING

WANLADA VARAKANTSIRI

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Wanlada Varakantsiri

Mrs. Wanlada Varakantsiri

Candidate

Naranan Suriyama

Assoc. Prof. Naranan Suriyamanee, Ed.D.

Major-Advisor

Praphaphan Un-ob

Asst. Prof. Praphaphan Un-ob, Ed.D.

Co-Advisor

S. Sitthiosoth

Capt. Sucharthi Sitthiosoth (RTN.), Ph.D.

Co-Advisor

Liangchai Limlomwongse

Prof. Liangchai Limlomwongse, Ph.D.

Dean

Faculty of Graduate Studies

Naranan Suriyama

Assoc. Prof. Naranan Suriyamanee, Ed.D.

Chairperson

Master of Education Programme in Adult and Continuing Education

Faculty of Social Sciences and Humanities

Thesis

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on
November 2, 2001

Wanlada Varakantsiri
Mrs. Wanlada Varakantsiri
Candidate

Naranan Suriya
Assoc. Prof. Naranan Suriyamanee, Ed.D.
Chairperson

Praphaphan Un-ob.
Asst. Prof. Praphaphan Un-ob, Ed.D.
Member

Nathee Chitsawang
Mr. Nathee Chitsawang, M.A.
Member

S. Sitthiosoth
Capt. Sucharthi Sitthiosoth (RTN.), Ph.D.
Member

Liangchai Limlomwongse
Prof. Liangchai Limlomwongse, Ph.D.
Dean
Faculty of Graduate Studies
Mahidol University

J. Chuckpaiwong
Assoc. Prof. Jiraporn Chuckpaiwong, M.A.(Environment)
Acting Dean
Faculty of Social Sciences and Humanities
Mahidol University

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Wanlada Varakantsiri

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M.Ed. (ADULT AND CONTINUING EDUCATION)
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The purposes of this research were to study the readiness of business organizations for human resource development by Web-based training (WBT) as perceived by training division heads and the training officers' opinions, to examine the relationship between the training division heads' perceptions and training officers' opinions about the readiness in personnel, budget, technology, management and administrative policies of business organizations for human resource development by Web-based training, and to study the readiness of knowledge about Web- based training of training officers. The sample was 117 business organizations, from which the training division heads were used as the main informants, and 316 training officers who work in the training offices of business organizations in Bangkok. The instrument used for collecting data was questionnaire. It was constructed by the researcher. The statistics used for analyzing the data were percentage, arithmetic mean, standard deviation, and chi-square.

The findings were as follows:

The training division heads rated the readiness in personnel, budget, and technology of business organizations at a moderate level, whereas the readiness in management and administrative policies were rated at a low level. The training officers rated the readiness in personnel, technology, and administrative policies of business organizations at a moderate level, whereas the readiness in budget and management were rated at a low level. The relationship between the training division heads' perceptions and training officers' opinions about the readiness in personnel, budget and administrative policies of business organization for human resource development by Web-based training were statistically significant at the 0.05 level. The training officers had the knowledge about Web-based training at a moderate level. Both training division heads and training officers overall viewed that the business organizations were not ready for human resource development by Web-based training. However, both agreed that Web-based training could decrease training cost and should be used for human resource development.

The findings suggest that the business organizations have an interest and tendency to utilize Web-based training as an effective alternative in human resource development.

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ศษ.ม. (การศึกษาผู้ใหญ่และการศึกษาต่อเนื่อง)

วัลย์ลดา วรกานตศิริ : ความพร้อมขององค์กรธุรกิจเอกชนในการพัฒนาทรัพยากรบุคคลโดยใช้เว็บเพื่อการฝึกอบรม (READINESS OF BUSINESS ORGANIZATION FOR HUMAN RESOURCE DEVELOPMENT BY WEB-BASED TRAINING) คณะกรรมการควบคุมวิทยานิพนธ์ : นฤนันท์ สุริยมณี, Ed.D., ประภาพรรณ อุ่นอบ, ศษ.ด., สุชาติ สิทธิโอสถ, Ph.D., 146 หน้า. ISBN 974-04-1032-4

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาความพร้อมขององค์กรธุรกิจเอกชนในการพัฒนาทรัพยากรบุคคลโดยใช้เว็บเพื่อการฝึกอบรมตามการรับรู้ของหัวหน้าหน่วยงานฝึกอบรมและตามความคิดเห็นของเจ้าหน้าที่ฝึกอบรม ความสัมพันธ์ระหว่างการรับรู้ของหัวหน้าหน่วยงานฝึกอบรม และความคิดเห็นของเจ้าหน้าที่ฝึกอบรมเกี่ยวกับความพร้อมด้านบุคลากร งบประมาณ เทคโนโลยีการจัดการและนโยบายผู้บริหารขององค์กรธุรกิจเอกชนในการพัฒนาทรัพยากรบุคคลโดยใช้เว็บเพื่อการฝึกอบรม ความพร้อมด้านความรู้เกี่ยวกับเว็บเพื่อการฝึกอบรมของเจ้าหน้าที่ฝึกอบรม กลุ่มตัวอย่างได้แก่ องค์กรธุรกิจเอกชนจำนวน 117 แห่ง โดยหัวหน้าหน่วยงานฝึกอบรมเป็นผู้ให้ข้อมูลและเจ้าหน้าที่ฝึกอบรมที่ปฏิบัติงานด้านการฝึกอบรมในองค์กรธุรกิจเอกชนเขตกรุงเทพมหานครจำนวน 316 คน เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลเป็นแบบสอบถามที่ผู้วิจัยสร้างขึ้น สถิติที่ใช้ในการวิเคราะห์ข้อมูล ได้แก่ ค่าร้อยละ ค่าเฉลี่ยเลขคณิต ส่วนเบี่ยงเบนมาตรฐาน และการทดสอบด้วยค่าสถิติ Chi-square

ผลการวิจัยพบว่า ตามการรับรู้ของหัวหน้าหน่วยงานฝึกอบรมองค์กรมีความพร้อมด้านบุคลากร งบประมาณ และเทคโนโลยีในระดับปานกลาง ด้านการจัดการและนโยบายผู้บริหารมีความพร้อมในระดับต่ำ ส่วนเจ้าหน้าที่ฝึกอบรมมีความเห็นว่าองค์กรมีความพร้อมด้านบุคลากร เทคโนโลยี และนโยบายผู้บริหารในระดับปานกลาง ด้านงบประมาณ และการจัดการมีความพร้อมในระดับต่ำ เจ้าหน้าที่ฝึกอบรมมีความพร้อมด้านความรู้เกี่ยวกับเว็บเพื่อการฝึกอบรมในระดับปานกลาง หัวหน้าหน่วยงานฝึกอบรมและเจ้าหน้าที่ฝึกอบรมส่วนใหญ่เห็นว่า ในภาพรวมขององค์กรยังไม่มีความพร้อมในการนำเว็บเพื่อการฝึกอบรมมาใช้ แต่เห็นด้วยว่า การนำเว็บเพื่อการฝึกอบรมมาใช้จะสามารถลดต้นทุนการฝึกอบรมได้และควรจะนำเว็บเพื่อการฝึกอบรมมาใช้ในองค์กร

ผลการวิจัยครั้งนี้ชี้ให้เห็นว่า องค์กรธุรกิจเอกชนมีความสนใจและมีแนวโน้มที่จะนำเว็บเพื่อการฝึกอบรมมาใช้เพื่อเป็นทางเลือกหนึ่งในการพัฒนาทรัพยากรบุคคล

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CHAPTER 1

INTRODUCTION

Background and significance of the problems

The world event at present has changed rapidly resulted from the advancement of technology and development of communication approaching human to Information Society. Millions of people in the world can pass information via computer connection. The communication network of computer has been known worldwide as the "Internet".

The Internet is an innovation, which combines two main technologies: computer technology and communication technology; and those are worldwide network with unlimited distance and time. Presently, the Internet plays an important role in daily life, especially in Thailand, the number of users increased from approximately 600,000 at the end of 1998 to 1,000,000 at the beginning of 2000 and expected to increase up to 12,000,000 at the end of 2006 (Srisak Chamornmarn & Kanokwan Wongwathanasin, 2000: 1). Numerous Web sites had been arisen continuously and become powerful in the period. The applied knowledge of the Internet has been spread out in many areas, such as in educational area, one can use the Internet for searching worldwide information, academic and others. The Internet has performed as a large library by passing needed information from worldwide sources and showing up on computer screen at home or office. Besides, user can take advantages on the Internet linkage by sending and receiving information or

electronic mail (e-mail) to other users all over the world with lower costs and less time when compared with other communication networks. In business area, companies or organizations use the Internet in terms of selling and buying merchandises through the computer or teleshopping by which customers can choose various kinds of products through computer screen, then order and pay immediately by credit cards. Moreover, sellers can offer services through the Internet such as, answering questions or providing information about products. If the products related to software or computer program, the original program, demo, patch and even new versions software will be distributed through the Internet directly. Therefore, the companies have increased advertisement of their products through the Internet. This business form, purchasing and service systems via the Internet network, was called "e-commerce" (Ton Tunsuthiwong, et al., 1996: 9-10). In addition, the Internet can produce virtual working conditions such as Virtual Shopping, Virtual Classroom and Virtual library. From the above reasons, organizations especially business firms make an effort to adjust themselves toward changes by utilizing the Internet in order to survive from the high competitive situations in the modern technological era.

However, such changes will be occurred or not depend upon effective management and other resources. Generally, the four essential factors of management were Man, Money, Material and Management (Somkid Bangmo, 1997: 62). Of all those factors, man was the most significant resource because man was the one who managed and operated the business in order to accomplish the organizational goals (Payom Wongsansri, 1997: 2). From this point of view, the organizations must pay more attention and place emphasis on human development that was the heart of organizational management (Theera Prawarnpruek, 1995: 2). Thus, human resource

development should be an ongoing activities and carried out systematically to improve employees' competence and organizational performance.

Training is a popular method of human resource development since training is an enhancement of human capability process to increase knowledge, skills and behavioral changes that affect the organizational accomplishment (Theera Prawarnpruek, 1995: 4). The training system must be operated continuously at all levels. The training programs should also meet the employees' training needs under an available budget (Wichit Awakul, 1997: 24). However, there always had been many problems and difficulties in training, such as limited budget, inadequate training aids, job interruption while employees attending the sessions, training functions could not provide training materials in time and so on. Besides, participants had little attention during training because some thought that training was for relaxing from regular tasks (Theera Prawarnpruek, 1997: 173-178). In addition, most organizations did not possess their own appropriate training places, so they had to spend a lot of money for external training. Another problem found was, the lecturers lacked of teaching experiences that made the learners bored and uninterested. (Arun Rukthum, 1994: 253-255; Chalong Mapreeda, 1995: 66; Thongfu Siriwong, 1993: 145-149).

In addition, Narongsak Bavornpitak (1997) conducted a study on the factors related to personnel development. It was found that an important problem of training was, not only the trainees had overloaded routine work but also received new assignments during training. That affected the trainees' concentration. Another study, Neeranard Chutiwong (1999) examined the training style of Thai bank, the study found that the person who was ready and eager to learn would obtain knowledge from

training. On the other hand, the person who was forced to attend training course would lack of interest and refused learning.

All the problems mentioned earlier, along with the advancement of technology and the Internet created a new method of human resource development such as learning by Web sites (Danai Tienpud, 2000: 1) especially, organizations utilizing the Internet. The human resource development by training through the Internet would be an effective alternative for training called Web-based training (WBT).

The Web-based training is the Web designed developed for using in training by conducting the lesson, which set up on the Internet network. The lesson is composed of pre-test, learning activities and post-test that learner can get feedback immediately. Furthermore, learner is able to interact with each other and with instructor by using E-mail, Chat, Message Board and E-Conference (Tawanwong Grairojananun, 2000). The most important thing is, the lesson can be revised whenever it is required. In the meantime learner can learn anytime and anywhere when available. Thus, the organizations utilizing the Internet can gain benefits. Trainees do not have to leave the workplaces and attend the classroom training. On the contrary, they are able to learn anytime when free from work with unlimited time and distance. The Web-based training is probably suitable for training courses that require a large number of participants such as orientation for new employees.

The IBM Corporation Thailand adopted the concept of Web-based training as well. The firm had designed training programs and begun testing abroad on May 1999 including Thailand. The results found that Web-based training could eliminate the previous problems in classroom training. Besides, Web-based training could

lower training costs as well. The IBM will carry out and place emphasis on "e-learning" continuously and has anticipated that the marketing trends in digital training will grow up to 80% of all training marketing all over the world within the year of 2003. By that time only 20% of 135,000 employees around the world would be participated in digital training which could save cost up to 9,000 million baht each year (IT WORLD, 2000: 24).

Besides the IBM Corporation Thailand, other companies such as the Advance Vision Co. Ltd. used Knowledge Base & Information Center (KIC) program for Web-based training and recognized the advantages of Web-based training for human resource development as well (www.avs. co.th/ website/ kic.htm). It was consistent with Danai Thienpud (2000: 61) who stated that Web-based training was the successful formula for training in the Internet era, which enabled everyone in the organization to obtain knowledge with lower cost.

According to the reasons mentioned earlier, the researcher believes that Web-based training would be an interesting alternative for human resource development especially in the business organization. Therefore, the researcher intended to study the readiness of business organization for human resource development by Web-based training, which included the readiness in personnel, budget, technology, management and administrative policies as perceived by the training division heads. The training officers' opinions and their knowledge about Web-based training were also examined. The researcher chose to study the training division heads' perceptions and the opinions of the training officers because the training division heads were the ones who took responsibilities for personnel training and development in the organizations. They should know well about training

processes, planning in human resource development, direction of organizational development and so on. At the same time the training officers who worked directly in training should know the most about problems and difficulties in training operation. The results of this study would be beneficial to top executives, training division heads, training officers and other concerned personnel in order that they could set up plan or preparation for human resource development by Web-based training more effectively.

Purposes of the research

1. To study the readiness of business organizations for human resource development by Web-based training as perceived by the training division heads.

2. To study the opinions of training officers about the readiness of business organization for human resource development by Web-based training.

3. To examine the relationship between the training division heads' perceptions and the training officers' opinions about the readiness in personnel, budget, technology, management, and administrative policies of business organization for human resource development by Web-based training.

4. To study the readiness in knowledge about Web-based training of the training officers.

Research problems

1. What was the level of business organization's readiness in personnel, budget, technology, management and administrative policies for human resource development by Web-based training as perceived of the training division heads?

2. What was the level of business organization's readiness in personnel, budget, technology, management and administrative policies for human resource development by Web-based training according to the training officers' opinions?

3. Was there any relationship between the readiness of business organization for human resource development by Web-based training as perceived by the training division heads and the training officers' opinions?

4. What was the level of training officers' knowledge about the Web-based training?

5. What were the opinions of the training division heads and of the training officers about the human resource development by Web-based training?

Hypothesis

1. There was a significant relationship between the perceptions of training division heads and the training officers' opinions about the readiness of business organization for human resource development by Web-based training according to personnel.

2. There was a significant relationship between the perceptions of training division heads and the training officers' opinions about the readiness of business organization for human resource development by Web-based training according to budget.

3. There was a significant relationship between the perceptions of training division heads and the training officers' opinions about the readiness of business organization for human resource development by Web-based training according to technology.

4. There was a significant relationship between the perceptions of training division heads and the training officers' opinions about the readiness of business organization for human resource development by Web-based training according to management.

5. There was a significant relationship between the perceptions of training division heads and the training officers' opinions about the readiness of business organization for human resource development by Web-based training according to administrative policies.

Scope of the research

The researcher determined the scope of research as follows:

1. Study particularly the training division heads' perceptions and training officers' opinions on human resource development by Web-based training in business organizations located in Bangkok area.

2. Study the readiness of business organizations in terms of personnel, budget, technology, management, and administrative policies.

3. Study the training officers' opinions and knowledge about Web-based training.

4. Study the training division heads' opinions and the training officers' opinions about human resource development by Web-based training, which set up the lessons in the Internet network only for personnel training within the organization.

Definitions

1. The readiness of business organization meant the training division heads' perceptions toward the capability of business organization to carry out human resource development by Web-based training successfully. The readiness of business organization would be studied in five aspects: personnel, budget, technology, management, and administrative policies.

1.1 The readiness of personnel meant the capability and the number of employees including experts and consultants who could supervise or operate computer system and the Internet network.

1.2 The readiness of budget meant the readiness of investment and the amount of investment, which supported personnel development by Web-based training.

1.3 The readiness of technology meant the number or the sufficient of hardware, software, telephone line, leased line and other required equipments to connect with the Internet and develop the Web for training in organization.

1.4 The readiness of management meant the capability and the preparation of organization to conduct the resources or management factors, which comprised of personnel, budget, technology and administrative policies to used in personnel development by Web-based training.

1.5 Administrative policies meant the directions of the top executives such as, chief executive officer (CEO), chairman and general manager who had the authority to make decision for personnel development by Web-based training.

2. Training division head meant the responsible person who acted as the director of training unit in business organization in Bangkok area. The position might be called differently from one organization to another such as, the director of training center, training division head, the training division manager, the personnel manager, and the human resource manager.

3. Training officer meant a person who worked as the subordinate of the training division head.

4. Knowledge of training officer meant thinking and understanding of the training officers about the Internet, Web-based training concept and Web-based training process.

5. The training division head's opinion meant the training division head's feeling toward the human resource development by Web-based training.

6. The training officer's opinion meant the training officer's feeling toward the human resource development by Web-based training.

7. The Internet meant a large size of computer system network, which connected with computer network around the world.

8. Training via the Internet meant the method of training by using the Internet for the communication of Web-based training which trainees were not required to be in the training room, but they could connect the Internet network anywhere, anytime when they were available.

9. Web-based training was the Web designed or developed for using in training by conducting the lesson, which had been set up on the Internet network. It comprised of pre-test, learning activities and post-test that learner could know the learning result immediately. Learner could also interact with each other and with instructor by Chat, E-mail, Message Board and E-Conference.

Expected outcomes

1. To understand the readiness of business organization for human resource development by Web-based training.

2. To understand the readiness in knowledge of training officer in the business organization about Web-based training

3. To utilize the results of the study to set up the guidelines for human resource development by Web-based training.

4. To indicate the tendency and interest of business organization for human resource development by Web-based training.

CHAPTER II

LITERATURE REVIEW

For this research, the researcher studied the document, the theories, the concepts, and the related research. This chapter was divided into the following sections:

1. The concept of human resource development and training
2. The concept of computer system and the Internet
3. Training via the Internet
4. Web-based training
5. The related theory
6. The related research

The concept of human resource development and training

1. The concept and definition of human resource development

Human resource development was the part of human resource management (HRM) and it was similar to Nadler (1980:5) mentioned that human resource development was the provision of activities in order to increase the worker' experience and at a specified period of time. These activities aimed to improve the workers' working potential of enhancing the work's advancement. Human resource

management consisted of three parts that called human resource development (HRD), human resource utilization (HRU) and human resource environment (HRE).

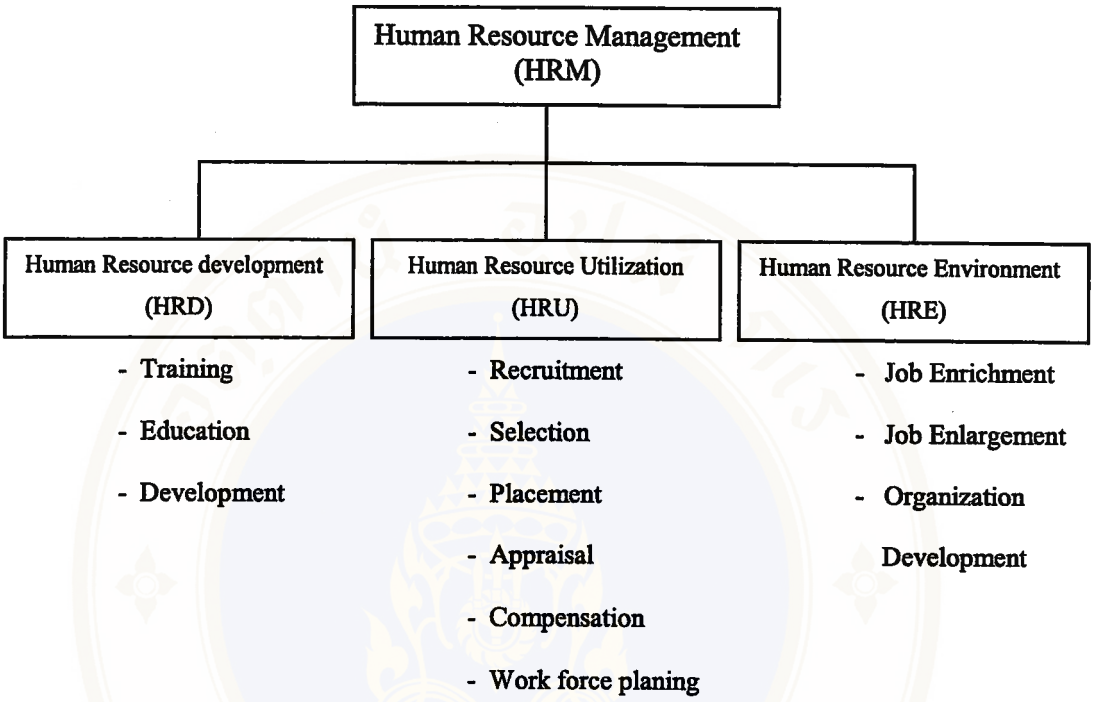

Chart 1 Human Resource Management

Source: Leonard, Nadler. Development Human Resources. Houstons: Gulf Publishing Company, 1980:14

Nadler defined human resource development was the process to change behavior, attitude and to improve knowledge of the employees in the organization. Besides, the experts had defined the meanings of "human resource development" as follows:

Kenny & Reid (1986: 3) said that human development was the methods to proceed for new employees including remained employee to had knowledge and understanding for worked with full responsibility.

Pace (1991: 6) defined human resource as the supplementary restoration with the different role of human which related to self development, career development and organizational development for better quality in order to got higher produce.

Theera Prawarnpreuk (1995: 2) said that individual development as the processes to helped for the employees got more knowledge, skill and attitude for own better responsible working.

Somkid Bangmo (1997: 170) concluded that individual development was the processes, which improved knowledge expertise and experience for everyone in organization and it helped to be a better responsibility.

In conclusion, human resource development was the systematic process for improving knowledge, skill, experience and attitude of the employees that they could work more efficiently at present and in the future.

The method of human resource development along with the idea of Nadler that it depended on training, education and development, also it was consistent with the idea of Theera Prawarnpreuk (1995: 2) which divided human development as follows:

1. Increasing the qualification by continuing education: this often used in government sector and state enterprises sector in order to developed a person according to organizational development. For business sectors, only in the large businesses used this method because of high investment. Therefore, these businesses preferred to employ a person who already had suitable knowledge, ability and experience.

2. Improving of the competency by training, study visit, apprentice and short course learning: these methods used less time and it could develop a person as the organizational requirement.

Besides, Usa Pattanachotikul (1997: 18) proposed the methods of personnel development in organization as follows:

1. Providing knowledge with education: it had two types, those were, the education in schools, universities or other institutions that prepared the readiness of a person for working in the organization. For the education after worked, it was an opportunity of the employees to improved knowledge, skills and ability.

2. Training: training had many methods such as pre-service training, orientation, in-service training and training before being promoted.

3. Self-development: each person could gain knowledge, skill and ability by self for job or career advancement. The organization could support self-development by providing textbooks, journals including computer-assisted instruction (CAI).

To summarize, human resource development had many methods, namely training, education and development. Training was the popular method, which used more than other methods because of using short interval and developing accordance with the organizational requirement.

2. Training

Training was the popular method for human resource development especially in the business organization.

2.1 Definition of training

The experts had defined the training as follows:

Casio (1992: 232) said that training consisted of planned programs designed to improve performance at the individual, group, and/or organizational levels. Improved performance, in turn, implies that there have been measurable changes in knowledge, skills, attitudes, and/or social behavior.

Gordon (1992: 228) said that training was one part of the development process, to which it contributed by providing supplementary opportunities to acquire knowledge, skills and attitudes largely off-the job and to help achieve desired performance levels.

Sherman (1996: 231) said that the training was the activities that provided for improving of knowledge, well attitude in work, preparing the readiness in each responsibility of employees.

Naranan Suriyamanee (1997: 200) concluded that the training was the process of systematic management with the aim that human caused learning and improving skill. It caused changing attitude and behavior for working better.

Payom Wongsarasri (1997: 170) defined the training as the process which a person had learned about knowledge, skill and attitude, which helped employees could accomplished work as a part of organization.

To summarize, training was the procedure or activity to improved knowledge, skills and attitude for responding the goal of organization and changing better in individual behavior by systematic training.

2.2 The training objectives

The training of organizations would have the objective clearly with intention to cause human changing. Somkid Bangmo (1996: 15), Patthana Sukprasert (1997: 5) and Wichit Arwakul (1997: 15) had divided the objective of training as follows:

1. For gaining more knowledge: it improved the performance of each person about understanding of legislation, regulation obligation and responsibility in each organization. Understanding of management had generated knowledge and understanding which could explain and spell out correctly, clearly and capably apply to real situation.

2. For skill development: it was the early training objectives that including to solved immediate situation, to added confidence for decision and operated correctly in real situation.

3. For changing attitude: creating well attitude to trainee for had enthusiasm or good spirits for working. It could work with others with happiness and satisfaction. The regular training often had the objective for improvement and increasing skill but it ignored the personal motivation which was important objective because if employees had knowledge and skill but lacked of motivation for working.

In conclusion, the training objectives were to gain more knowledge, to develop skills, and to change attitude.

2.3 The importance and the advantages of training

Human resource training had become increasingly vital to the success of modern organizations. Rapidly changing technology requires that employees possessed the knowledge, skills, and abilities needed to cope with new process and production techniques.

Casio (1989: 122) presented that training a worker could be very costly, as we should see later. Up-to-date job descriptions and specifications helped ensure that training programs reflected actual job requirements.

Singer (1990: 171) said that training entailed the use of prepared programs, which reinforced employees' existing competencies or facilitated the acquisition of new knowledge, skills and abilities in the interest of improving job performance.

Sherman (1996: 240) said that training was more important for these reasons: (1) some jobs would be enlarged, thereby requiring additional skills and knowledge; (2) others would require a narrower range of skills; and (3) many jobs would be replaced entirely by newly created jobs.

In summary, training was the important activity for organizational development. Training provided opportunities to acquire new knowledge, capability, and skills required for effective performance. The individual might then be more effective on their job and might qualify for career path.

2.4 Training methods

Training could be divided in several methods. Singer (1990: 179-189) and Sherman (1996: 255) divided training methods as follows:

1. On-the-job training was the most commonly used method in the training of non-managerial employees. It was conducted by a supervisor or by a senior employee who was responsible for instructing employees.

2. Off-the-job training was usually necessary to provide employees with training in settings away from their usual workplace.

3. Apprenticeship training was a system of training in which the worker entering industry was given through instruction and experience, both on and off the job, in the practical and theoretical aspects of the work in a skilled trade.

4. Cooperative training was the training programs that combined practical on-the job experience with formal classes.

Wichit Arwakul (1994: 82-87) divided the training in six methods.

1. Pre-service training or Pre-entry training which was the studying in school, college, university that had been provided the curriculum to respond workforce requires.

2. Orientation as training for new employees

3. Induction training as training for a specific job

4. In-service training or on the job training as training for adjusted knowledge, capability and expertise in responsibility.

5. Specific training as training for main job supporting

6. Special training as training for society or public benefits

To sum up, training was divided in several methods thus training officers had to know about group and trainees experiences in order that they could provide the suitable course content and training method. Training methods which were popular in organizations such as induction training, orientation and on-the-job training.

2.5 The training process

Training was the most popular method of human resource development but the most effectiveness depended on complete training processes.

Gordon (1994: 92); Singer (1990: 194) classified the system approach to training into four steps:

1. Assess needs
2. Design training program
3. Choose training method
4. Evaluate training results

Kanittha Chitarun (1997: 2-4); Danai Thienpud (2000: 92) divided the training processes in four steps those were:

1. Analyzing the training needs
2. Planning and developing training program
3. Managing training program and operating training program
4. Evaluation and following up

In summary, the systematic training composed of four steps, which were assess needs, design training program, operate training program, and evaluate training results.

The concept of computer system and the Internet

1. Computer system

Gibson (1991: 19) said that computer system consisted of both hardware, which is the electronic circuits and mechanical parts that physically make up the computer, and software, which was the set of all the instruction combinations used to control the computer. The software consisted of a collection of programs, each of which was a set of interaction combinations designed to perform a specific task.

Computer system comprised of several electronic accessories for receiving information, calculated and transferred information for output, which was called "Hardware". Software was program or program groups which controlled computer operating. (Nareuchit Waewsripong and Rungthiwa Sirinararat, 2000: 12).

It mentioned that computer system consisted of two parts, there were:

1. Hardware as any part of a computer system that could see or touch.
2. Software as a set of programs that controlled hardware operating.

2. Computer networks

2.1 The meaning of computer networks

Computer Networks meant a group of computers connected together by cable or others, which shared information each other (Nareuchit Waewsripong and Rungthiwa sirinararat, 2000: 82). Computers and networks from around the globe were linked together so that they could share information (John Burke, 1996: 1). At the present the largest network in the world was called the Internet. Besides, Local

area network: LAN was a network that used mostly in business organization. LAN connection was used in a small geographic area, such as an office or building. In addition to LAN, there was also internal network as intranet, which utilized Internet technology. Therefore, informative transfer, procedure and services was similarly the Internet (Pongrapee Thechaphahapong, Trans., 1999: 273).

2.2 The advantages of computer networks

The connection of many computers to networking could share equipment together. All users could command it from their computer such as printing document, shared data and programs, and exchanged information from server computer. Besides, it also saved hard disk space for file saving in each computer so this method saved on expenses (Pongrapee Thechapahapong, Trans., 1999: 4).

3. The Internet

3.1 Meaning of the Internet

Burke (1996: 1) mentioned that Internet as computers and networks from around the globe were linked together so that many people could share information.

Wiggins (1995: 2) said that Internet was a global community, which was also a repository of all sorts of information, "published" by information providers worldwide.

Somnueg Keereto (1994: 298-304) presented that Internet was a set of many computer networks that provides a vast amount of information.

Somjai Bonsiri (1995: 1) mentioned that Internet was a network of networks, its meant many networks all the world combined together and it could change information for text, image and voice conveniently and quickly under the same standard that was the protocol (TCP/IP).

To summarize, Internet as the world's largest computer networks that connected millions of computers with the same standard. Most people could communicate with people around the world in seconds.

3.3 Styles of Internet access

There were a variety of Internet accesses, which Wiggins (1995: 85-88) presented into five styles as follows:

1. Electronic mail-only access. It was quite possible to take advantage of the Internet without having the ability to log into Internet hosts or to use tools such as FTP and Gopher. Many users had such e-mail-only access to the Internet. They might subscribe to a mass-market information utility like compuserve or Prodigy that did not offer other Internet services.

2. Conventional dial-up. The user dialed into an interactive system offered by a service provider. The user workstation could run application programs on the service provider's computer. The service provider might offer a way for the user to download files to his or her workstation.

3. Enhanced dial-up. The user needed only to know a user ID and password in order to connect, and was able to perform some functions as if directly connected to the Internet. This sort offered the user a more intimate connection than

conventional dial-up, while freeing the user from having to cope with some of the complications of other modes of connection.

4. SLIP or PPP dial-up access. SLIP (Serial Line Internet Protocol) and PPP (Point-to-Point Protocol) were alternate schemes that made it possible for IP to communicate over dial-up lines.

5. Direct permanent attachment. This mode of access generally provided the richest and fastest working environment for using the Internet. It allowed an organization to offer access to users on its local networks, sharing the leased line as a common path into the larger Internet.

In addition, Pornthip Loleka (1997: 16) divided the connection to the Internet as follows:

1. Dial on-line service connection was the basic method to connect in remote terminal to host, which was the lowest investment method and did not have many accessories and could be easily setup as follows:

1.1 Personal computer, which had com-port or serial-port for connecting with modem.

1.2 Modem was a device that allowed computers to communicate through telephone lines.

1.3 Emulator software controlled modem to connect remote distance.

1.4 Number and telephone line were connected between terminal and Internet host in remote distance.

1.5 Internet account: user had to be a member of the Internet.

2. Dial Slip / PPP service connection was a standard to connect with the Internet, the standard of SLIP (Serial Line Internet Protocol) which helped protocol (TCP/IP) to be able to communicate in Peer to Peer and it had not much accessories from Dial on-line service connection method as follows:

2.1 SLIP/PPP drivers that allowed user to be assigned a temporary IP address.

2.2 Internet account at SLIP / PPP level – This service connection, in addition to reading and writing files, it could transfer information to keep in the initial computer.

3. Internet Networking Connection: it was Internet linking within the organization which was using LAN pass gateway Internet for linking to worldwide Internet. This service connection could support many users and very useful from using this Internet in all text, image or voice.

From those three methods of connection could be conclude as follows:

Method of connection	Advantages	Speed	Installation	Investment
1.Dial On-line	Low, especially for text	Low	Easy	Low
2.Dial SLIP/PPP	Moderate, especially for text	Low	Moderate	Moderate
3.Internet- Network	High, especially for text, image, voice	High	Difficult	High

3.4 Types of Internet services

There were several services in the Internet in text, image and voice (Somjai Boonsiri, 1995: 12; Withaya Ruengpornwisut, 1996: 41; Sithichai Prasarnwong, 1998: 63-68).

1. Electronic mail or E-mail was the sending and receiving message similar to the sending letter by mail but it was an automatic system via computer. The users could send letter by electronic to other users, which were linked to worldwide Internet.

2. Online Conversation was the conversation service by typing on the keyboard. Both users had to online the computers simultaneously for communication to each other.

3. Remote login or telnet was the requesting to use computer in network system or telnet which was the program that applied for entering to the system from remote distance and helped the Internet user could use other computer in different areas within worldwide network.

4. File transfer protocol was the program to use for transferring information from the computer to other computers, such as daily news, an article and statistic information

5. Database searching: Archie was the system to search files' addresses on the host computer. The program would make a filed card in searchable database and when needed to search interested files in the host computer. Archie would be used to search files' names and could use FTP to connect the host computer for file transfer.

5.1 Gopher was the program to use for searching information and providing the services, which worked in hierarchical menus. Gopher was like a store of library and services center that used in the Internet conveniently and easily.

5.2 World Wide Web (WWW) was the database searching service in the Internet on the technological basis, called hypertext that means the

additional information method for word needed which those words would connect with enlarger, text, image or voice.

6. Network News or Usenet News was the changeable information processes in the form of giving the suggestions, which could be the worldwide debated via computer network. Usenet worked as a distributor by sending a transcript to each center and then each center would distribute the article later.

It concluded that the Internet advantageous services to users could be divide into two groups, communication services groups and database searching services groups. The communication service groups were E-mail, Online conversation, Telnet, FTP, Usenet news. The database searching services groups were Archie for searching file's addresses, Gopher for searching a series of menu descriptions and World Wide Web (WWW).

Training via the Internet

Lee (2000: 164) presented that Internet delivery seemed to meet many of the requirements of training on demand: it was available at the desktop. It eliminated the need for travel. It was cost-effective compared to conventional delivery media. Text-based Web interventions could be developed quickly.

Training via the Internet had been apply from the method of distance education, the distance training and the distance learning via the Internet.

1. Distance learning and distance training.

Holmberg (1995: 1-3) mentioned that distance education was practised in all parts of the world to provide study opportunities for those who could not or did not want to take part in classroom teaching. It was a teaching-learning system including specially prepared study materials and regular, mediated contacts between students and tutors, individually or in group. Usually learners learned entirely individually and at their own pace. They then neither belong to a group or class, nor feel that they did so. The addresses of distance education were usually individual learners although it sometimes also server group learning, by tele-conferencing, for example.

This concept was based on implied consistent non-contiguous communication between the supporting organization and its students. This communication was of two kinds:

One-way traffic in the form of pre-produced course materials sent from the supporting organization and involving learners in interaction with texts; this could be described as simulated communication. Two-way traffic, i.e. real communication between learners and the supporting organization.

As far as it was non-contiguous, this communication had to be mediated. The media used for the one-way traffic were in most cases the printed and recorded word and for the two-way traffic correspondence and telephone interaction. More sophisticated media were now widely used (telefax and electronic mail, for example).

Pruchchanan Ninsuk (2000: 6-7) presented distance education through information technology meant the distance educational management through information technology that was the tele-communications technology and computer

network. This character would be two ways of distance educational system, which were, the instructor and student could correspond immediately and send among signal picture, sound and information in many nodes at the same-time. Therefore, the method of learning in this system had emphasized on the student centered, which differed from the method of transferring the knowledge from instructor to student directly.

In addition to the distance education, the distance training had the similar basic and principle with the distance education as Wichai Wongyai (1988) said that the distance training meant one method of training system which trainer and trainees did not come to do the activity in the training room. The training processes had flexibility time, place with main considering in the convenience and the readiness preparation of trainees. This idea was consistent with Nikom Tadang (1994) said about the distance training that it was the training system, which designed the system to be able to transferred subject matter, skill and attitude by training materials. Trainees would determine the schedule by themselves and relied on the least assisted from other. They could learn at home office or other places. Learning would be either fast or slow depended on interesting, ability and each effort (Supaporn Theerasawat, 1998: 11).

In conclusion, distance education and distance training were self-learning by using media for transferring the knowledge. The Internet was efficient communication system, which could defeat in limited timing and distance. Trainers and trainees could connect to each other through computer even they had not come in a classroom.

2. Education via the Internet

Adoption of the Internet and intranet as delivery media by business and educational institutions had been phenomenal. There were three primary reasons for this:

1. Universal access. Anyone can access the Web with a web browser and modem connection. Anyone could delivery content anywhere in the world using a web server. The Web was based on a few simple technology standards, such as transmission control protocol/Internet protocol (TCP/IP), web server software, and web browser software. This simple technology had allowed the number of intranet and Internet connections to grown exponentially.

2. Ease of use. Internet and intranet software was very easy to use. This was opening up adoption to a much broader audience with limited computer experience.

3. Multimedia content. Web-based technology support for multimedia (text, graphics, audio, and video) content has enabled delivery of a wide range of interesting content, again opening up the web-based intranet and to a broad audience. Web-based technology support for multimedia allows instructional designers to meet the needs of a technologically savvy audience with varied learning styles.

Types of education via the Internet

Education via the Internet could be divided in these characters as follows:

1. Virtual classroom

"Virtual classroom meant the action of learning through computer system which connected student's computer to the file server. In the educational procedure, the instructor would design curriculum or subject for posting on Web page. The student could send homework, do assignment on it. This educational system had environmental models in virtual classroom similarly with learning in classroom as instructor-led (Boonrueng Nieumhon, 1997: 99).

The construction of virtual classroom could make several styles. They might be constructed the learning Web page in part of Web site or construct Web site for directed education. On Web page of each subject or curriculum would have several media and dimensions such as picture, video, sound and voice mail.

Mcgreal (1997) suggested the Web page design for courses as follows: (quoted in Boonreung Niemhom, 1997: 103-104)

1.1 Home page was the first page of Web site, home page should have short content especially in necessary course which comprised of course's name and responsible division's name. Home page should end only one page, should avoid big graphic which used most time to call it.

1.2 Introduction would show the outline of course. It should have the linkage to related details, the greeting to welcome, the list of name who constructed this subject, included linking to Web page address of each related person and subject details.

1.3 Course requirement such as textbook, hardware and software required, and Web browser, which had to use in this on-line learning.

1.4 Course overview showed the overview of course structure, which had short explanation about course unit, method of study, purpose and target.

1.5 Vital information such as, contacting with instructor or helper, address, telephone number, on-line timing, registration, a testimonial, the connection to virtual library and the connection to the policy of institution.

1.6 The role and responsibility of related person, such as, the expectation from student in course, submission the assignment, the evaluation method, and the role of instructor, assistant.

1.7 Assignment comprised of task or job which students had to do in that course, submission, and the connection to activity for additional studying.

1.8 Course Schedule and the submissive data, date of testing and examination date were the clearly determination to helped the student to control himself better.

1.9 Resource showed the list of resources, media, including the connection to informational Web site and the related knowledge with the course.

1.10 Sample Tests showed the question in testing or the sample of task for testing.

1.11 Biography showed the personal data of instructor, assistant and all related person with the photograph, educational history, works and interests.

1.12 Evaluation showed the evaluation form for students to use in course evaluation.

1.13 Glossary showed the vocabulary, vocabulary index and the meaning to use in course.

1.14 Discussion that students and instructor could exchanged opinions and asked the problems to each other. It consisted of both synchronous communication that was simultaneously communication in real time and asynchronous communication which student posted the questions on this Web page in order that exchanged the opinion when they had time.

1.15 Bulletin board for student and instructor used for declare the contexts, which might be related or unrelated with study.

1.16 FAQ pages showed the question and answer about course, program, institution and related thing.

1.17 Suggestion in course showed the suggestion to design Web site of course.

2. Real Time

It was the virtual classroom, which used common room but there was a live broadcasting picture and sound for the lesson by using telecommunication and computer network at outside room. The learners could listen and follow the instructor from their own computers and corresponded with the instructor or schoolmate in class. This type of class relied on real physical environment that called "physical education environment". The learners would connect directly with the instructor while he was teaching. However, online studying was the two ways communication, which immediately corresponded between learners and instructor or synchronous interaction such as, chat, asynchronous interaction, e-mail, or Web board. This learning was similar with a conference via Internet called video conference system on PC through the Internet, it used in distance conference which could save cost. Each

PC was connected on network and it had to install the digital camera. Regarding the softwares which used widely were see you see me program, net meeting program because of easy using (Kasaesart University, 2000)

3. Web-based instruction: WBI

This learning was the instructor who had to prepare lesson or curriculum and post information on the Internet. The student could learn from everywhere and anytime which could access the Internet. If the learners had any question, they could make an inquiry to instructor by e-mail or chat, which built a relationship between learners and instructor. In addition to WBI also supported to collaborative learning by using message board or e-conference (Tawanwong Krairojananon, 2000)

Web-based training (WBT)

In addition to using the Internet for education, it could also apply for training because education and training had not quite different in product of learning and also helped the students or the trainees who had a lot of jobs determine a class schedule along with their own requirements. This character was called Web-based training (WBT).

1. Concept and definition of Web-based training

Web-based training was making a difference in organizations today by providing a way of delivering training that was often less expensive and more convenient than the alternatives.

It could be delivered to any computer-anywhere-that could access the Internet or a company intranet. This concluded a desktop at work, field service engineers on the road, and telecommuters at home (Hall, 1995: 15).

Lee (2000: 49) said that Web-based as used of the Internet or intranets to distribute training over wide-area networks (WAN) or local-area networks (LAN).

Hall (1997: 15) mentioned that Web-based training (WBT) was instruction that was delivered over the Internet or over a company's intranet. The training was accessed using a Web browser. Other types of Internet training referred to any program that could be delivered from a remote source, even e-mail correspondence courses, or the transfer of files of course materials. Training over the World Wide Web, and training using an intranet's Web, specifically referred to the readily available, interactive, multimedia nature of Web browsers and associated plug-ins.

To sum up, Web-based training as used of the Internet for training, which trainees did not study in classroom but they could study by themselves from Web site or Web page. This training would let the trainees could choose training course or training program without time limitation. Learning would depend on the readiness of trainees. The trainees could access training course from their computers for learning materials, doing exercises, evaluating, and searching more knowledge.

Web-based training had the concept as follows:

1. Trainee used self-learning method via the Internet instead of actual training.

2. Trainee could learn from everywhere, which could access to the Internet.

3. Trainee could determine timing for learning according to own readiness and each time of learning would use whenever depending on each abilities of learner.

4. It was convenient to study in group learning or collaborative learning.

5. It was the method, which could construct relationship between the learner and the instructor or the learner and the learner.

2. The advantage of Web-based training (WBT)

Lee (2000: 173) said that Web-based courses were easily changed as content requires, so programs were off-line far less. The turnaround time was only as long as it took to make the changes to the parts of the content that were obsolete and put the program back online. Overall, using the Internet was less costly than CBT for maintenance, updates, and changes to courses. Whereas changes to a CBT course often require burning new CD-ROMs and the expense and time that entails, changes to an Internet course can be made with only minimal time required for the course to be offline. Changes to a CBT course also meant that all copies of the CD-ROM previously distributed were obsolete and might need to be replaced. Unused CDs had to be scrapped.

Knowledge Base & Information Center (http://www.avs.co.th/website/kic.htm) presented the organizational benefit for Web-based training as follows:

- Reduced the time of training
- Lowered the cost of training
- Improved job performance
- Eliminated the need for classroom instructors
- Made it possible to learn and train via the Internet
- Offered instant availability (courses were available at any time)
- Updated content and media electronically
- Provided tracking of access and performance
- Offered paperless environment

To summarize, as a result of Web-based training did not determine date and time firmly for training, it facilitated to trainee, which mostly was adult. Thus Web-based training had the advantages as follows:

2.1 It gave an opportunity to personnel that could learn when had readiness to study without limited actual training.

2.2 Personnel could train in the office without travelling, which would not waste the time for working.

2.3 Learning depended on the fundamental and the difference in each person to be able to learn quickly or slowly.

2.4 It used many high efficient media called "Multimedia".

2.5 It had on-line testing which could receive the result immediately.

2.6 The instructors could improve training course contents all the time.

2.7 It decreased investment of training for many employees or the similar training courses such as orientation.

2.8 It could also decrease of personnel expenses who was responsible for training such as training officer, trainers.

2.9 It decreased a shortage of limited resource in training such as trainers, training place.

3. Limitations of Web-based training

(Lee, 2000:165-166) commended that Internet technology was evolving rapidly. Using applications based on Internet standards rather than using plug-ins would make the Internet more efficient and put it in a better position to take advantage of new capabilities as they were developed. For example, if a new Internet standard were adopted for video, it would be much easier to integrate video into web-based training without using the extra memory required by plug-ins. As computers were built with ever-increasing amounts of RAM and Rom and as older computer memory was upgraded, more complex forms of multimedia could be accessed.

The second important issue in delivering content over the Web concerned network performance. Many of the Internet's current limitations were related to network capacity, or bandwidth. Generally speaking, internal intranets allow information to move much faster than most public telephone lines do. Moreover, Much preparation by instructor to coordinate and plan course elements. Requires specialized design skills of programmers and authors. Security, testing, and feedback might be limited. A poorly designed user interface might be difficult to navigate or interfere with learning. Slow video compression and decompression rated cause video and audio to be out of synchronization.

4. Types of Web based training

In deciding on the type of web application and the platform, determine, which of two major types of content structure for the Internet would be used: asynchronous and synchronous (Lee, 2000: 171-172).

1. Asynchronous content was analogous to computer-based courseware delivered to the desktop on demand. The entire content was resident on a LAN or WAN and available through dial-up access and password supplied to students registered for the course.

The interactivity was sometimes different from that of computer-based training. Rather than branching to various instructional paths through menu systems like those built into CBT, interactivity and branching are achieved through using hot links (areas of the screen that, when clicked, jump the user to another place in the program) to other web pages or sites. A system of menus achieves branching to various parts within the course. Whatever the level of interactivity, a button or selection on the main menu should always appear on the screen or be readily available on every page of the course, so that users can navigate back to the main menu to make other choices or exit the program.

2. Synchronous training meant all students were online, taking the training at the same time. Students gain access to the class through a dial-up telephone number and password provided to them.

Hall (1997: 3-4) used levels of interactivity and amount of multimedia as the primary distinguishing factors between different training programs. There were three types of Web-based training as follows:

1. Text and graphics Web-based training programs

Text and graphics programs were sometimes simply paper-based course materials placed on the Web so those students could access them in electronic format. On the other hand, some text and graphics programs designed from the ground up for Web delivery could be an appropriate solution for a given training need. Many contain hyperlinks to other material for further study, or to charts and graphs that further illustrate the learning point. These pages usually provided a lower level of interactivity, although not necessarily a lower level of information. The training course was a combination of a Web-based training module, a hands-on workshop, and a lecture. The text and graphics model was in the place many people start with development of Web-based training, because it was the easiest to create and was accessible to the most people.

2. Interactive Web-based training programs

To engage the learner with stimulating interactivity was the promise and the future of computer-delivered instruction, whether delivered on CD-ROM or the Web. Interactivity and instructional design was to Web-based training as a good storyline was to a movie or game-play was to a video game. Interactivity at its best was a simulation exercises, drag-and-drop, column matching, testing, text entry, and even programming code entry. This gone beyond simple text and graphics presentation and bring the learner into the program to engaged with the content and practice the skills.

What was unique about these courses was that they provide a simulated programming environment that allows you to actually enter code into an

open text area, submit the code, and immediately see the results of your new programming skills.

3. Interactive multimedia Web-based training programs

Truly interactive multimedia was the holy grails of Web-based training. Most programs that fall into this category allowed the user to manipulate graphic objects in real-time, sometimes taking on the quality of a game-playing exercise. The simulations were realistic and the situations were often difficult. Appropriate used of audio and/or video helps from an instructional point of view and from the human side as well.

The promise of interactive multimedia training was realized with CD-ROM technology. It allowed the large audio or video files to be stored on a portable disk and presented nicely on the computer screen, without the wait times of the Internet. The Web was following close behind with improved transfer speeds, and was in an improvement on the CD-ROM in terms of storage space and ease of update. Once you record data onto a CD-ROM, it was there forever. Information on a Web site could be easily updated as often as necessary. Web-based interactive multimedia was an effective way to provided training in a risk-free environment. Users could see the result of their actions immediately. The use of graphics, audio, and video provide the multimedia advantage of making the environment more realistic and the training more effective and more enjoyable.

Concepts and styles of Web-based training as mentioned above could apply to Web-based training styles for this research as follows:

1. The organization had to construct training course content and posted it on Web page that was a part of organization's Web site.

2. Employees could train via the Internet by login and typing password to those training courses.

3. There was a pre-test for former knowledge measurement as a basis determination. Passing the test meant that learners had enough knowledge without going to the lesson. If he did not pass testing along with basis determination, he had to learn the lesson which program would connect to the lesson automatically.

4. When learner was learning, he could study respectively or some lesson he selected.

5. When finishing the lesson in that content, the learner would have a post-test. After the post-test, he received the results immediately. If the points did not access the standard scores, he had to study again.

6. When he finished and passed training, he would have a training record.

7. When finished studying, there were the activities for the learners as follows:

- Chatting with other trainees.
- Web board for determining the problems about the suspected lesson and answering the question to the others in case of being capable to answer.
- Choosing mail to trainer when requiring to connected with trainer to ask the questions or the doubt.
- Choosing mail to our friend when requiring to sent the letter to friend.
- Registering the visiting booklet for trainer to be applied the information to edit the lesson.
- Searching information in WBT Search when requiring.

1. Searching the informational training education and other additional information from search engine.

2. Searching or calling a list of names who took the testing or all assessment from the person who already took the testing and assessment.

3. Searching informational training curriculum when searching the information in each subject without entering main menu.

The related theory

1. The concept of readiness

The readiness of business organization for this research meant the ability or potentiality as well as the preparation of each business organizations would develop human resource by Web-based training which had the tendency to be accomplishment. The readiness of business organizations for human resource development by Web-based training in this research was the readiness of the training division heads' perceptions in personnel, budget, technology, management and administrative policies. Those were the important resources according to business administrative theory as follows: (Pranom Kuhacharearn, 1995: 8; Somkid Bangmo, 1997: 63; Siriporn Pongsriroj, 1997: 6; Wijit Arwakul, 1997: 7).

1. Man who performed those activities' organization
2. Money used for wages and expenses in management
3. Materials meant equipment, instruments including building
4. Management meant the knowledge about management

Latterly, adding six factors of management as follows:

1. Man meant officer.
2. Money meant wages and expenses
3. Materials meant equipment, instruments and building
4. Method or Management meant efficient execution or management to be accomplishment
5. Market or location meant distributing goods and services.
6. Machine which used for producing goods and services.

The opinions of the experts that related to the factors or the resources to continue in business consisting of the important things which similarly in many factors, such as, man, money, materials and management. Those factors had the importance to proceed the activities or projects of organizations. Normally, if the employees had capability in using the new technology, the organizations would develop continuously (Danai Tienpud et al., 2000: 73). Therefore, human resource development or training officers should have capability in many aspects of modern technology (Thanaporn Jarearnchai, 2000: 64). Especially at the present, the technological era had broadly use computer and network system. Hence, the organization had to have capable personnel to supervise and operate effective network system (Pongrapee Techapahapong, trans., 1999: 180). In addition to the personnel, budget was a factor that the organizations could proceed the business, they had to have budget sufficiently. So, the executives had to provide the budget to the division of organization according to a compatible advantage. If they believed that training was wasteful activity (Theera Prawarnpruek, 1995: 173), they might provide less budget than other division. In technology, at present had to be modern and used

worthy which the internal network was very popular especially in business organization because of easily communication within organization. Besides, it could connect to international if it was linked to the Internet. In management or administrative policies was the important factor for the organizations because if the organizations had other factors but did not have well administration or management to use those factors, they could not proceed the activities or projects effectively, such as training. If the division did not analyze the training needs and lacked of specialist to revise the training program (Nugrop Rawangkarn, 1997: 29), the training would fail. When analyzed the readiness of business organizations for human resource development by Web-based training, it had necessary to add one element of readiness that was the top executive who had an authority to make a decision, and advises to the organization in requiring direction. The top executive decision was a part to determine in policy of organization especially in business organization. If the top executive realized the value of human resource development then they would subsidize budget seriously (Wijit Arwakul, 1997: 64). Thus, the administrative policies were also importance that indicated the readiness of organization for human resource development by Web-based training. Therefore, the conclusion in analyzing about factors or resource, which indicated to the readiness of business organization for human resource development by Web-based training for this research, those were:

1. The readiness of personnel meant the capability and the number of employees including experts and consultants who could supervise or operate computer system and the Internet network.

2. The readiness of budget meant the readiness of investment and the amount of investment, which supported personnel development by Web-based training.

3. The readiness of technology meant the number or the sufficient of hardware, software, telephone line, leased line and other required equipments to connect with the Internet and develop the Web for training in organization.

4. The readiness of management meant the capability and the preparation of organization to conduct the resources or management factors, which comprised of personnel, budget, technology and administrative policies to used in personnel development by Web-based training.

5. Administrative policies meant the directions of the top executives such as, chief executive officer (CEO), chairman and general manager who had the authority to make decision for personnel development by Web-based training.

2. Theory about knowledge

2.1 The meaning of knowledge

The word "knowledge" had various meaning, which would be present as follows:

Good (1973: 325) defined knowledge as the accumulated facts, truth, principles, and information to which the human mind had access.

In addition, Bloom, Hastings and Madaus (1971: 271) defined knowledge as the recall of specifies and universals, the recall of methods and processes, or the recall of pattern, structure, or setting.

Praphapen Suwon (1989: 16) mentioned that the knowledge was original behavior, that learner could remember, recall, see, and hear. It referred to fact, rule and definition.

Boonchai Punyatananukul (1999: 8) concluded that knowledge meant receiving about fact, rule and matters which person had been compile and able to showed behavioral with remarkable and measurable

In summary, knowledge meant the things related to fact, rule or knowledge about place, belonging or person, which devised from notification, experience or researching with clarity and take timing. For this researching, knowledge meant knowledge about the Internet, concept of Web–based training, procedure of Web-based training which training officer received from learning and experience.

2.2 Level of knowledge

As the theory of Bloom (Bloom, et al., 1971: 271-273) divided the cognitive domain into six levels, ranking from simple behavior to the complex ones as following;

1. Knowledge: Knowledge as defined here, involved the recall of specifies and universals, the recall of methods and processes, or the recall of pattern, structure, or setting, For measurement purposed, the recall situation involved little more than brining to mind the appropriate material. Although some alternation of the material may be required, this is a relatively minor part of the task. The knowledge objects emphasized most the psychological processes of remembering.

2. Comprehension: This represents the lowest level of understanding. It referred to a type of understanding or apprehension such that the individual known what was being communicated and could make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications.

3. Application: It meant the use of abstractions in particular and concreted situations. The abstractions might be in the form of general ideas, rules of procedures, or generalized methods. The abstractions might also be technical principles, ideas, and theories, which might be remembered and applied.

4. Analysis: The breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas was made clear and/or the relations between the ideas expressed were made explicit. Such analyses were intended to clarify the communication, to indicate how the communication was organized, and the way in which it managed to convey its effects, as its basis and arrangement.

5. Synthesis: The putting together of elements and parts so as to from a whole. This involved the process of working with pieces, parts, elements etc., and arranging and combining them in such a way as to constitute a pattern or structure not clearly there before.

6. Evaluation: It meant judgments about the value of material and methods for given purposes. Quantitative and qualitative judgments about the extent to which material and methods satisfy criteria. Use of a standard of appraisal. The criteria might be those determine by the student or those, which were given to him.

2.3 Assessment of knowledge

There were many different approaches for knowledge assessment. However, each approach had its own characteristic, which suited specific circumstance. "Test" was a popular type for knowledge assessment which could be divide as follows: (Boontam Kijpreedaborisut, 1988: 21-25)

1. Test in psychology could be divide into three types.
    1.1 Achievement test
    1.2 Aptitude test
2. Two types of question-answer
    2.1 Essay Test
    2.2 Short answer and Multiple choice Test
3. Three types of tests
    3.1 Performance test
    3.2 Paper-Pencil test
    3.3 Oral test
4. Time test was divided into two types
    4.1 Speed Test
    4.2 Power Test
5. Psychology test was divided into two types
    5.1 Criterion Reference Test
    5.2 Noun Reference test

The assessment of knowledge in research often used Short Answer, True-False Item, Matching Item and Multiple Choice (Boontam Kijpredoborisut, 1992: 110).

In this research, the researcher assessed knowledge about Web-based training of training officers in business organization according to the theory of Bloom by test of True-False Item.

The related research

1. Abroad Research.

Marzuki (1999) University of Pittsburgh studied about a study of learning styles and hypermedia's organizational structures in a Web-based instructional program designed for trainee teachers at the international Islamic University Malaysia The primary purpose of this study was to investigate the influence of learning styles and hypermedia's organizational structures on learning in a Web-based instructional environment. A secondary purpose of this study was to determine the implications of these variables on the design of Web-based instruction. Sixty-three graduate students in a Diploma of Education program at the International Islamic University Malaysia participated in this study. Data analysis included the use of ANOVA, ANCOVA, t-test and Pearson's correlation coefficient. The results indicated that there were no significant relationships between the information processing characteristics of learning style and performance, and between hypermedia's organizational structure and performance. There were also no significant interactions among the factors of learning style, hypermedia's organizational structure and attitude. However, this

study found significant relationships between computer experience and performance on the pretest, and Web experience and performance on the posttest.

Ted (1999) Pepperdine University studied about a design plan for online distance learning program delivery (Internet, World Wide Web). In order to respond to the pressures of future change, educational organizations must be ready to alter not only what they teach but, how they teach it. This paper proposes an online program plan to revitalize the traditional distance learning education model at Coastline Community College by incorporating the new computer technology of the Internet and World Wide Web into program offerings. To assist in preparing the plan, an extensive review of pertinent literature was conducted, along with analysis of 1,093 distance learning student surveys, and an online survey of the opinions of 26 experienced distance learning faculty members. Surveys indicated students will have both the technological access and the inclination to enroll in Web based offerings as fast as the college can provide courses. Responses by experienced distance learning faculty agreed that online courses could be an important addition to the college offerings, but expressed concerns that proper planning must be instituted to address faculty training, quality control, technical support, and other online program issues.

2. Domestic Research

In Thailand, Internet had been used speedy in both education and business but it did not have the research about the readiness of business organization to use Internet seriously for training. There were only using Internet in education, public relation, advertisement, inspection as follows:

Pojjanart Thongkumjaream (1996: Abstract) studied about the condition of requirement and the problem of using Internet in higher education of Ministry of university affairs. The result was found that the instructor and the student used the most World Wide Web for searching information, electronic post, information transferring respectively. Institution had the policy of development in preparation of basic services especially, increasing line, speedy in communication and curriculums development to use for Internet. It should have long terms planning for using Internet, gaining more knowledge and skill for using Internet to personnel. Most instructor and student decided to use the Internet for education by increasing speedy in communication with service center, increasing budget for enough installation and increasing speedy in information transferring including expanding signal channel to be able to be more active working.

Tawitiya Sinthuwong (1997: Abstract) had learn about desire condition and the problem of using Internet in export business, it was found that the tendency of export business in the future used the Internet for increasing opportunity in competition because of convenience speedy in communication. It also used more widely communication in public relations in Web site style in the future. Thailand would be expect to be able to go in electronic system about year 2005 but it had to improve and develop other basic system for more readiness than at present.

Benyaporn Mahapirun (1998: Abstract) studied about the tendency of using revolution and technology of the higher education in the year 1999, it was found that groups of specialist in technological education of Thailand had the opinion as follows:

1. The application of computer system in Local area network: LAN used in administration, public relations, which would have electronic conductor to used as a substitute for printed matter. The management in level of party, center and office would use Internet system and automatic office system.

2. The educational resources would use such as video projector, Internet network and software. Computers had more using video projector and the Internet would also be use in lecture, and learning inventory would be a digital and it also used more PowerPoint for presentation.

3. The lecture would use more information resources on LAN system, multimedia system and Internet for respond interesting.

4. In management of instruction in classroom, the specialist agreed consistently such as, using Internet system for student could learn all time and places and would also establish the self-learning center for more responding to the student.

CHAPTER III

RESEARCH METHODOLOGY

The purposes of the study were to research the readiness of business organizations for human resource development by Web-based training as perceived by training division heads and training officers' opinions, to examine the relationship between the training division heads' perceptions and the training officers' opinions about the readiness of business organization for human resource development by Web-based training, and to investigate the readiness of knowledge about Web-based training of the training officers. The implementing research was determined as follows:

1. Population and sample
2. Instrument of the research
3. Data collection
4. Data analysis

Population and sample

Population in this research was divided into two groups.

1. The first group was 171 business companies registered in stock exchange of Thailand and possessed the training divisions located in Bangkok by which the training division heads were used as the main informants (stock exchange of

Thailand, 2000: 1-19). Thirty of those organizations were used for the pilot study. The remaining of population were 141 organizations. Since the researcher received the returned questionnaires from 117 organizations, that could consider 117 organizations to be the samples of this study.

2. The second group was 708 training officers who were responsible for training in business organizations. The size of sample group was determined by Yamane formula (quoted in Bontam Kitpreedabourisuth, 2000: 88) specifying the error value at 0.05. The number of the samples was 256. The formula was as follows:

$$n = \frac{N}{1 + Ne^2}$$

When, e = Estimated Error

N = Population Size

n = Total of Sample Size

$$n = \frac{708}{1 + 708\,(0.05)^2}$$

$$n = 256$$

Instrument of the research

1. Instrument construction

The instrument in this research was consisted of two sets of the questionnaires.

1.1 Questionnaire for the training division heads

It was concerned about the readiness of business organization for human resource development by Web-based training as perceived by the training division heads who were the main informants, and their opinions about human resource development by Web-based training. The researcher constructed the questionnaire based on concepts, theories and related research studies. The questionnaire was divided into three parts as follows:

Part 1 Questions about demographic data of the organization included number of employees, number of branches, type of business, operating training unit, type of training. There were five close-ended questions with checklist answers.

Part 2 Questions about the readiness of organization for human resource development by Web-based training as perceived by the training division heads, which consisted of five issues as follows:

2.1 Personnel, which were the officers in training, computer system and the Internet.

2.2 Budget, which supported human development by Web-based training.

2.3 Technology, which the organization used and required technology for Web-based training comprising of hardware, software and the channel of communication connected to the Internet.

2.4 Management, which was the process and activities should be prepared for human resource development by Web-based training

2.5 Administrative policies supported for human resource development by Web-based training.

There were thirty-three close-ended questions with checklist answers and open-end questions for some more details. For scoring,

Yes, have, sufficient = 1 point

No, insufficient = 0 point

The readiness level of the organization in personnel, budget, technology, management and administrative policies would be classified into three levels-- low, moderate and high which the scores were calculated into percentage as follows: (Kristsada Tongsangvon, 1997: 102; Boonchom Srisaard quoted in Boonchai Panyatranukul, 1999: 68)

< 50 percent referred to the readiness at a low level

50 –75 percent referred to the readiness at a moderate level

< 75 percent referred to the readiness at a high level

The readiness level of the organizations in each aspect as perceived by the training division heads was classified as follows:

In personnel (0-7 scores)

0-3 scores referred to the readiness at a low level

4-5 scores referred to the readiness at a moderate level

6-7 scores referred to the readiness at a high level

In budget (0-6 scores)

0-2 scores	referred to the readiness at a low level
3-5 scores	referred to the readiness at a moderate level
6 scores	referred to the readiness at a high level

In technology (0-6 scores)

0-2 scores	referred to the readiness at a low level
3-5 scores	referred to the readiness at a moderate level
6 scores	referred to the readiness at a high level

In management (0-9 scores)

0-4 scores	referred to the readiness at a low level
5-7 scores	referred to the readiness at a moderate level
8-9 scores	referred to the readiness at a high level

In administrative policies (0-5 scores)

0-2 scores	referred to the readiness at a low level
3-4 scores	referred to the readiness at a moderate level
5 scores	referred to the readiness at a high level

Part 3 Questions about the opinions of training division heads on the overall readiness of the organization for human resource development by Web-based training, the training costs, the utilization of Web-based training for human resource development and additional suggestions. There were close-ended questions with checklist and open-ended questions for some more details.

1.2 Questionnaire for training officers

It was concerned with the training officers' opinions on the readiness of business organization for human resource development by Web-based training and the utilization of Web-based training for human resource development. It was also included the training officers' readiness in knowledge about Web-based training. The questionnaire was divided into five parts:

Part 1 Questions concerning the demographic data including age, educational background, area of graduation, working experience in training and additional training in computer. There were five close-ended questions with checklist.

Part 2 Questions concerning the readiness in knowledge about Web-based training. There were thirty-one close-ended questions. The score was as follows:

Correct answer	= 1 point
Wrong answer	= 0 point
Undecided	= 0 point

Those questions covered the contents about Web-based training as follows:

1. General knowledge about the Internet
2. Concept of Web-based training
3. The procedure of Web-based training

The score level was determined by the percentage mastery scale (Boonchom Srisaard, 1992: 78-81 quoted in Boonchai Panyatranukul, 1999: 68). The respondent who got points less than 50 percent of total scores or 15 points would refer to the readiness in knowledge at a low level. If the points were between 50-75 percent of total scores or 15.5-23 points, it would refer to the readiness in knowledge at a moderate level and if the points more than 75 percent of total scores or 24-31 points, it would refer to the readiness in knowledge at a high level. Therefore, the readiness levels in knowledge about Web-based training of the training officers was classified as follows:

0-15	points	referred to the readiness at a low level
15.5-23	points	referred to the readiness at a moderate level
24-31	points	referred to the readiness at a high level

Part 3 The readiness of organization for human resource development by Web-based training according to the training officers' opinions was divided into five aspects: There were the readiness in personnel, budget, technology, management and administrative policies. There were thirty-three close-ended questions with four rating scales.

High	=	3 scores
Moderate	=	2 scores
Low	=	1 score
None	=	0 score

The readiness level of the organization in personnel, budget, technology, management and administrative policies would be classified into three

levels-- low, moderate and high which the scores was calculated into percentage as follows: (Kristsada Tongsangvon, 1997: 102; Boonchom Srisaard quoted in Boonchai Panyatranukul, 1999: 68)

< 50	percent	referred to the readiness at a low level
50 –75	percent	referred to the readiness at a moderate level
< 75	percent	referred to the readiness at a high level

The readiness level of the organizations in each aspect according to the training officers' opinions was classified as follows:

In personnel (0-21 scores)

0-10	scores	referred to the readiness at a low level
10.5-16	scores	referred to the readiness at a moderate level
17-21	scores	referred to the readiness at a high level

In budget (0-18 scores)

0-8	scores	referred to the readiness at a low level
9-14	scores	referred to the readiness at a moderate level
15-18	scores	referred to the readiness at a high level

In technology (0-18 scores)

0-8	scores	referred to the readiness at a low level
9-14	scores	referred to the readiness at a moderate level
15-18	scores	referred to the readiness at a high level

In management (0-27 scores)

0-13 scores referred to the readiness at a low level

13.5-20 scores referred to the readiness at a moderate level

21-27 scores referred to the readiness at a high level

In administrative policies (0-15 scores)

0-7 scores referred to the readiness at a low level

7.5-11 scores referred to the readiness at a moderate level

12-15 scores referred to the readiness at a high level

Part 4 Questions concerning the training officers' opinions on the advantages of Web-based training. There were twelve close-ended questions with five rating scales as follows:

Strongly agree	=	5 scores
Agree	=	4 scores
Undecided	=	3 scores
Disagree	=	2 scores
Strongly disagree	=	1 score

Part 5 Questions concerning the training officers' opinions on the overall readiness of the organization for human resource development by Web-based training, the training costs and the utilization of Web-based training for human resource development and additional suggestions. There were close-ended questions with checklist and open-ended questions for some more details.

2. Quality of the questionnaires

2.1 The content validity of the questionnaires was checked by three experts in human resource development.

2.2 After improving the questionnaires, a pilot study was carried out by mailing those questionnaires to 30 training division heads of business organization and 30 training officers who were not part of the samples in this study.

2.3 The collected data was analyzed and computed for the difficulty level of the readiness in knowledge about Web-based training by the following formula (quoted in Boontam Kritpreedaborisuthi, 1988: 157).

$$P = \frac{P_H + P_L}{2n}$$

When, p = The index of difficult

P_H = Number of correct answers in high group

P_L = Number of correct answers in low group

n = Number of the total answers in both groups

The measurement of the difficulty level for quality questions was between 0.2 to 0.8. The result of difficulty level testing on Web-based training was between 0.23 to 0.80.

2.4 Discrimination Power was derived from the following formula (quoted in Boontam Kritpreedaborisuthi, 1988: 158).

$$r = \frac{P_H - P_L}{n}$$

When, r = The discrimination power

P_H = Number of correct answers in high group

P_L = Number of correct answers in low group

n = Number of the total answers in both groups

The measurement of the discrimination power for quality questions was above 0.2. The result of discrimination power testing on Web-based training was between 0.20 to 0.62.

2.5 The reliability test was conducted by the Kuder Richardson formula 20 (KR20) (quoted in Boontam Kritpreedaborisuthi, 1988: 172) and the formula was as follows:

$$rtt = \frac{k}{k-1}\left[\frac{S_X^2 - \Sigma pq}{S_X^2}\right]$$

When, rtt = The reliability

k = The number of items of the test

S_X^2 = The total variation of total scores

p = The proportion of correct answer for each item

q = The proportion of incorrect answer for each item

The measurement of the reliability for quality questions was above 0.7. The result of the reliability testing on Web-based training was 0.81.

2.6 The reliability test of the questionnaires was conducted by Coefficient Alpha of Cronbach (quoted in Boontum Kijpreedaborisut, 1997: 212) and the formula was as follows:

$$rtt = \frac{k}{k-1}\left[\frac{1 - \Sigma Si2}{St2}\right]$$

When, rtt = The reliability

k = Number of items of the test

S_i^2 = The variation of each item

S_t^2 = The variation of total scores

The result of the reliability for quality questions was above 0.7. The value of the reliability for the training division head's questionnaire was 0.87. The value of the reliability for the training officer's questionnaire about the readiness of organization for human resource development by Web-based training was 0.79 and the opinions about the advantage of Web-based training was 0.83.

Data Collection

The questionnaires were mailed out to both training division heads and their training officers who were the samples on March 1, 2001. The samples were requested to fill out the questionnaires and sent them back by March 31st, 2001. The same questionnaires were mailed out one more time for the samples who did not respond the first time and were requested to sent them back by April 30th, 2001. All the returned questionnaires were checked for completion (117 from the training division heads and 316 from the training officers).

Data Analysis

The researcher analyzed the data by using SPSS computer program.

1. Demographic data were determined by frequency and percentage.

2. The readiness of organization for human resource development as perceived by training division heads and training officers' opinions were determined by frequency and percentage.

3. The readiness in knowledge of training officers about Web-based training were determined by frequency and percentage.

4. The opinion of training division heads and training officers about human resource development by Web-based training were determined by frequency and percentage.

5. The relationship between the perceptions of training division heads and the training officers' opinions on the readiness of organization for human resource development by Web-based training were determined by the Chi-Square.

CHAPTER IV

RESULTS

In the study on readiness of the business organizations for human resource development by Web-based training, the findings were presented into seven parts as follows:

1. The demographic data of the samples

2. The readiness of business organizations for human resource development by Web-based training as perceived by the training division heads

3. The readiness of business organizations for human resource development by Web-based training according to the training officers' opinions

4. The relationship between the training division heads' perceptions and the training officers' opinions on the readiness of the business organizations for human resource development by Web-based training

5. The readiness in knowledge about Web-based training of the training officers

6. The comparison between the training division heads' opinions and the training officers' opinions about the human resource development by Web-based training

7. The obstacles and suggestions concerning human resource development by Web-based training

The demographic data of the samples

1. The demographic data of the organizations

The samples in this study were 117 business organizations, which the training division heads were as the main informants. It was found that most of the business organizations (33.3%) had 1,000-5,000 employees, less than 500 employees (29.9%), 500-1,000 employees (36.5%) and 5,001-10,001 employees (6%). Most of them (70.9%) had branches as the most 1,600 places. Most of them (10.3%) held business in construction and decoration, followed by textile garment and shoes (8.6%), bank (7.7%), casualty and life insurance (6.8%), communications (5.9%), medical doctor (5.1%), chemical supplies and plastic (4.3%), entertainment, household equipment, commerce and other businesses (43.6%). The units responsible for training were human resource development (40.2%), training division (21.4%), training department (14.5%), human development institute (7.7%) and the others (16.2%). The organizations had several training styles, most of them (95.5%), sent their employees to attend training courses with external institutes, 91.9% conducted by the employees themselves, 77.5% hired external institutions to arranged the training programs and others (overseas training, self-learning with several media such as CAI, tape) (13.5%). Details are shown in Table 1.

Table 1 Number and percentage of the organizations according to the organization demographic data

The organization demographic data	Number	Percentage
Number of employees		
Under 500	35	29.9
500 – 1,000	31	26.5
1,001-5,000	39	33.3
5,001-10,000	7	6.0
Over 10,000	5	4.3
Branches		
Yes	83	70.9
No	34	29.1
Types of the business group		
Bank	9	7.7
Medical Doctor	12	10.3
Construction and decoration	5	4.3
Casualty and life insurance	7	5.9
Chemical supplies and plastic	6	5.1
Real property	8	6.8
Communication	9	7.7
Textile garment and shoes	10	8.6
Others	51	43.6

Table 1 Number and percentage of the organizations according to the organization demographic data (Cont.)

The organization demographic data	Number	Percentage
The unit which takes responsibility for training		
Training division	17	21.4
Training department	47	14.5
Human resource department	9	7.7
Human development institute	25	40.2
Others	19	16.2
Style of training (Could answer more than 1 item)		
Conducted by employees of the organization	102	91.9
Hiring the external institution to arrange training	86	77.5
Sending employee to attend training courses with external institution	106	95.5
Others (Overseas training, self-learning with several media such as CAI, Tape)	15	13.5

2. The demographic data of the training officers

The samples were 316 training officers with the age from 25 to 58. It was found that most of them (55.7%) had the age between 30-40 years, 31.9% lower than 30 years and the average age was 33 years. Most of them (70.6%) had a bachelor degree, 24.7% master degree and no one had a doctorate degree. 25% of the samples

graduated in business administration, 16.8% in educational science, 15.8% in political science. Most of them (56.6%) had 1-5 year training experiences, 6-10 years and 11-15 years (32.3% and 7.0%). The average experience was 6 years. Most of them (82.9%) used to be in computer program. Details are shown in Table 2.

Table 2 Number and percentage of the training officers according to demographic data

The demographic data	Number	Percentage
Age		
Under 30	101	31.9
30 –40	176	55.7
41-50	29	9.2
Over 50	10	3.2
Educational level		
Lower than Bachelor Degree	15	4.7
Bachelor Degree	223	70.6
Master Degree	78	24.7
Doctor Degree	-	-
Area of Graduation		
Educational Science	53	16.8
Political Science	50	15.8
Business Administration	79	25.0

Table 2 Number and percentage of the training officers according to demographic data (Cont.)

The demographic data	Number	Percentage
Liberal Arts	21	6.6
Human Resources Development	11	3.5
Law	10	3.2
Others	92	29.1
Working experiences in training division		
1-5	179	56.6
6-10	102	32.3
11-15	22	7.0
16-20	3	1.0
Over 20	10	3.1
Training experience in computer program		
Yes	262	82.9
No	54	17.1

The readiness of business organizations for human resource development by Web-based training as perceived by the training division heads

The readiness of business organizations for human resource development by Web-based training as perceived by the training division heads was divided into five aspects: the readiness in personnel, the readiness in budget, the readiness in

technology, the readiness in management, and the readiness in the administrative policies. The researcher divided the scores into three levels: low level, moderate level, and high level as follows:

1. The readiness in personnel

It was found that more than half of the business organizations (58.1%) had the readiness at a moderate level and 32.5% at a high level. Only 9.4% had the readiness at a low level.

More than half of the organizations (58.1%) had sufficient personnel in training division. Nearly all of the training officers (98.3%) had the capability of using computer for typing. Most of the organizations (82%) had a half of the training officers who had the capability of using the Internet, only part of them had the capability of designing the Web page (24.8%). About half of the organizations (53.9%) did not have the expert for Web-based training. Almost all of them (98.3%) had personnel who take responsibility and operate the computer system. 84.6% of them had personnel who take responsibility and operate Web site. Details are shown in Table 3 and Table 4.

Table 3 Number and percentage of the training division heads according to their perceptions of the readiness levels in personnel

The readiness levels in personnel	Number	Percentage
Low Level (1-3 points)	11	9.4
Moderate Level (3.5-5 points)	68	58.1
High Level (6-7 points)	38	32.5

$\bar{X}$ = 4.91 S.D. = 1.20 min = 1 max = 7

Table 4 Number and percentage of the training division heads according to their perceptions of the readiness in personnel

The readiness in personnel	Yes		No	
	Number	Percentage	Number	Percentage
1.The organization has sufficient personnel in training division	68	58.1	49	41.9
2.The training officers have the capability of using computers for typing	115	98.3	2	1.7
3.The training officers have the capability of using the Internet	96	82.0	21	18.0
4.The training officers have the capability of designing or developing the Web page	29	24.8	88	75.2
5.The organization has the expert for Web-based training	54	46.1	63	53.9
6.The organization has personnel who can take responsibility and operate the computer system	115	98.3	2	1.7
7.The organization has personnel who can take responsibility and operate the Web site	99	84.6	18	15.4

2. The readiness in budget

According to the findings, it was found that 53% of the business organizations had the readiness in budget at a moderate level, 23.9% at a low level and 23.1% at a high level.

It was also revealed that at present, most of the training units in business organizations (73.5%) had the budget sufficiently. The lowest budget which training department received was 50,000 bahts and the highest was 200 million bahts per year. During the year 2000, the majority of the organizations (84.6%) increased computer purchasing. Half of training departments (53%) had insufficient budget for training in Web page design to employees because they did not indicate in planning. Moreover, it was found that 48.7% of them had sufficient budget for human development by Web-based training if the organization was going to use Web-based training for human resource development and the expenses would be at least 200,000 bahts but 51.3% of the organizations had insufficient budget. For hiring the experts in using Web-based training, nearly half of them (47.9%) had sufficient budget but 52.1% of them had insufficient budget. For the reserve budget, it was found that most of them (83.8%) would always have budget when training unit had urgent projects. Details are shown in Table 5 and Table 6.

Table 5 Number and percentage of the training division heads according to their perceptions of the readiness levels in budget

The readiness levels in budget	Number	Percentage
Low Level (1-2 points)	28	23.9
Moderate Level (3-5 points)	62	53.0
High Level (6 points)	27	23.1
$\bar{X} = 3.85$ S.D. = 1.67 min = 1 max = 6		

Table 6 Number and percentage of the training division heads according to their perceptions of the readiness in budget

The readiness in budget	Yes		No	
	Number	Percentage	Number	Percentage
1.At present, the budget of training unit is sufficient	86	73.5	31	26.5
2.During the year 2000, the organization increased computer purchasing	99	84.6	18	15.4
3.Training unit has sufficient budget for training in Web page design to employees	55	47.0	62	53.0
4. The organization has sufficient budget for human development by WBT, if your organization is going to use WBT for human development and the expenses would be at least 200,000 bahts (Expenses for domain registration, network system equipment and computer equipment, Web site design, Web page for training and Internet service)	57	48.7	60	51.3
5.The organization has sufficient budget for employing the experts in WBT	56	47.9	61	52.1
6.The organization always reserved budget when training unit has urgent projects	98	83.8	19	16.2

3. The readiness in Technology

According to the findings, it was found that 49.6% of the business organizations had the readiness in technology at a moderate level, 45.3% at a high level while the rest (5.1%) had the readiness at a low level.

It was indicated that at present, nearly all of the business organizations (95.7%) used internal network as the Intranet, and some of them used only LAN. Most of them (89.7%) used the Internet for business communication, communicating with foreign customers, searching for general information, follow-up business movement, and propagating the organization's products. Regarding the sufficient of the computer, it was found that most of organizations (73.5%) had computer sufficiently. Moreover, it was found that most of the organizations' Web sites (88%) were interesting. More than half of the training unit (65.8%) had software correspondence with the requirements and most of them used the Microsoft Office. Besides, most organizations (88.8%) had sufficient telephone lines. Details are shown in Table 7 and Table 8.

Table 7 Number and percentage of the training division heads according to their perceptions of the readiness levels in technology

The readiness levels in technology	Number	Percentage
Low Level (1-2 points)	6	5.1
Moderate Level (3-5 points)	58	49.6
High Level (6 points)	53	45.3
$\bar{X} = 5.02$ S.D. = 1.20 min = 1 max = 6		

Table 8 Number and percentage of the training division heads according to their perceptions of the readiness in technology

The readiness in technology	Yes		No	
	Number	Percentage	Number	Percentage
1.The organization has used internal network system	112	95.7	5	4.3
2.At present, the organization has used the Internet	105	89.7	12	10.3
3.The organization has computers sufficiently	86	73.5	31	26.5
4.The organization's Web site was interesting	103	88.0	14	12.0
5.The training unit has software correspondence with the requirements	77	65.8	40	34.2
6.The organization has sufficient telephone lines	103	88.0	14	12.0

4. The readiness in management

The finding was revealed that most of the business organizations (85.5%) had the readiness in management at a low level, 12% had the readiness at a moderate level and 2.5% at a high level. It showed that the majority of the business organizations were not ready in management for human resource development by Web-based training.

It was also found that the majority of them (83.8%) did not assess the training needs in Web-based training because they did not have a plan. Some organizations (23.9%) had considered the training program to apply for Web-based

training. Regarding the Web-based training design, it was found that most of them (82.1%) did not design it and 88.9% did not type the training documents by computer program for posting on Web page. Half of the organizations (50.4%) had already trained personnel on the Internet. These organizations did not informed and provided knowledge about Web-based training to employees (19.7%). Furthermore, only one-third of all organizations had selected the old employees or hired new employees for Web page design. Only 26% of them supported the Web page design from each department. A large number of the training division heads (77.8%) had never been discussed it within their divisions. Details are shown in Table 9 and Table 10.

Table 9 Number and percentage of the training division heads according to their perceptions of the readiness levels in management

The readiness levels in management	Number	Percentage
Low Level (0-4 points)	100	85.5
Moderate Level (4.5-7 points)	14	12.0
High Level (8-9 points)	3	2.5
$\bar{X} = 1.96$ S.D. = 2.13 min = 0 max = 8		

Table 10 Number and percentage of the training division heads according to their perceptions of the readiness in management

The readiness in management	Yes		No	
	Number	Percentage	Number	Percentage
1.The organization has ever accessed the training needs in Web-based training	19	16.2	98	83.8

Table 10 Number and percentage of the training division heads according to their perceptions of the readiness in management (Cont.)

The readiness in management	Yes		No	
	Number	Percentage	Number	Percentage
2.The organization has ever considered the training program to apply for Web-based training	28	23.9	89	76.1
3.The organization has ever designed pattern of Web-based training	21	17.9	96	82.1
4.The organization has ever typed the training materials by computer program to posting on Web page	13	11.1	104	88.9
5.The organization trained employees on the Internet	58	49.6	59	50.4
6.The organization has propagated information and knowledge about Web-based training to employees	23	19.7	94	80.3
7.The organization has selected the old employees or hired new employees for Web page design	39	33.3	78	66.7
8.The organization has ever supported Web page design from each department	3	2.6	114	97.4
9. You discussed within your division about Web-based training	26	22.2	91	77.8

5. The readiness in administrative policies

From the results, it was found that almost half of the business organizations (44.4%) had the readiness in administrative policies at a low level. 37.6% at a moderate level and 18.0% at a high level. When considering the group of organizations, which had combined the readiness at a moderate level and a high level, it showed that the majority of the top executives of the business organizations had supported policies reasonably to human resource development by Web-based training.

It was revealed that most top executives (89.7%) concerned about the human development by training and half of them (49.6%) had the policies for other training methods that differ from actual training such as CAI, CBT, distance training. In addition, it was found that most of the top executives (77.8%) viewed the importance of utilizing computer for training job, such as database system and presentation. However, it was found that there was only 39.3% of the top executives had ideas to use the Internet for training job such as searching for information about training program from other institutes and selecting the training place in provinces. Most of the training division heads (71.8%) did not present the idea of Web-based training to the top executives. Only 28.2% did it and the top executives agreed with the idea. Details are shown in Table 11 and Table 12.

Table 11 Number and percentage of the training division heads according to their perceptions of the readiness levels in administrative policies

The readiness in administrative policies	Number	Percentage
Low Level (0-2 points)	52	44.4
Moderate Level (2.5-4 points)	44	37.6
High Level (5 points)	21	18.0
$\bar{X} = 2.85$ S.D. = 1.53 min = 0 max = 5		

Table 12 Number and percentage of the training division heads according to their perceptions of the readiness in administrative policies

The readiness in administrative policies	Yes		No	
	Number	Percentage	Number	Percentage
1.Top executives have concerned about human development by training	105	89.7	12	10.3
2.Top executives have policies for other training methods that differ from actual training	58	49.6	59	50.4
3.Top executives viewed the importance of utilizing computer for training job	91	77.8	26	22.2
4.Top executives have ideas to use the Internet for training job	46	39.3	71	60.7
5.You presented the idea of Web-based training to the top executives	33	28.2	84	71.8

The readiness of business organizations for human resource development by Web-based training according to the training officers' opinions

The study of the readiness of business organization for human resource development by Web-based training according to training officers' opinions were divided into five aspects: the readiness in personnel, the readiness in budget, the readiness in technology, the readiness in management and the readiness in the administrative policies. The researcher divided the scores into three levels: low level, moderate level and high level as follows:

1. The readiness in personnel

When considered the readiness in personnel of the organization according to the training officers' opinions, it was appeared that about half of the business organizations (52.2%) had the readiness at a moderate level, 40.5% at a low level and 7.3% at a high level. Almost half of the organizations (44.9%) had sufficient personnel in training division and the majority of them had the capability of using computer for typing and they had the capability of using the Internet (49.1% and 52.5% respectively). Furthermore, number of them (30.1%) did not have the training officers that could design the Web page. 35.4% of these organizations did not have the experts for Web-based training. However, these organizations had personnel who could take responsibility and operate the computer system and Web site (48.1% and 35.4% respectively). Details are shown in Table 13 and Table 14.

Table 13 Number and percentage of the training officers according to their opinions about the readiness levels in personnel

The readiness levels in personnel	Number	Percentage
Low Level (4-10 points)	128	4.5
Moderate Level (10.5-16 points)	165	52.2
High Level (17-21 points)	23	7.3
$\bar{X} = 11.71$ S.D. = 3.52 min = 4 max = 21		

Table 14 Number and percentage of the training officers according to the opinions about the readiness in personnel

The readiness in personnel	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
1.The organizations have sufficient personnel in training division	31	9.9	142	44.9	137	43.3	6	1.9
2.The training officers have the capability of using computers for typing	155	49.1	139	44.0	20	6.3	2	0.6
3.The training officers have the capability of using the Internet	68	21.5	166	52.5	62	19.7	20	6.3
4.The training officers have the capability of designing or developing the Web page	10	3.1	56	17.7	155	49.1	95	30.1

Table 14 Number and percentage of the training officers according to their opinions about the readiness in personnel (Cont.)

The readiness in personnel	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
5.The organization has the expert for Web-based training	31	9.8	73	23.1	100	31.7	112	35.4
6.The organization has personnel who can take responsibility and operate the computer system	94	29.7	152	48.1	59	18.7	11	3.5
7.The organization has personnel who can take responsibility and operate the Web site	70	22.2	112	35.4	104	32.9	30	9.5

2. The readiness in budget

According to the training officers' opinions, it was revealed that the business organizations had the readiness in budget at a low level (45.6%), 42.4% at a moderate level and 12.0% at a high level. As the training officers' opinions, minority of the training divisions in the business organizations (21.5%) was provided insufficiently and 20.9% had the lowest budget. During the year 2000, 20.2% of these organizations increased computer purchasing and 20.9% of the training divisions had insufficient budget for training the employees in Web page design. Besides, it was found that 26.3% did not have the budget for hiring the experts for Web-based training. For reserved budget, it was found that number of them (28.2%) had budget

when the training department would have urgent projects. Details are shown in Table 15 and Table 16.

Table 15 Number and percentage of the training officers according to their opinions about the readiness levels in budget

The readiness levels in budget	Number	Percentage
Low Level (0-8 points)	144	45.6
Moderate Level (9-14 points)	134	42.4
High Level (15-18 points)	38	12.0
$\bar{X} = 9.15$ S.D. = 3.93 min = 0 max = 18		

Table 16 Number and percentage of the training officers according to their opinions about the readiness in budget

The readiness in budget	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
1.At present, the budget of training unit is sufficient	68	21.6	160	50.6	75	23.7	13	4.1
2.During the year 2000, the organization increased computer purchasing.	64	20.2	138	43.7	95	30.1	19	6.0
3.Training unit has sufficient budget for training in Web page design to employees	28	8.9	91	28.8	131	41.4	66	20.9

Table 16 Number and percentage of the training officers according to their opinions about the readiness in budget (Cont.)

The readiness in budget	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
4.The organization has sufficient budget for human development by Web-based training if using budget at least 200,000 bahts	40	12.7	92	29.1	94	29.7	90	28.5
5.The organization has sufficient budget for employing the expert in Web-based training	36	11.4	79	25.0	118	37.3	83	26.3
6.The organization always reserved budget when training unit arranges urgent project	54	17.1	147	46.5	89	28.2	26	8.2

3. The readiness in technology

The finding was indicated that half of the business organizations had the readiness in technology at a moderate level (50.3%), 37.7% at a high level and 12% at a low level. It was found that a few of business organizations (3.1%) did not use internal network system and the Internet. 31.0% of these organizations had computer sufficiently and 88% of their Web sites were interested. The training divisions about 9.2% did not have software corresponding with the requirements. 40.5% of the organizations had sufficient telephone lines. Details are shown in Table 17 and Table 18.

Table 17 Number and percentage of the training officers according to their opinions about the readiness levels in technology

The readiness levels in technology	Number	Percentage
Low Level (4-8 points)	238	75.0
Moderate Level (9-14 points)	62	20.0
High Level (15-18 points)	16	5.0
$\bar{X} = 12.86$ S.D. = 3.46 min = 4 max = 18		

Table 18 Number and percentage of the training officers according to their opinions about the readiness in technology

The readiness in technology	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
1.The organization has used the Internet network system	180	57.0	91	28.8	35	11.1	10	3.1
2.At present, the organization has used the Internet	110	34.9	130	41.1	66	20.9	10	3.1
3.The organization has computer sufficiently	98	31.0	162	51.3	56	17.7	0	0.0
4.The organization's Web site was interesting	161	51.0	98	31.0	25	7.9	32	10.1
5.The training unit has software corresponding with the requirements	49	15.5	164	51.9	74	23.4	29	9.2
6. The organization has sufficient telephone lines	128	40.5	153	48.4	35	11.1	0	0.0

4. The readiness in management

The finding was indicated that most business organizations (75%) had the readiness in management at a low level, 20% at a moderate level and 5% at a high level. It was revealed that a number of them (36.4%) did not access the training needs in Web-based training and 37.3% did not determine the program for Web-based training. Regarding the Web-based training design, it was found that nearly half of them (42.4%) did not design it or type the training documents by computer program for posting on Web page. 31.3% of them had not trained personnel on the Internet. These organizations had not informed and provided knowledge about Web-based training to employees (42.4%). The organizations (34.8%) had not selected the old employees or hired new employees for Web page design. Only 2.8% of these organizations had supported the Web page design from each department. Moreover, it was found that a lot of the training division heads (47.2%) had never been discussed it within their divisions about Web-based training. Details are shown in Table 19 and Table 20.

Table 19 Number and percentage of the training officers according to their opinions about the readiness levels in management

The readiness levels in management	Number	Percentage
Low Level (0-13 points)	238	75.0
Moderate Level (13.5-20 points)	62	20.0
High Level (21-27 points)	16	5.0
$\bar{X} = 8.38$ S.D. = 6.78 min = 0 max = 27		

Table 20 Number and percentage of the training officers according to their opinions about the readiness in management

The readiness in management	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
1. The organization has access the training needs in Web-based training	45	14.2	60	19.0	96	30.4	115	36.4
2. The training program are considered before using in Web-based training	28	8.9	87	27.5	83	26.3	118	37.3
3. The characteristics of Web-based training are designed	26	8.2	68	21.5	88	27.9	134	42.4
4. The organization types the training documents by computer program for posting on Web page	23	7.3	68	21.5	91	28.8	134	42.4
5. The organization trained personnel on the Internet	30	9.5	95	30.1	92	29.1	99	31.3
6. The organization has informed and provided knowledge about Web-based training to employees	26	8.2	55	17.4	101	32.0	134	42.4

Table 20 Number and percentage of the training officers according to their opinions about the readiness in management (Cont.)

The readiness in management	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
7. The organization has selected the old employees or hired new employees for Web page design	12	3.8	73	23.1	121	38.3	110	34.8
8. The organization has supported the created Web page from each unit	9	2.8	25	7.9	54	17.1	228	72.2
9. Your training unit head discussed within division about Web-based training	13	4.1	60	19.0	94	29.7	149	47.2

5. The readiness in the administrative policies

When considered the readiness in the administrative policies of business organizations, it was revealed that most of the business organizations (42.4%) had the readiness in the administrative policies at a moderate level, 30.4% at a low level and 27.2% at a high level. It was found that a number of the top executives (44.6%) concerned about human development by training but 13.3% did not have the policies on any training methods that differed from actual training. In addition, 30.7% and 14.2% respectively did not view the importance of utilizing computer and the Internet for training job. Furthermore, 23.7% of the training division heads did not present the

idea for human resource development by Web-based training to the top executives. Details are shown in Table 21 and Table 22.

Table 21 Number and percentage of the training officers according to their opinions about the readiness levels in administrative policies

The readiness in administrative policies	Number	Percentage
Low Level (0-7 points)	96	30.4
Moderate Level (7.5-11 points)	134	42.4
High Level (12-15 points)	86	27.2
$\bar{X}$ = 9.12 S.D. = 3.81 min = 0 max = 15		

Table 22 Number and percentage of the training officers according to their opinions about the readiness in administrative policies

The readiness in administrative policies	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
1. The top executive concerns about human development by training	141	44.6	128	40.5	38	12.0	9	2.9
2. The top executive has policies on other training methods which differ from actual training	57	18.1	148	46.8	69	21.8	42	13.3

Table 22 Number and percentage of the training officers according to their opinions about the readiness in administrative policies (Cont.)

The readiness in administrative policies	Most		Much		Little		None	
	N	%	N	%	N	%	N	%
3. The top executive viewed the importance of utilizing computer in training job	97	30.7	133	42.1	58	18.4	28	8.8
4. The top executive has the idea to use Internet for training job	72	22.8	123	38.9	76	24.1	45	14.2
5. Your training unit head have presented the idea of human resource development by Web-based training to the top executive	67	21.2	102	32.3	72	22.8	75	23.7

The relationship between training division heads' perceptions and training officers' opinions about the readiness of business organizations for human resource development by Web-based training

The relationship between training division heads' perceptions and training officers' opinions about the readiness of business organizations for human resource development by Web-based training were divided into five aspects as follows:

1. The readiness in personnel

The findings were indicated that the training division heads' perceptions were related to the training officers' opinions about the readiness in personnel of business organizations for human resource development by Web-based training with the statistically significance at the 0.05 level. The training division heads perceived that the business organizations had the readiness in personnel at a high level (32.5%) with the percentage was the rather more high than the training officers' (7.3%). The training officers viewed the business organizations had the readiness in personnel at a low level, with the percentage rather higher than the training division heads' (40.5% and 9.4% respectively). Details are shown in Table 23.

Table 23 The relationship between the training division heads' perceptions and the training officers' opinions about the readiness in personnel of business organization

Variable	The readiness in personnel levels		
	High	Moderate	Low
Training division heads' perceptions	32.5	58.1	9.4
Training officers' opinions	7.3	52.2	40.5

Chi-Square = 64.777 df = 2 Sig = 0.00

2. The readiness in budget

The findings were revealed that the training division heads' perceptions were related to the training officers' opinions about the readiness in budget of business organizations for human resource development by Web-based training with

the statistically significance at the 0.05 level. The training officers viewed the business organizations had the readiness in budget at a low level (45.6%) with the percentage rather higher than the training division heads' (23.9%). The training division heads perceived that the business organizations had the readiness in budget at a high level, with the percentage rather higher than the training officers' (23.1% and 12% respectively). Details are shown in Table 24.

Table 24 The relationship between the training division heads' perceptions and the training officers' opinions about the readiness in budget of business organization

Variable	The readiness in budget levels		
	High	Moderate	Low
Training division heads' perceptions	23.1	53.0	23.9
Training officers' opinions	12.0	42.4	45.6

Chi-Square = 19.125 df = 2 Sig = 0.00

3. The readiness in technology

The finding was indicated that the training division heads' perceptions were not related to the training officers' opinions about the readiness in technology of business organizations for human resource development by Web-based training. Namely, the training division heads perceived that the business organizations had the readiness in technology at a high level with the percentage was similar to the training officers (45.3% and 37.7% respectively). Details are shown in Table 25.

Table 25 The relationship between the training division heads' perceptions and the training officers' opinions about the readiness in technology of business organizations

Variable	The readiness in technology levels		
	High	Moderate	Low
Training division heads' perceptions	45.3	49.6	5.1
Training officers' opinions	37.7	50.3	12.0

Chi-Square = 5.262 df = 2 Sig = 0.072

4. The readiness in management

The findings were indicated that the training division heads' perceptions were not related to the training officers' opinions about the readiness in management of business organizations for human resource development by Web-based training. Namely, the training division heads perceived that the business organizations had the readiness in management at a high level with the percentage was similar to the training officers (2.6% and 5.1% respectively). Details are shown in Table 26.

Table 26 The relationship between the training division heads' perceptions and the training officers' opinions about the readiness in management of business organizations

Variable	The readiness in management Levels		
	High	Moderate	Low
Training division heads' perceptions	2.6	12.0	85.5
Training officers' opinions	5.1	19.6	75.3

Chi-Square = 5.193 df = 2 Sig = 0.075

5. The readiness in administrative policies

The finding was indicated that the training division heads' perceptions were related to the training officers' opinions about the readiness in administrative policies of business organizations for human resource development by Web-based training with the statistically significance at the 0.05 level. The training division heads perceived that the business organizations had the readiness in administrative policies at a low level (44.4%) with the percentage rather higher than training officers' (30.4%). Details are shown in Table 27.

Table 27 The relationship between the training division heads' perceptions and the training officers' opinions about the readiness in administrative policies of business organizations

Variable	The readiness in administrative policies levels		
	High	Moderate	Low
Training division heads' perceptions	17.9	37.6	44.4
Training officers' opinions	27.2	42.4	30.4

Chi-Square = 8.387 df = 2 Sig = 0.015

The readiness in knowledge about Web-based training of the training officers

For this study, the researcher divided the scores of the readiness in knowledge about Web-based training into three levels--low level, moderate level and high level. The findings were indicated that the training officers had the readiness in knowledge about Web-based training at a moderate level (43.4%), 33.2% at a high

level and 23.4% at a low level. More than half of the training officers had the wrong answers to four questions about knowledge in the Internet; those were, in question 2: Web page is like the page contained only context (50.6%), in question 6: Web board is the service to be able to search for information to keep in user's computer (76.3%), in question 7: www.lycos.com is the Web site to use in searching information (64.1%), in question 10: ICQ is the conversational program to be able to send folder or file (51.9%). In the concept of Web-based training, most of the training officers almost answered the questions correctly. There were only two questions which more than half of training officers answered incorrectly; those were, in question 1: It is the collaborative learning method which the student can help each other (46.1%), in question 2: There is course schedule clearly (60.8%). As the processes of Web-based training, more than half of the training officers answered in question 4 and 5 incorrectly; which were, trainees have to learn the provided contents respectively (64.2%) and the students have to learn all lessons completely and take a test when finish learning (71.2%). Details are shown in Table 28 and Table 29.

Table 28 Number and percentage of the training officers according to the readiness levels in knowledge about Web-based training

The readiness levels in knowledge about Web-based training	Number	Percentage
Low Level (0-15 points)	74	23.4
Moderate Level (17.5-23 points)	137	43.4
High level (24-31 points)	105	33.2
$\bar{X}$ = 18.98 S.D. = 8.09 min = 0 max = 31		

Table 29 Number and percentage of the training officers according to knowledge about Web-based training in each item

The knowledge about Web-based training	True (Score =1)		False (Score = 0)	
	N	%	N	%
The knowledge about the Internet				
1. Internet Explorer is the program for accessing to the Information from Web site	265	83.9	51	16.1
2. Web page is like a page of book that Contain only text	156	49.4	160	50.6
3. wanlada@hotmail.com is called e-mail Password	209	66.1	107	33.9
4. The sources which combine many Web page are called Web site	232	73.4	84	26.6
5. First page of Web page called home page	226	71.5	90	28.5
6. Web Board is the service which can search and save information in user's Computer	75	23.7	241	76.3
7. www.lycos.com is Web site that uses for searching	122	38.6	194	61.4
8. Outlook Express is the sending and receiving Electronic mail program	208	65.8	108	34.2
9. Chat means the conversation by typing word Correspondence via the Internet	261	82.6	55	17.4
10. ICO is a program which can send folders or files to each other	152	48.1	164	51.9

Table 29 Number and percentage of the training officers according to knowledge about Web-based training in each item (Cont.)

The knowledge about Web-based training	True (Score =1)		False (Score = 0)	
	N	%	N	%
11. HTML is a language programming that uses for creating Web page	188	59.5	128	40.5
The concept of Web-based training				
1. It is the cooperation studying which student can help each other	164	51.9	152	48.1
2. It has indicated schedule clearly	124	39.2	192	60.8
3. Trainee will be trained only one time for one curriculum	211	66.8	105	33.2
4. It can record the names of trainees	226	71.5	90	28.5
5. The subject or the training document of each curriculum will be brought on Web page	232	73.4	84	26.6
6. The subject or training document can not be adjusted	214	67.7	102	32.3
7. Trainees can choose other curriculum in own interesting	244	77.2	72	22.8
8.Trainees can know own testing result immediately	226	71.5	90	28.5
9. Trainees can study from computer without face to face with instructor	255	80.7	61	19.3

Table 29 Number and percentage of the training officers according to knowledge about Web-based training in each item (Cont.)

The knowledge about Web-based training	True (Score =1)		False (Score = 0)	
	N	%	N	%
10. There is unlimited time for each training course	207	65.5	109	34.5
The procedure of Web-based training				
1. Trainees must login and type the password	243	76.9	73	23.1
2. Trainees must have pre-test	196	62.0	120	38.0
3. Trainees who pass pre-test can not go thru the lesson	196	62.0	120	38.0
4. Trainees must study the lessons respectively	113	35.8	203	64.2
5. Trainees must study completely in every lessons before taking the post-test	91	28.8	225	71.2
6. Trainees can type the questions to ask other trainee who would like to answer those questions	188	59.5	128	40.5
7. Trainees can not bring training document on Web to review	176	55.7	140	44.3
8. Trainees can correspond to each other at the same time	186	58.9	130	41.1
9. Trainees can suggest and comment about subject for trainer to improve	239	75.6	77	24.4
10. If having any question in studying, trainees do not have the opportunity to interrogate	172	54.4	144	45.6

The comparison between the training division heads' opinions and the training officers' opinions about human resource development by Web-based training

1. The overall readiness of the organizations for human resource development by Web-based training

The finding was indicated that the training division heads (68.4%) and the training officers (68%) had the similar opinions. Regarding the overall readiness of the organizations, they viewed that the organizations were not ready for human resource development by Web-based training. Details are shown in Table 30.

Table 30 Number and percentage of the training division heads and the training officers according to the opinions about the overall readiness of the organizations

Opinions about the overall readiness of the organizations for human development by Web-based training	Training division heads		Training officers	
	Number	Percentage	Number	Percentage
Ready	37	31.6	101	32.0
Not ready	80	68.4	215	68.0

The training division heads and the training officers viewed that the organizations had less budget because of the economic crisis. The organizations lacked the training officers who had knowledge about Web-based training and creating the lesson on Web. The training division heads did not have enough information about Web-based training to present the executives, whereas the executives themselves lacked visions in technology. The training division heads

(31.6%) and some of the training officers (32%) similarly viewed that the organizations had the readiness for human resource development by Web-based training. For the reasons, the organizations had the sufficient computer and the Intranet. They had the departments to take charge for the computer system. The top executive had supported it, and the employees utilized Web-based training. Most of the employees had knowledge in computer field, and the organizations had the sufficient budget. Besides, some training officers had the opinions that the organizations were ready at a level but the employees were trained in the Internet before they have been use Web-based training.

2. The decrement of training cost when using Web-based training for human resource development

When compared the previous training costs with the Web-based training expenses, it was found that the training division heads (53%) and more than half of the training officers (66.8%) had agreed that human resource development by Web-based training could decrease training cost. Details are shown in Table 31.

Table 31 Number and percentage of the training division heads and the training officers according to the opinions about the decrement of training cost when use Web-based training

The opinions about the decrement of Training cost when use Web-based training for human resource development	Training division heads		Training officers	
	Number	Percentage	Number	Percentage
Decrease training cost	62	53.0	211	66.8
Not decrease training cost	5	4.3	10	3.2
Undecided	50	42.7	95	30.0

The training division heads and the training officers agreed that Web-based training could decrease training costs that included travelling expenses, allowance for food, accommodation, trainers' compensations and entertainment, rental place, and the media expenses. Some respondents explained that for the first time, Web-based training might have high investment but it would be able to decrease that costs later because the number of trained employees were increasing. However, the training division heads (4.3%) and the training officers (3.2%) viewed that Web-based training could not decrease the costs because it could not replace all previous training. Therefore, it would expense of two ways and if the employees could not create Web by themselves, they would have to pay the expenses for updated the Web. Besides, a lot of the training division heads (42.8%) and the training officers (30%) could not decide whether Web-based training would be able to decrease the training costs. Since, Web-based training outcomes might not be related to the training purpose and Web-based training effectiveness would not be worth for the investment. Moreover, there were not any informative or researches showed or compared the expenses between the previous training and Web-based training. Furthermore, the employees did not utilize Web-based training, but they used it for entertaining that would waste the budget.

3. Use of Web-based training for human resource development in the organizations

The finding was indicated that the training division heads (65.8%) and most training officers (81.6%) viewed that Web-based training should be used in the organizations. Details are shown in Table 32.

Table 32 Number and percentage of the training division heads and the training officers according to the opinions about use of Web-based training in the organizations

Opinions about use of Web-based training in the organizations	Training division heads		Training officers	
	Number	Percentage	Number	Percentage
Should be used in the organizations	77	65.8	258	81.6
Should not be used in the organizations	40	34.2	58	18.4

The training division heads (65.8%) and the training officers (81.6%) viewed that Web-based training should be used for human resource development in the organizations. The reasons were: it could decrease the training costs, the organizations had already invested on the Intranet and it would also motivate the employees to learn by themselves, since in the future technology would be very important to business and daily life. The tendency of training would be used more on-line system then the organizations had to develop themselves. Regarding the employees could be trained by Web-based training without travelling to the head offices. Moreover, the training materials could be edited from the training center. Finally, the organizations could become an efficiency and effective learning organization.

Moreover, a number of training officers viewed that the Web-based training should be used in some courses concerning theory and basic knowledge. However, in technical practices, such as group activity, case study or training for building the relationships in the organization should use previous training. Some respondents viewed that Web-based training should be used for additional method. Moreover, Web-based training or classroom training should not be used specifically. It should

be used both because these two methods had the advantages and disadvantages. However, 34.2% of the training division heads and 18.4% of the training officers viewed that Web-based training should not be used in the organizations with the reasons that the organizations were not ready in personnel, technology, budget and management. The employees did not have enough knowledge concerning Web-based training. If they studied only from Web, they would not have conscious mind or behavior improvement. Since, the culture of organizations had not recognized self-learning yet. This method used only for the executives because they have higher responsibility.

4. The opinions of training officers about the advantage of Web- based training

The findings were indicated that most training officers agreed upon the advantages of Web-based training. They viewed that Web-based training gave the opportunity for the full-time employees that could study when they had the readiness to learn without the time limits (91.8%). They could learn anywhere without travelling (92.4%). Besides, it reduced wasted timing in working due to attending in classroom training (85.7%). It reduced the limitation of each person that could study unequally (79.7%). Web-based training was regarded as a learner center (80.7%). It used multimedia such as text, image and voice (91.8%). It had online experiment which students could have feedback from the testing results immediately (90.5%). It could adjust forms and contents of the lessons all the time without expenses (74.7%). There would not be much training materials (88.6%). It reduced training cost in the same course (90.2%). It decreased expenses in some aspects (83.5%) and it reduced

the responsibility of training officers in some aspects (75.9%). Details are shown in Table 33.

Table 33 Number and percentage of the training division heads and the training officers according to the opinions about the advantage of Web-based training

The advantage of Web-based training	Strongly agree		Agree		Uncertainly		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%	N	%
1. It gives an opportunity to person who has regular job and personal business can study when having readiness without time limitation	141	44.6	149	47.2	24	7.6	2	0.6	-	-
2. It can train inside the office or on desk without travelling to training place	148	46.8	144	45.6	18	5.7	6	1.9	-	-
3. It reduces waste time due to studying in training room	128	40.5	143	45.3	31	9.8	12	3.8	2	0.6
4. Individuals can learn by their own paces	105	33.2	147	46.5	63	20.0	0	0.0	1	0.3
5. It emphasizes on the students to be centralized	100	31.7	155	49.0	44	13.9	15	4.8	2	0.6
6. It uses multimedia both graphics and sound	146	46.2	144	45.6	25	7.9	-	-	1	0.3

Table 33 Number and percentage of the training division heads and the training officers according to the opinions about the advantage of Web-based training (Cont.)

The advantage of Web-based training	Strongly agree		Agree		Uncertainly		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%	N	%
7. It has online testing which learners can receive the result immediately	134	42.4	152	48.1	28	8.9	2	0.6	-	-
8. It can improve form and subject matter of training all the time without additional expenses	119	37.7	117	37.0	67	21.2	13	4.1	-	-
9. It does not provide much training materials	126	39.9	154	48.7	30	9.5	6	1.9	-	-
10. It reduces training costs in case of train many employees or repeated the similar training courses	126	39.9	159	50.3	29	9.2	-	-	2	0.6
11. It reduces expenses in different aspects of training	123	38.9	141	44.6	47	14.9	4	1.3	1	0.3
12. It reduces training officers' tasks	91	28.8	149	47.1	65	20.6	8	2.5	3	1.0

The problems and suggestions on human resource development by Web-based training

1. The problems and obstacles for human resource development by Web-based training

The training division heads and the training officers presented the opinions in problems and obstacles for human resource development by Web-based training that were concluded as follows:

1. The training officers lacked the particular knowledge and comprehension about Web-based training.

2. It was vague to convince the employees to accept changes toward Web-based training.

3. Web-based training might not be able to provide face to face interaction among the participants.

2. The suggestions for human resource development by Web-based training

The training division heads and the training officers presented the directions for human resource development by Web-based training that could be concluded as follows:

1. It should be provide of Web-based training to the employees from different departments in order to sum up Web-based training information, which was suitable for Thailand.

2. Use of Web-based training should consider the effective of training at first.

3. It should have the knowledge management center as the information center to propagate training program on Web and should allow an opportunity for any departments to use it.

4. If Web-based training was used in the organizations, the trainees had to be forced by the regulation. Otherwise, they would not really attend for training, which would not be effective and not worth to investment.

5. The trainees should have potentiality and basic knowledge for computer and Internet as well.

6. The contents in Web-based training should be designed to motivate for self-learning.

7. The institutions should emphasis on training by Web.

8. The overall organizations should be studied for setting the training programs, which were trained via Web, then arranged in the training plan of the organizations.

9. The tests in Web-based training should have the trainer to set the questions and had the exam via the Web for each person.

CHAPTER V

DISCUSSION

The purposes of this research were to study the readiness of business organizations for human resource development by Web-based training as perceived by the training division heads and the training officers' opinions, to examine the relationship between the training division heads' perceptions and the training officers' opinions on the readiness of business organization for human resource development by Web-based training, to study the readiness of knowledge about Web-based training of training officers. The discussion of research findings were divided into five parts as follows:

1. The readiness of business organizations for human resource development by Web-based training as perceived by the training division heads

2. The readiness of business organizations for human resource development by Web-based training according to the training officers' opinions

3. The relationship between the training division heads' perceptions and the training officers' opinions on the readiness of business organizations for human resource development by Web-based training

4. The readiness in knowledge about Web-based training of the training officers.

5. The comparison of the training division heads' opinions and the training officers' opinions about human resource development by Web-based training.

The readiness of business organizations for human resource development by the Web-based training as perceived by the training division heads

From the finding, it was found that the business organizations had the readiness in personnel at a moderate level (58.1%). This indicated that the business organizations had the readiness in personnel because more than half of the training officers in business organizations were in the age of 30-40 years old which was very active period. Moreover, most of them had been trained in additional computer, they had the capability in technology, which was the basis of Web-based training, such as using the computer for typing, capability in using Internet and creating the Web page. Even though a part of them (24.8%) had these capabilities, it showed that the training officers had capability in many aspects of technology. It was coincided with the research finding of Thanaporn Charoenchai (2000: 64), indicating that the training officers should have had the capabilities in many aspects in order to afford their occupation such as using computer for training. It was also consistent with the recommendations of Danai Tienpud, et al., (2000: 73) that the organizations would develop continuously if the employees had capability in using the new technology. Otherwise, the finding was revealed that the organizations had the capable employees who could manage both computer system and the Web site. There were the responsible departments, such as information technology department, computer department. It showed that the employees had enough potential to create and manage the Web-based training. According to Chadamas Thuwasatetakul (2000: 63), the SchoolNet project had a problem at the first phrase because the responsive

employees had knowledge in computer system and Internet insufficiently. Thus the school utilized the Internet not as much as it could. Moreover, Pongrapee Techapahapong (Trans., 1999: 180) stated that network management had to use more technical knowledge. Some big companies had to establish a department to supervise the company's network especially for managing effective network.

The readiness in budget was found that 53 % of business organizations had the readiness in budget at a moderate level and 23.9% of them had the readiness at a low level. It might be the results from the economic crisis during 1997 until now. The organizations used the limited budget or decreased some parts of budget especially in training budget, which the executive believed that training was wasteful activity (Theera Prawarnpreuk, 1995: 173). Moreover, the top executives might be less concerned about human development then they provided lower budget. It was consistent with the idea of Wichit Arwakul (1997: 64) stating that if the top executives realized the value of human resource development then they would subsidize budget seriously.

The readiness in technology was found that half of the business organizations had the readiness at a moderate level. Most of them had branches and more than half of them had more than five hundred employees that they had to use internal network system, such as Intranet and Local Area Network (LAN). Thus the Internet connection was easy to do. Moreover, 89.7% of these organizations had used Internet system network, so they had more readiness in technology. This reason was consistent with the recommendations of Pongrapee Techapahapong (Trans., 1999: 273) indicating that sending and receiving information via Internet would use the same technology as Internet. Some organizations did not set up network system yet,

but they had computer, modem and telephone number then they could connect with the Internet. Besides, it was found that most organizations used Internet for searching information, communicating and public relations via Web site. It was consistent with the research finding of Thitiya Sinthupong (1997: Abstract) about the requirements and Internet problems in the export business, it was found that in the future, Internet would be used worldwide for communication and public relations by the Web site.

The readiness in management was found that most business organizations (85.5%) had the readiness at a low level. When considered about the management issues such as training needs, training program consideration, Web-based training design, knowledge about Web-based training, departments' Web page creation and discussion about Web-based training, it indicated that quite a few of the organization had already proceeded these issues. It could be explained that utilizing the Internet for human development by Web-based training was the new innovation in Thailand. There were not many organizations used Web-based training and it was just the pilot project, which had to revise appropriately. Thus, other organizations would not have Web-based training model for implementing. As Danai Thienpud (2000: 57) said that in the future, e-learning as Web-based training would be upgraded within a next few years.

Regarding the level of readiness in administrative policies appeared that 44.4% of the business organizations had the readiness at a low level. It was noticed that top executives did not have any policies to support human resource development by Web-based training. However, when consider the groups which had the readiness at the moderate and the high level together, more than half of organizations (55.6%) which the top executives supported and concerned with the human resource

development by the Web-based training. Therefore, it could discuss that in the organization group which had the readiness at a low level, the training division heads did not present the information about the Web-based training to the top executives. Regarding from the questions "Do the training division head present the idea of human resource development by the Web-based training to the top executive?" it showed that most of them (71.8%) did not present the idea. At this point, Danai Thienpud (2000: 22) recommended that human resource developers should be skillful in presentation and negotiation. In the same time, they had to persuade the executives to support the human development. Therefore, the responsibility of training department was to create the department more effectively and could work as a executive's consultant (Theerayut Lawhlerdrat, 1991 quoted in Nukrop rawangkarn, 1997: 34). However, it was found that most top executives concerned more about using computer for presentation. It was consistent with the study of Benjaporn Mahapirun (1998: Abstract) finding that the tendency of technological education would use more PowerPoint for presentation.

The readiness of business organizations for human resource development by the Web-based training according to the training officers' opinions.

According to the training officers' opinions, it was found that the business organizations had the readiness in personnel, technology, and administrative policies at a moderate level (52.2%, 50.3% and 42.4% respectively). Regarding budget and management, they viewed that the business organizations had the

readiness at a low level, differed from the training division heads' perceptions indicating that the business organizations had readiness in budget at a moderate level and administrative policies at a low level. This result could explain that the training division heads were supervisors who offered the training information and received the administrative policies directly. Thus, the training division heads observed and perceived the information much more than the training officers did. In term of budget, the organizations might have sufficient budget but they used it safely, and the training department received the budget not as much as it should be. The training officers accordingly thought that the organizations had insufficient budget. For the administrative policies, especially in the business organizations, only executive level could perceive it. This was consistent with the recommendations of Naranan Suriyamanee (1995: 3) stating that the middle management level was responsible for implementing plan and policies from top executives into practices.

However, the readiness in budget and administrative policies according to the training officers' opinions were slightly different from the training officers' perceptions when considered the percentage. It showed that the business organizations had reasonable budget. As same as the administrative policies, some training officers (30.4%) regarded that the organizations had the readiness in administrative policies at a low level. It showed that the business organizations were not quite ready in administrative policies or the executives might not support. Thus, it was consistent with the training division heads' perceptions finding that the business organizations had the readiness in administrative policies at a low level because the executives did not have any policies and they viewed that it was unnecessary to use Web-based training.

The relationship between the training division heads' perceptions and the training officers' opinions on the readiness of business organizations for human resource development by Web-based training

The readiness in personnel

It was found that the training division heads' perceptions and the training officers' opinions on the readiness in personnel of the business organizations for human resource development by Web-based training were related to each other. It confirmed the first hypothesis that the training division heads' perceptions about the readiness in personnel of business organizations for human resource development by the Web-based training related to the training officer's opinions. As most training division heads regarded that the business organization had the readiness at a moderate level, a high level, and a low level respectively. While the training officers viewed that the organizations had the readiness in personnel at a moderate level and a low level respectively which was not coincided with the training division heads' perceptions. If considered in each question about the capability of training officers, it was probably that the training division heads evaluated the training officers with high expectation whereas the training officers viewed themselves as they really were.

The readiness in budget

It was found that the training division heads' perceptions and the training officers' opinions about the readiness in budget of the business organizations for human resource development by Web-based training were related to each other. It confirmed the second hypothesis that the training division heads' perceptions about the readiness in budget of the business organizations for human resource development by Web-based training related to the training officer's opinions. It might have resulted from the fact that the training division heads as middle executives could perceive more information of the organizations than the training officers perceived. While the training officers as performers would view the organizations in different way. As in subsidiary issue about reserved budget, most of the training division heads viewed that the organizations always had the reserved budget when the training divisions had provided the urgent project. However, the training officers viewed that the organizations had slightly reserved budget. It showed that personnel in different positions might have different ideas about the readiness in budget of organization for human resource development by Web-based training for some issues.

The readiness in technology

The finding was indicated that the perceptions of training division heads and the training officers' opinions about the readiness in technology of business organizations for human resource development by Web-based training were not related to each other. It did not confirm with the third hypothesis that the perceptions of training division heads about the readiness in technology of business organizations

for human resource development by Web-based training related to the training officer's opinions. Although it showed that their working positions were different, but it didn't mean that the training division heads and the training officers would view the readiness of organizations in technology differently since everybody in the organizations could perceive it directly, such as the sufficiency of computers, network system, the number of telephone lines and the interesting Web site.

The readiness in management

It was found that the perceptions of training division heads and the training officers' opinions about the readiness in technology of business organizations for human resource development by Web-based training were not related to each other. It did not confirm the fourth hypothesis that the perceptions of training division heads about the readiness in technology of business organizations for human resource development by Web-based training related to the training officer's opinions. From this study, it was found that both training division heads and training officers viewed the readiness of organizations in management at the same proportion of all levels because everybody in the training division could perceive that what things were already implemented or prepared. Thus, most of the training division heads and the training officers had the opinions in the same direction that the organizations had the readiness in management at a low level.

The readiness in administrative policies

It was revealed that the perceptions of training division heads and the training officers' opinions about the readiness in administrative policies of business

organizations for human resource development by Web-based training were related to each other. It confirmed the fifth hypothesis that the perceptions of training division heads about the readiness in the executive policies of business organizations for human resource development by Web-based training related to the training officer's opinions. It showed that due to the different working positions and responsibilities, the training division heads and training officers had different point of view.

The readiness in knowledge of training officers about Web-based training

The finding was indicated that 43.4% of the training officers in business organizations had the readiness in knowledge about Web-based training at a moderate level. When considered in some issue, it was found that most training officers had more knowledge in the concept of Web-based training than Internet and Web-based training process because they had more online learning information. In Thailand, the process of using Web-based training did not spread popularly so they had to use the International Web as Danai Thienpud (2000: 65) introduced the Web for e-learning as well as Web-based training at www.corpedia.com.

The comparison between the training division heads' opinions and training officers' opinions about human resource development by Web-based training

The finding was showed that the training division heads (68.4%) and the training officers (68%) had the similar opinions. Regarding the overall readiness of organizations, they viewed that the organizations were not ready. When considered this result, it would come from their management point of view since the organizations had the readiness reasonably in both equipment and technology, which the majority of organizations used the internal network system. Therefore, it could explain that the organizations lacked of tactics to manage and improve personnel performance by Web-based training. It was consistent with the recommendation of Nugrop Rawangkarn (1997: 29) concerning the problem of training management, such as some department did not analyze the training needs and lacked of specialist to revise the training program.

In the case of using Web-based training for human resource development, 53% of training division heads and 66.8% of training officers viewed that Web-based training could decrease training costs such as the training place, travelling, accommodation, daily allowance, food costs as well as training materials. It was consistent with the recommendations of Prushchayanan Ninsuk (2000: 5) stating that the advantages of using Internet for training was decrement the training costs such as accommodation, food costs, light meals etc. It was obvious that 42.7% of training division heads did not decide that "when Web-based training used for human resource

development, it would really decrease for training cost" since they might not be confirmed that Web-based training could really reduce training cost.

From the point of view about Web-based training should be used for human resource development of organization, 65.8% of the training division heads and most of the training officers (81.6%) agreed that. Due to the advantages in many aspects, the majority of organizations had already used network system, including the stream of Internet, which would be unavoidable technology in the future. Everyone in the organizations had to adjust oneself especially the human development department. As Danai Theinpud, et al., (2000: 73) presented that human resource developer had to lead or at least go along with technology.

In the opinions of training officers on the advantages of Web-based training, it was found that most of them agreed with the advantages of Web-based training in several issues. However there were several issues should be noticed such as, the forms and the content could be improved all the time without additional expenses which 21.2% of the training officers did not decide. From the result, it could explain that the training officers may notice that if the employees could not arrange training by themselves, then the outsource person or company had to be employed, that would cost more expenses. For individual's learning, the training officers regarded that slow learners would be slower than used to be because there were no guidance and motivation to support them. Moreover, the issue about student-centered approach, the training officers did not decide because they did not understand about the concept of student-centered and they were not sure if it was able to use with the training via Web. Another interesting issue was using Web-based training would reduce training officers' tasks. 20.6% of training officers did not

decide and 1% answered strongly disagree because they thought that if Web-based training was used, the person who was responsible to improve or develop Web-based training was the training officers. On the contrary, Web-based training did not reduce the responsibility but increased the responsibility to the training officers to be more capable in technology. As Danai Theinpud, et al., (2000: 98) indicated that the role of human resource developer in revolutionize period had to be ready and active to use computer authentically. If you were the executive of human resource development department or training specialist and did not know anything about Web-based training, you had to adapt yourself (Danai Thienpud, et al., 2000: 61).

CHAPTER VI

CONCLUSION AND RECOMMENDATION

The purposes of this research were to study the readiness of business organizations for human resource development by Web-based training as perceived by the training division heads and the training officers' opinions, to examine the relationship between the training division heads' perceptions and the training officers' opinions about the readiness of business organizations for human resource development by Web-based training, and to study the readiness of knowledge about Web-based training of training officers.

The samples in this study were 117 business organizations, which the training division heads were as the main informants, and 316 training officers who worked in the training divisions of business organizations in Bangkok. The instrument used was a questionnaire that was constructed by the researcher. The questionnaire was composed of two sets, one for the training division heads and the other for the training officers.

For data collecting, the researcher mailed out the questionnaires to the respondents. The duration used for collecting the returned questionnaires was two months starting from March 1, 2001 to April 30, 2001. Then the questionnaires were checked for completion. The statistics used for analyzing the data were the percentage, the arithmetic means and the standard deviation. Furthermore, the relationship between the training division heads' perceptions and the training officers'

opinions about the readiness of organizations for human resource development by Web-based training was analyzed by the Chi-Square.

The conclusion of the research findings

1. The demographic data of the samples

1.1 The demographic data of the business organizations

It was found that 33.3% of the business organizations had 1,001-5,000 employees. Most of the organizations (70.9%) had branches and 1.2% held business in material construction and decoration. The majority (40.2%) had the human resource department for training. Most organizations (91.9%) preferred in-house training.

1.2 The demographic data of the training officers

It was found that more than half of the training officers (55.7%) were in the age of 30-40 years old. A large number of them (70.5 %) held bachelor's degree and 25% graduated in the field of business administration. Moreover, more than half of them (56.6%) had 1-5 year working experience in training and most of them (82.9%) had been trained in additional computer courses.

2. The readiness of business organizations for human resource development by Web-based training as perceived by the training division heads

The finding indicated that most organizations had the readiness in personnel, in budget and in technology at a moderate level (58.1%, 53.0% and 49.6% respectively) whereas the readiness in management and in administrative policies were found at a low level (85.5% and 44.4% respectively).

3. The readiness of business organizations for human resource development by Web-based training according to the training officers' opinions

It was revealed that half of the business organizations (52.2 %) had the readiness in personnel at a moderate level. Nearly half of them (45.6 %) had the readiness in budget at a low level and half of them (50.3%) had the readiness in technology at a moderate level. Besides, most business organizations (75.0%) had the readiness in management at a low level and 42.4% had the readiness in administrative policies at a moderate level.

4. The relationship between the training division heads' perceptions and the training officers' opinions on the readiness of business organizations for human resource development by Web-based training

It was found that the training division heads' perceptions and the training officers' opinions about the readiness of the business organizations for human resource development by Web-based training in personnel, budget and administrative policies were significantly related at the 0.05 level.

5. The readiness in knowledge about Web-based training of the training officers

The result showed that 43.4% of the training officers had the readiness in knowledge about Web-based training at a moderate level with the average score of 18.9 , when the maximum score was 31 and the minimum score was 0. The total score was 31.

6. The comparison of the training division heads' opinions and the training officers' opinions on human resources development by Web-based training

The overall readiness of the business organizations for human resource development by Web-based training according to the opinions of the training division heads and the training officers was indicated that the business organizations were not quite ready for human resource development by Web-based training. However, half of the training division heads (53.0%) and a large number of the training officers (66.8%) mutually agreed that using Web-based training for human resource development could lower training costs. The majority of training division heads (65.8%) and the training officers (81.6%) viewed that the organizations should utilize Web-based training for human resource development and most training officers agreed with the advantages of Web-based training.

Recommendations

1. Practical recommendations regarding policies

1.1 From the findings, although the training division heads and the training officers recognized the Web-based training, they lacked of particular knowledge in management and the preparation of using Web-based training for human resource development in the organizations. Therefore, the training center should be established to provide knowledge about Web-based training design in order that the employees can create Web-based training of their own under the same standard for the course content and the evaluation criteria.

1.2 The business organizations should support training officers to gain more knowledge in technology, especially in using the Internet, Web page design, and using computer accessories such as scanner, digital camera etc. Due to the training officers know the process, the problem and the obstacle of training, they are the best responses to use Web-based training in organizations. In the Internet period, if the organizations require the training officers to be able to operate in one stop service, then they ought to give technology for the training officers simultaneously.

1.3 The human resource by Web-based training causes the advantage for individuals and organizations in any aspects such as reducing the expenses, using the technological resources worthy, supporting the trainees in anytime and anywhere. However, using Web-based training should consider the purposes of the training and the interaction among the participants. If the purposes of training is to help the trainees get acquainted and exchange the learning experiences to each

other, the previous training would be more suitable. However, the researcher believes that the training methods should be combined both previous classroom training and Web-based training for the highest effectiveness and good human relationship, which is the important factor of Thai society.

2. Further research recommendations

2.1 Investigation should be conducted on human resource development by Web-based training in government sector and state enterprises in order to get the whole information.

2.2 Similar studies should be conducted on the efficiency of classroom training compared with Web-based training.

2.3 Similar studies should be conducted on styles of Web-based training, which are appropriate to operate.

2.4 Similar studies should be conducted on trainers' roles in the E-learning period.

2.5 The problems for collecting data was: the training division heads were too busy to give some more details concerning Web-based training, otherwise the direction to utilize Web-based training will be presented more clearly. Therefore, data collecting period should be expanded as much as possible.

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APPENDIX

QUESTIONNAIRE

Questionnaire : Training division head

Title

Readiness of business organization for human resource development by Web-based training

Part I The demographic data of organization

Directions: Please make a ✓ in ( ) and fill in the blank

1. Number of employees .....
2. Your organization has branches or not
   ( ) Yes ( ) No
3. Type of business group
   ( ) Bank ( ) Medical Doctor
   ( ) Construction and decoration ( ) Casualty and life insurance
   ( ) Chemical supplies and plastic ( ) Real property
   ( ) Communication ( ) Textile garment and shoes
   ( ) Others (Please specify).....
4. The unit which takes responsibility for training
   ( ) Training division ( ) Human resource department
   ( ) Human development institute ( ) Training department
   ( ) Others (Please indicate).....
5. Style of training in your organization (Could answer more than 1 item)
   ( ) Conducted by employees of organization
   ( ) Hiring the external institution to arrange training
   ( ) Sending employee to attend training courses with external institution
   ( ) Others (Please specify).....

Part II Readiness of organization for human resource development by Web-based training (WBT)

Directions: Please answers the following questions as you known information of organization or your perception

Readiness in Personnel

1. Does the organization have sufficient personnel in training division?
   ( ) Sufficient ( ) Insufficient
2. Do the training officers have the capability of using computers for typing?
   ( ) Yes ( ) No
3. Do the training officers have the capability of using the Internet?
   ( ) Yes ( ) No
4. Do the training officers have the capability of designing Web page?
   ( ) Yes ( ) No
5. Does the organization have the expert for Web-based training?
   ( ) Yes ( ) No
6. Does organization have personnel who can take responsibility and operate the computer system?
   ( ) Yes ( ) No
7. Does organization have personnel who can take responsibility and operate the Web site?
   ( ) Yes ( ) No

Readiness in Budget

1. At present, the budget of training unit is sufficient
   ( ) Sufficient ( ) Insufficient
2. During the year 2000, has the organization increased computer purchasing
   ( ) Yes ( ) No
3. Does training unit have sufficient budget for training in Web page design to employees?
   ( ) Yes ( ) No

4. If your organization is going to use Web-based training for human development and the expenses would be at least 200,000 bahts (Expenses for domain registration, network system equipment and computer equipment, Web site design, Web page for training and Internet service)

   From this information

   Does organization have sufficient budget for human development by Web-based training?

   ( ) Yes ( ) No

5. Does organization have sufficient budget for employing the experts in Web-based training?

   ( ) Yes ( ) No

6. Does organization have reserved budget when training unit has urgent project?

   ( ) Yes ( ) No

Readiness in Technology

1. Has organization used internal network system?

   ( ) Yes ( ) No

2. At present, has organization used the Internet?

   ( ) Yes ( ) No

3. Does organization have computers sufficiently?

   ( ) Yes ( ) No

4. Has organization's Web site been interesting?

   ( ) Yes ( ) No

5. Does training unit have software correspondence with the requirement?

   ( ) Yes ( ) No

6. Does organization have sufficient telephone lines?

   ( ) Yes ( ) No

Readiness in Management

1. Has organization ever assessed the training needs in Web-based training?
   ( ) Yes ( ) No
2. Has organization ever considered any training program to post on Web-based training?
   ( ) Yes ( ) No
3. Has organization ever designed pattern of Web-based training?
   ( ) Yes ( ) No
4. Has organization ever typed any training materials by computer program to posting on Web page?
   ( ) Yes ( ) No
5. Has organization trained employees on the Internet?
   ( ) Yes ( ) No
6. Has organization ever propagated information and knowledge about Web-based training to employees?
   ( ) Yes ( ) No
7. Has organization selected the old employees or hired new employees for Web page design?
   ( ) Yes ( ) No
8. Has organization ever supported any Web page design from each department?
   ( ) Yes ( ) No
9. Have you ever discussed within your division about Web-based training?
   ( ) Yes ( ) No

Administrative Policies

1. Have the top executives concerned about human development by training?
   ( ) Yes ( ) No
2. Do the top executives have policies for other training methods that differ from actual training
   ( ) Yes ( ) No

3. Have the top executives viewed the importance of utilizing computer for training job?

( ) Yes ( ) No

4. Do the top executives utilize the Internet for training job?

( ) Yes ( ) No

5. Have you presented the idea of Web-based training to the top executives?

( ) Yes ( ) No

Part III Opinions about readiness of business organization for human resource development by Web-based training

Directions: Please answer the following questions with suggestion in any issues

1. This moment your organization is ready to use Web-based training for development or not.

( ) Yes because.....

.....

( ) No because.....

.....

2. Using Web-based training can reduce the training cost or not.

( ) Yes because.....

.....

( ) No because.....

.....

( ) Uncertainly because.....

.....

3. Your organization should be use Web-based training or not.

( ) Yes because .....

.....

( ) No because.....

.....

Additional Suggestion.....

.....

Questionnaire : Training Officer

Title

Readiness of business organization for human resource development by Web-based training

Part I Personnel and General information

Directions: Please make a ✓in ( ) and fill the actually information in the blank

1. Your age: .....
2. Educational level
   - ( ) Lower than Bachelor Degree ( ) Bachelor Degree
   - ( ) Master Degree ( ) Doctor Degree
3. Area of graduation
   - ( ) Educational Science ( ) Liberal Arts
   - ( ) Human Resources Development ( ) Political Science
   - ( ) Business Administration ( ) Law
   - ( ) Others (Please specify) .....
4. Working experiences in training division ..... years
5. Training experience in computer program
   - ( ) Yes ( ) No

Part II Knowledge about the Internet and Web-based training

Direction: Please answers the following questions from your understanding

How is your understanding about the Internet?

*** Please answer questions by yourself***

Issue	Yes	No	Unknown
1. Internet Explorer is the program for accessing to the information from Web site			
2.Web Page is like a page of book that can contain only text			
3.wanlada@hotmail.com is called E-mail password			

Issue	Yes	No	Unknown
4.Source which combine Web pages is called Web site			
5.First page of Web page called home page			
6.Web board is the service which can search and save information in user's computer			
7. www.lycos.com is Web site uses for searching			
8.Outlook Express is the sending and receiving electronic mail program			
9.Chat means the conversation by typing word correspondence via the Internet			
10. ICO is a program which can send folders or files to each other			
11. HTML is a language programming that uses for creating Web page			

How is your understanding about concept of Web-based training?

*** Please answer questions by yourself ***

Issue	Yes	No	Unknown
1.It is the cooperation studying which student can help each other			
2.It has indicated schedule clearly			
3.Trainee will be trained only one time in one curriculum			
4.It can record the names of trainee			
5.The training materials of each training course will be post on Web page			
6.The training materials can not be adjusted			
7.Trainees can choose other training course in their interesting			
8.Trainees can receive their testing result immediately			
9.Trainees can study from computer without face to face with instructor			
10.Unlimited time for each training course			

How is your understanding about procedures and processes of Web-based training?

*** Please answer questions by yourself ***

Issue	Yes	No	Unknown
1.Trainees must login and type the password			
2.Trainees must have pre-test			
3.Trainees who pass pre-test can not go thru the lesson			
4.Trainees must study the lessons respectively			
5.Trainees must study completely in every lessons before taking the post-test			
6.Trainees can type the questions for other trainee who would like to answers those questions			
7.Trainees can not review training materials which posting on Web			
8.Trainees can correspond to each other at the same time			
9.Trainees can suggest about training course for trainer to improve			
10.If having any doubts in studying, trainees have not the opportunity to interrogate			

Part III The opinion about the readiness in different aspects of organization by Web-Based Training

Directions: Please make ✓ in the blank corresponding with mostly your opinion.

If your organization will use Web- based training for human resource development. Is your organization ready now?

Issues	Most	Much	Little	None
Readiness in Personnel				
1. The organization has sufficient personnel in training division				
2. The training officers have the capability of using computers for typing				

Issues	Most	Much	Little	None
3. The training offices have the capability of using the Internet				
4. The training officers have the capability of designing or developing the Web page				
5. The organization has the expert for WBT				
6. The organization has personnel who can take responsibility and operate the computer system				
7. The organization has personnel who take responsibility and operate the Web site				
Readiness in Budget				
1. At present the budget of training unit is sufficient				
2. During year 2000, the organization increased computer purchasing				
3. Training unit has sufficient budget for training in Web page design to employees				
4. The organization has sufficient budget for human development by WBT if it must use budget at least 200,000 bahts				
5. The organization has sufficient budget for employing the expert in Web-based training				
6. The organization always reserved budget when training unit has urgent project				
Readiness in technology				
1. The organization has used internal network				
2. At present, the organization has used the Internet				
3. The organization has computers sufficiently				
4. The organization's Web site is interesting				
5. The training unit has software correspondence with the requirements				
6. The organization has sufficient telephone lines				

Issues	Most	Much	Little	None
Readiness in Management				
1. The organization has ever assessed the training needs in Web-based training				
2. The organization has ever considered the training program to apply for WBT				
3. The organization has ever designed pattern of Web-based training				
4. The organization has ever typed the training materials by computer program to posting on Web page				
5. The organization has ever trained employees on the Internet course				
6. The organization has propagated information and knowledge about WBT to employees				
7. The organization has selected the old employees or hired new employee for Web page design				
8. The organization has ever supported created Web page deign from each department				
9. Your training division head discussed within division about Web-based training				
Readiness in administrative policies				
1. Top executives have concerned about human development by training				
2. Top executives have policies for other training method that differ from actual training				
3. Top executives viewed the importance of utilizing computer for training job				
4. Top executives have ideas to use the Internet for training job				
5.Your training division head presented idea of WBT to the top executives				

Part IV Opinions about using Web-based training for human resource development

How do you have the opinion about using Web-based training for human development?

Issues	Strongly agree	Agree	Uncertainly	Disagree	Strongly disagree
1.It gives an opportunity to person who has working and business can study when has the readiness without time limitation					
2. It can train inside office or on desk without travelling to training place					
3. It reduces waste time due to studying in training classroom					
4. It reduces limitation of each person who can study unequally					
5. It emphasizes on the students to be centralized					
6. It uses multimedia both graphics and sound					
7. It has online testing which learners can receive the result immediately					
8. It can edit the training materials all the time without additional expenses					
9. It does not provide many training materials					
10. It reduces training cost for train many employees or repeated the similar training course					

Issues	Strongly agree	Agree	Uncertainly	Disagree	Strongly disagree
11. It reduces expenses in different aspects of training 12. It reduces responsibility of trainer in different aspects					

Part V Opinions about readiness of the organization for human resource development by Web-based training

1. This moment your organization is ready to use Web-based training for development or not.

   ( ) Yes because.....
   .....
   ( ) No because.....
   .....

2. Using Web-based training can reduce the training cost or not.

   ( ) Yes because.....
   .....
   ( ) No because.....
   .....
   ( ) Uncertainly because.....
   .....

3. Your organization should be use Web-based training or not.

   ( ) Yes because .....
   .....
   ( ) No because.....
   .....

Additional Suggestion.....
.....
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BIOGRAPHY

NAME	Mrs. Wanlada Varakantsiri
DATE OF BIRTH	May 11, 1966
PLACE OF BIRTH	Bangkok, Thailand
INSTITUTIONS ATTENDED	Ramkhamhaeng University, 1984-1987 : Bachelor of Arts (Political Science)
	Mahidol University, 1999-2001 : Master of Education (Adult and Continuing Education)
ADDRESS	180/17 Charansanitwong12, Charansanitwong Rd, Tapra, BangkokYai, Bangkok 10600 Thailand
	Tel. 0-2412-7841, 0-1815-1572