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ABSTRACT

A COMPARISON OF COMPUTER-BASED TRAINING
AND TRADITIONAL CLASSROOM TRAINING
FOR THE SAD CORPORATION JOB
PLACEMENT TEAMS

by

Janice B. Adams

Chair: Elsie P. Jackson

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: A COMPARISON OF COMPUTER-BASED TRAINING AND TRADITIONAL CLASSROOM TRAINING FOR THE SAD CORPORATION JOB PLACEMENT TEAMS

Name of researcher: Janice B. Adams

Name and degree of faculty chair: Elsie P. Jackson, Ph.D.

Date of completion: May 2010

Purpose

The purpose of this research study was to compare the effectiveness of computer-based training with traditional classroom training; both instructional delivery methods utilized the traditional classroom curriculum as a means of delivery for an on-the-job company-sponsored program.

The JAW-SAD Human Resource Center (HRC) is a training facility for the SAD Corporation, a major international manufacturing company. The HRC is responsible for conducting continuous training and certification of SAD employees. Historically, training has been provided through conference workshops with a traditional classroom training format. The motivation and importance for this study was influenced by an administrative

requirement to determine the feasibility and cost-effectiveness of utilizing computer technology for all HRC training programs.

The sample group for this research study was adult learners all over 25 years of age, an active employee of the corporation, and a job placement team member. Each Job Placement Team consists of a management, a union worker, and a medical representative. These teams are responsible for the job placements of medically restricted employees throughout the company. It is a company requirement that each team member take specific training for professional development and certification.

Method

The research was guided by four questions. First, is there a significant difference in the understanding of the participants who took the computer-based training and the participants who took traditional classroom training? Second, is there a significant difference in the overall student satisfaction levels between participants in the computer-based training and participants in the classroom? Third, is there a significant difference in the course completion times for participants in the computer-based training and participants in the classroom training? Lastly, is there a significant difference in the company job placement rate post-Job Placement Team training?

The data were collected and evaluated using both quantitative and qualitative methods. A company-designed pretest and posttest to measure learning and a company-required Participant Reaction Questionnaire to determine the overall effectiveness and participant satisfaction relative to the training class were utilized. A total of 83 participants completed all instruments and were included in the sample population.

Additionally, course completion times were measured by recording the start and stop times for the classroom and the computer-based training, and data were collected from company quarterly reports to determine the job placement rate.

Results

Analysis of the test score data revealed no significant difference in the understanding of the Job Placement Process at the end of the study between the participants who took the computer-based and the traditional training. However, student satisfaction yielded slightly higher scores from the participants in the traditional classroom training but, not statistically significant. Additionally, the summed scores for satisfaction with training were compared by demographic characteristics, including gender, race/ethnicity, employment status, and educational level. The data revealed that no statistically significant difference was found for the main effect of gender; it appeared that male and female participants in the two groups experienced similar levels of satisfaction with the training. An analysis was conducted to determine if satisfaction with training differed by group membership and race/ethnicity. The results of the analysis indicated satisfaction with training did not differ among African Americans and Caucasian participants. Further, satisfaction with training between participants in the two types of training programs and employment status, hourly/salaried, was compared. The difference in satisfaction with training by employment status was statistically significant. The computer-based training program mean score for the hourly participants was found to be lower than the mean score for those in the traditional training program. However, members of the computer-based group who were salaried had levels of satisfaction that were similar to both hourly and salaried members in the traditional class.

Reviews of the results comparing satisfaction with training among participants with four different levels of education were not statistically significant. Based on this finding, it did not appear that satisfaction with training was related to the level of education. Additional findings did not support the null hypothesis that there was no significant difference in the course completion times. However, the findings did support that computer-based training has the potential to significantly impact the duration of time spent on company training courses. Lastly, the improved job placement data, as indicated through post-training company administrative reports, provide support that the training appeared to be effective in placing employees in jobs.

Conclusion

The results of this study indicate no significant differences in test scores, participant satisfaction, or overall program effectiveness between the instructional methods.

Based on the results of this study I recommend that a set of instructional activities utilizing computer-based technology modeled on an adult learning style design replace the current traditional classroom delivery method for the corporation Job Placement Teams.

Further research should be conducted on the effect of computer-based technology as an instructional method to increase job performance in the areas of Health and Safety, Ergonomics, and Diversity certification programs. I also recommend research be conducted to determine if social networking for class participants has any long-term beneficial value to the company. Finally, research should be conducted to determine the actual training time for the traditional classroom delivery method excluding class breaks.

Andrews University

School of Education

A COMPARISON OF COMPUTER-BASED TRAINING
AND TRADITIONAL CLASSROOM TRAINING
FOR THE SAD CORPORATION JOB
PLACEMENT TEAMS

A Dissertation

Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

Janice B. Adams

May 2010

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I dedicate this dissertation to my mother and father, Susie and Willie Brown,
for without them I would not be here. Secondly, I dedicate this
major accomplishment to Shareatha, Alari, and Darrien;
my dream for each of you is to never stop learning,
continue to challenge yourself, and
live your life with grace.

TABLE OF CONTENTS

LIST OF TABLES	vii
ACKNOWLEDGMENTS	ix
Chapter	
1. INTRODUCTION	1
Background to the Problem	3
Statement of the Problem	7
Purpose of the Study	7
Research Questions and Hypotheses	8
Theoretical Framework	9
Significance of the Study	10
Assumptions.	10
Limitations and Delimitations.	11
Definition of Terms	11
Organization of the Study.	13
2. LITERATURE REVIEW	14
Introduction	14
General Learning Theories	14
Adult Learning Theory	18
Teaching Strategies With Adults and Online Learning.	20
Instructional Strategy and Online	23
Student Success	26
Student Perceptions/Attitudes.	28
Student Satisfaction	30
3. METHODOLOGY	32
Introduction	32
Research Design.	33
Threats to Validity	35
Population and Sample	37
Description of the Sample.	38

Age	38
Gender	39
Race/Ethnicity	39
Instrumentation	41
Pretest Assessment	41
Posttest Assessment	43
Participant Reaction Questionnaire	43
Company Quarterly Data Report	44
Procedure	44
Training Development Process	45
Developmental Approach	45
Conceptual Framework	46
Instructional Design	46
Creative Treatment	47
Graphic Organizers	48
Content Presentation	48
Reviews and Assessments	49
Pilot Study Procedure and Results	49
Data Analysis	52
4. RESULTS OF DATA ANALYSIS	54
Research Questions and Hypotheses	54
Research Question 1	54
Quantitative Data	55
Qualitative Data	62
Summary	65
Research Question 2	66
Quantitative Data	66
Qualitative Data	74
Summary	75
Research Question 3	77
Quantitative Data	77
Qualitative Data	78
Summary	79
Research Question 4	79
Quantitative Data	80
Summary	81
Ancillary Findings	82
Training Comments	82
What Specific Things Will You Do Differently as a Result of This Training?	82
What Barriers/Support Do You Anticipate in Applying What You Have Learned?.	84
Summary of Findings	86

5. SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS	91
Summary	91
Statement of the Problem	92
Summary of the Literature	93
Theoretical Framework	94
Research Methodology	95
Instruments	96
Population and Sample	97
Discussion.	97
Conclusion	101
Recommendations.	102

Appendix

A. PRETEST AND POSTTEST	105
B. PARTICIPANT REACTION QUESTIONNAIRE.	111
C. ADAPT COURSE TRAINING MANUAL	114
D. QUALITATIVE RESPONSES	149
REFERENCE LIST	164
VITA	175

LIST OF TABLES

1.	Crosstabulation: Age, Gender, and Race by Type of Training Program ($N = 83$)	39
2.	Crosstabulation: Education and Work Classification by Type of Training Program ($N = 83$)	40
3.	t Test for Paired Samples: Changes in Knowledge of Job Placement Process From Pretest to Posttest	55
4.	t Test for Independent Samples—Pretest Scores by Group Membership.	56
5.	One-way Analysis of Covariance—Posttest Scores by Group Membership	57
6.	Adjusted Posttest Scores by Group Membership	58
7.	2 x 2 Factorial Analysis of Covariance—Posttest Scores by Group Membership and Gender ($n = 83$).	59
8.	2 x 2 Factorial Analysis of Covariance—Posttest Scores by Group Membership and Race/Ethnicity ($n = 83$).	60
9.	2 x 2 Factorial Analysis of Covariance—Posttest Scores by Group Membership and Employment Status ($n = 83$)	61
10.	One-way Analysis of Covariance—Posttest Scores by Educational Level ($n = 83$)	62
11.	Qualitative Analysis—Changes in Knowledge Due to Training	64
12.	t Test for Independent Samples—Satisfaction With Training Program by Group Membership	67
13.	Mann-Whitney Test for Independent Samples—Satisfaction With Training	68
14.	2 x 2 Factorial Analysis of Variance—Satisfaction With Training by Group Membership and Gender ($n = 83$)	70

15.	2 x 2 Factorial Analysis of Variance—Satisfaction With Training by Group Membership and Race/Ethnicity ($n = 83$)	71
16.	2 x 2 Factorial Analysis of Variance—Satisfaction With Training by Group Membership and Employment Status ($n = 83$)	72
17.	One-way Analysis of Variance—Satisfaction With Training by Level of Education ($n = 83$)	74
18.	Qualitative Analysis—Student Satisfaction Level	76
19.	Participant Course Completion Times (in Minutes) ($N = 18$)	78
20.	Job Placement Rate Comparison (First Quarter 2007 and First Quarter 2008) Post-Training	80

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CHAPTER 1

INTRODUCTION

The SAD Corporation (not the real name) represents a large private employer in the manufacturing industry. The trade union that represents the company's 140,000 employees is the Joint Auto Workers (JAW) union. The SAD Corporation, along with the JAW, is recognized for its innovative disability management; this process is a joint working relationship between management and union with emphases on job placement practices and rehabilitation efforts for employees with medical disabilities. The corporation and union have a long-standing policy regarding employing and accommodating persons with disabilities.

A major focus during national negotiations between the corporation and the union was centered on the joint teamwork between the parties. The outcome of those negotiations resulted in the requirement for management to establish a training center between the corporation and the union.

The JAW-SAD Corporation Human Resource Center (HRC) is a training facility responsible for conducting continuous job-related training and certification programs for approximately 140,000 company employees. The training center is a non-profit, stand-alone organization. This joint collaboration was established to develop employee training programs and activities focused on health and safety, skill development, educational opportunities, work/family issues, and product quality. The HRC's overall common goal

is to provide quality training and services to the employees. The center provides information, training, and assistance to approximately 140,000 employees. Over the last 25 years, SAD and the JAW have committed over \$3 billion toward education and training, making the HRC the largest privately funded educational institution of its kind in the world (Weekly & Wilber, 1996).

The development of specific training programs at the HRC is triggered by different variables. One major variable is the mandatory training requirements created by state and local government regulatory agencies such as the Americans with Disabilities Act. The Americans with Disabilities Act (ADA) gives civil protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. ADA is enforced through the Federal Government under Title VII of the Civil Rights Act of 1964, as amended, and the Civil Rights Act of 1991 (National Institute on Disability and Rehabilitation Research, 1992). It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, state and local government services, and telecommunications. The employment provision, Title I under ADA, applies to private employers, state and local governments, employment agencies, and labor unions. The provision covers all employment-related activities.

To comply with ADA regulatory requirements, the company and the union established a program to Accommodate Disabled People in Transition, known as ADAPT. This program is administered by Job Placement Teams throughout the corporation. A Job Placement Team consists of one management and one union representative. These teams are responsible for providing job placements within the

company for workers with disabilities who are returning from disability leave or who are at work and receive medical restrictions that require some type of special accommodation. Many employees have been helped by the ADAPT program to return to full-time employment. The program also addresses needs that cannot be measured in dollars and cents, such as enhancing a person's morale and self-esteem following a disabling injury or illness. Additionally, the corporation benefits from having employees at work producing product versus being out of the factory collecting sick-leave pay.

In an effort to ensure consistency in operation and documentation throughout the program, each Job Placement Team is required to learn and implement the ADAPT program process. This process involves a number of key steps, and, when each team follows the steps of the program, fair and equal treatment of all individuals is assured.

Background to the Problem

In the workplace, online training is usually called e-learning. The most common form of e-learning (Pailling, 2002) is computer-based training, in which the participants interact solely with materials, whether they are web-based, on a local computer network, or on CD-ROM, but with no intentional interaction with other learners or a teacher. This is in direct contrast to online educational courses in which students are usually in communication with a teacher and other students on a regular basis as part of the course. This medium is growing rapidly, replacing instructor-led training (Thompson, Koon, Woodwell, & Beauvais, 2002) and in some cases providing learning opportunities in areas that were not previously addressed.

Many corporations currently use some web-based approach to deliver training. According to a report by Duggan and Barich (2001), the need for employees with specific

and upgradable knowledge represents an \$885 billion industry in the U.S. and a \$2 trillion industry globally. Even with the success of computer-based training in recent years, the advantages that managers seek through such learning depend on the wise selection of technologies and the effective use of the tools in order to maximize their training investments (Anderson, 2001). Thus, identifying the most advantageous training method is important to both the organization and the learners.

Numerous studies, such as those by Hall (1995), Fletcher (1990), Adams (1992), Bradley Associates (1994), Hofstetter (1994), and Hemphill (1997), have found that it takes less time to learn material via e-learning than via classroom training. Hall's (1995) study found the amount of training time was reduced, on average, by 40 to 60%. Hall's study also reported that the reduction in training time has the most visible impact on return on investment (ROI), because it provides savings in wages and opportunity costs.

Among technology-based training delivery methods, computer-based training is one of the most widely used techniques, and it will probably continue to play an important role in corporate training (Bassi & Van Buren, 1999). Additionally, learning via the Internet and Intranet is being heralded by many as the new pedagogical model for training (Kruse & Keil, 2000). The SAD Corporation designs and utilizes Intranet technology for large-scale training in select areas throughout the company. This activity is often subcontracted to outside vendors. Most web-based training design vendors charge anywhere from \$7,000 to \$50,000 per finished hour, depending on the course's complexity and use of multimedia plug-ins (Kruse & Keil, 2000). Consequently, whether the web-based training is developed internally or externally, companies can spend thousands of dollars in the development stage (Hall, 1995).

Online methods of training are used most extensively in the area of mandatory or compliance training, in which 35% of training is conducted “mostly or completely” online (“Industry Report,” 2006, p. 28). One such mandatory training requirement for the SAD-JAW Corporation created by state and local government regulatory agencies is the Americans with Disabilities Act (ADA). Because of the critical nature of compliance programs, many corporations are turning to computer technology to make these programs easier to implement.

Historically, most of the SAD-JAW corporate training has been developed in-house and delivered to adult learners by an instructor-led, traditional classroom approach. The company leaders were concerned with the associated program cost, time required to conduct training, the actual skills learned, and the overall participant satisfaction with the training. The leadership expressed an interest in assessing the use of computer technology as a possible alternative to this traditional training format for the training of Job Placement Teams within the company.

By switching from classroom to web-based training, some companies have realized up to 75% savings in their training budgets, making this mode of training especially appealing to companies that have large numbers of employees to train (Cole-Gomolski, 1999).

However, research on the effectiveness of computer-based training methods has shown mixed results. For example, Dominguez and Ridley (1999) compared the effect of web courses with that of traditional training (including lectures and discussions) on student learning. They found no significant differences in grades between online and offline sections of the same courses. Chamberlin (2001) further states that online

communication can diminish student inhibitions regarding communication by removing psychological and social barriers to student-teacher and student-student interactions.

While there are advantages to instruction provided through distance education, perceived disadvantages appear to exist. Students who lack the technological skills required for various types of distance education may fear approaching learning situations provided through nontraditional modes (Piotrowski & Vodanovich, 2000).

A meta-analysis of findings from 254 controlled evaluation studies showed that computer-based instruction usually produces positive effects on students (Kulik, 1994). These studies covered learners of all age levels—from kindergarten pupils to adult students. Neuhauser's (2002) meta-analysis compared two sections of an undergraduate Principles of Management course. The study consisted of 25 students in a face-to-face class and 37 in the online class who were assessed using the Learning Modality Preference Inventory and the Keirsey Temperament survey. She found no significant differences in test scores, assignments, participation grades, and final grades between the face-to-face and online sections or any significant differences between learning preferences/styles and grades in either group. Additionally, there was no evidence showing that learning style or preference was a good predictor of success in either face-to-face or online courses.

The HRC has the same promise and challenge as other small and large businesses of delivering efficient and effective job-related training. Technology-assisted training has been advertised as one way to provide current and/or improved job-related skills, offering greater flexibility for timing and delivery location.

Accordingly, regarding future training needs, the HRC needed to determine whether computer-based training derived from a traditional classroom-designed curriculum was an effective delivery method for the company Job Placement Teams. As previously noted, these teams are responsible for finding appropriate job placements within the company for employees with medical restrictions.

The company's overall strategic training plan includes the possibility of expanding upon the use of technology. This study provides specific data for decision making during future strategic planning activities. I was assigned to compare the effectiveness of computer-based training with traditional classroom training, both utilizing a traditional classroom curriculum, as a means of instructional delivery for a job placement.

Statement of the Problem

Historically, most of the SAD-JAW corporate training has been developed in-house and delivered to adult learners via an instructor-led, traditional classroom approach. The company leaders were concerned with the associated program cost, time required to conduct training, the actual skills learned, and the overall participant satisfaction with the training. To address these concerns the leadership requested data on the use of computer-based technology for HRC training programs.

Purpose of the Study

The purpose of this research was to compare the effectiveness of computer-based training with traditional classroom training, both utilizing the traditional classroom

curriculum, as a means of delivery for Job Placement Teams at a large international company.

Research Questions and Hypotheses

The following research questions guided this study:

1. Is there a significant difference in the understanding of the job placement process between participants who took computer-based training and the participants who took traditional classroom training?

Hypothesis 1: Participants who took computer-based training will not differ significantly in understanding the job placement process from participants who took traditional classroom training.

2. Is there a significant difference in the overall student satisfaction levels between participants in the computer-based training and participants in the classroom training?

Hypothesis 2: Participants in the computer-based training will not differ significantly in overall student satisfaction levels from students in traditional classroom training.

3. Is there a significant difference in course completion times for participants in the computer-based training and participants in the classroom training?

Hypothesis 3: Participants in the computer-based training will not differ significantly in course completion times from participants in the traditional classroom training.

4. Is there a significant difference in the company job placement rate post-Job Placement Team training?

Hypothesis 4: No statistically significant difference exists in the company job placement rate post-Job Placement Team training.

Theoretical Framework

Certain theories suggest that adults may perform better in web-based learning environments, because such environments cater to their individual needs and learning preferences more so than face-to-face environments (Neuhauser, 2002). Adult learning theory, developed by Knowles (1980), posits that adults are autonomous and self-directed individuals who prefer to participate actively and take responsibility for their own learning. Since adult learners have garnered a myriad of life experiences, effective learning must relate theory and concept to practical and applicable experiences outside of the classroom (e.g., the workplace). Adult learners usually have specific goals in mind when they enroll in a course, and they appreciate organization and structure in course requirements as well as the presentation of course materials. Adult learners may not be interested in taking courses for the sole sake of learning but to attain goals that are tangible (e.g., career advancement and marketable skills). Finally, adult learners require respect; they bring life and work experiences to the classroom and want to be treated as co-creators or facilitators of their own learning.

Another theory that supports online learning and job-related training for adults is the constructivist learning theory. Constructivism asserts that knowledge is constructed based on previous experience (Spigner-Littles & Anderson, 1999). The emphasis on experience and subjective reality is consistent with the needs of adult learners. These learners connect new learning to previous experiences and acquire knowledge actively and internally rather than externally or passively as transmitted by an instructor. Adult

learners, with life experience, find it difficult to accept learning that is not authentic or experiential. It is difficult to change misperceptions or preconceived ideas and beliefs when new concepts are transmitted only through lecture with no interaction between instructor and student. Adult learners are more likely to replace old beliefs when they are allowed to construct new knowledge on their own. Therefore, courses are more effective when the instructor is a facilitator, rather than a passive transmitter of student learning (Enger, 2006; Spigner-Littles & Anderson, 1999; Wonacott, 2000). The online learning environment gives adult learners an opportunity to take on a more active role in the learning process.

Significance of the Study

The research results provide data for company business decision making and strategic planning efforts related to training. Additionally, the results provide a basis for further exploration into the use of such technology for other HRC training activities as well as other industries responsible for personnel training.

Assumptions

Considering the company-required standardized training process all participants must undergo on the shop floor, this study assumed that all participants' on-the-job technical skills and knowledge were similar. It was also assumed that participants had similar academic levels and computer technology skills. These skills are a requirement for the Job Placement position. This is based on my knowledge of the company demographics and work environment.

Limitations and Delimitations

Despite the limitation of having studied only one company and one training course, my findings provided critical data for the company training division. These data can be used for all future business strategic planning activities. Additionally, there were 160 participants eligible to participate in the study; however, the study was delimited to 83 individuals who completed all three required measurement instruments. While this is an acceptable percentage, the study findings could have been enhanced by a higher participation rate.

Definition of Terms

The following terms are defined operationally as used in this study:

Active employee is an individual working for the company and receiving a regular paycheck, unlike an inactive employee on a company leave of absence receiving no pay.

CD-ROM, or compact disc read-only memory, is a compact disc that contains data accessible by a computer. The compact disc can store large amounts of data.

Computer-based training is a method of delivering training material through a personal computer or other electronic method without the need for a live facilitator.

Completion time is the amount of time a participant takes to finish a training course.

Effectiveness for the purpose of this study will be determined through an evaluation of course completion times, participants' understanding as seen in total test scores, participant satisfaction levels, and job placement rates.

Corporate intranet is private networks of interconnected computers within an organization. The computers are not publicly accessible and information can be shared with others only on the private network.

Internet is the worldwide, publicly accessible network of interconnected computer networks that transmit data by packet switching using the standard Internet Protocol. It is a “network of networks” that consists of millions of smaller domestic, academic, business, and government networks, which together carry various information and services, such as electronic mail, online chat, file transfer, and the interlinked web pages and other documents of the World Wide Web.

Job placement is a process that enables employees to be retained at work or returned to work early from sick leave or worker’s compensation leave and be assigned to jobs in line with the local and national contract agreements and their medical restrictions.

Job placement rate is the number of workplace job assignments for employees with medical restrictions.

Job Placement Teams consist of one union and one management representative assigned by the union and company to work jointly together for the purpose of providing job placements for employees with medical restrictions.

Mandatory training is required training by a government regulatory agency or company to maintain certification or compliance.

Pedagogical model is a design that includes actions and strategies of teaching; it encompasses a learning management process and many learning phases.

Traditional classroom-based training refers to courses that occur in a physical setting in which the students are physically present and receive instruction from a live facilitator.

ADAPT training is a basic training course designed for participants to learn the roles and responsibilities of the Job Placement Team. The course provides a detailed description for the entire job placement process for individuals with medical restrictions within the company.

Organization of the Study

This study is organized into five chapters. Chapter 1 is the introduction to the study and provides a background to the study, a statement of the problem, the purpose, the research questions, the theoretical framework, definitions of terms, assumptions, and limitations of the study.

Chapter 2 contains a review of the literature on the theoretical background of adult learning theory and also reviews literature on instructional strategy, effectiveness of computer-based training, the use of technology in training, and student satisfaction.

Chapter 3 addresses the research methodology selected to examine the problem, how the data were collected, the instrument used, and a description of the sample population used in the study.

Chapter 4 describes the research findings and the interpretation of the analysis from the data.

Chapter 5 summarizes the major aspects of this research and draws conclusions and provides recommendations.

CHAPTER 2

LITERATURE REVIEW

Introduction

The purpose of this research was to compare the effectiveness of computer-based training with traditional classroom training, both utilizing the traditional classroom curriculum, as a means of delivery for Job Placement Teams at a large international company.

This study involved an original designed traditional classroom training course for Job Placement Teams. The team members were all over 25 years of age and were working in the job placement activity at the same company.

This chapter contains a discussion of the theoretical framework and previous research relevant to learning styles and computer-based training. The first section introduces general learning theories and adult learning theory and then discusses online learning and instructional strategy. The second section addresses student success and satisfaction.

General Learning Theories

The same principles of human learning and behavior must form the basis of an instructional program for adult learners as well as other learners (Morrison et al., 2001,

p. 53). Educational literature often includes three views of the nature of human beings: the Freudian view, the behaviorist view, and the humanistic view (Apps, 1981). The Freudian view, from the research of Sigmund Freud, looks at human nature as determined by biological drives and the way each person copes with those drives. Freud believed that the human psyche was divided into the id, the ego, and the superego, which served as the basis for behavior, including learning behavior. The id consists of unconscious animal instincts, the ego is the sum of a person's conscious awareness, and the superego is the censor or conscience a person has gained from society (Apps, 1981; Ormrod, 1999).

The behaviorist view of human beings came from research by major theorists of operant conditioning: John Watson, Edward Thorndike, and B. F. Skinner (Huitt & Hummel, 1997). They proposed that learning is the result of the application of consequences; that is, learners begin to connect certain responses with certain stimuli. This connection causes the probability of the response to change, and learning occurs. The behaviorist view assumes human behavior is influenced by external factors, and stimulus-response is the primary reason for changes in human behavior, or learning. This approach to behaviorism played a major role in the development of the science of psychology, especially in the United States (Huitt & Hummel, 1997). Responses to stimuli are easily measured and quantified (Apps, 1981; Ormrod, 1999).

B. F. Skinner, well known for his theories of operant behavior, believed that the study of behavior must rest on what people do and do not do. He postulated that we learn behaviors that are followed by certain consequences or reinforcers. A response followed by a reinforcing stimulus is strengthened and therefore more likely to occur again. The law of extinction is just the opposite, in that a behavior not followed by a reinforcer

becomes extinct (Apps, 1981). Behaviorism as applied to learning follows the pattern for presenting students with small bits of knowledge to master, then integrating them into major concepts (Ormrod, 1999).

Early (pre-1995) instructional designers followed Skinner's precepts with step-by-step instruction followed by extensive feedback and reinforcement. Although instructional design today uses less of Skinner's cognitive theories in favor of constructivist theories, some of the work of his contemporary, Tolman, is still relevant. His theories of cognitive maps formulation have gained new followers in designers of web-mediated learning environments (Apps, 1981).

Edward Chase Tolman rejected the learning theory of behavioral psychologists—random trial and error. Instead, he said that learning was a systematic process guided by goals and expectations. He believed that learners develop what he called cognitive maps, which are mental images of the probable paths to their goals. Learning can occur in the absence of reinforcement, except for the intrinsic reinforcement in being involved in exploration and satisfying the curiosity drive. Goal-directed behavior is always a getting-toward-something or getting-away-from-something. Tolman held that the description of any behavior should include (a) what the organism is doing, (b) where it is going, and (c) what it is trying to do (Ormrod, 1999, pp. 146-147).

Tolman's views on education included a focus on reinforcing student successes and not punishing failures. He recommended individualized instruction in which complex behaviors are gradually shaped. Reinforcement for appropriate responses should be consistent and immediate. Learned behaviors are maintained through intermittent

reinforcing schedules. Programmed learning and early instructional design theories came out of his work (Ormrod, 1999).

In the 1940s, psychologists developed the humanist view of behavior or learning (Apps, 1981; Grasha, 1996). Whereas the Freudians believed that behavior was influenced by drives and instincts, and the behaviorists believed that behavior was a function of external stimuli, the humanists reasoned that people are free agents and creators of their own learning. This view proposes that people are both influenced by the world and act as influencers of the world. Eric Fromm suggests that people define their humanity in terms of the society of which they are a part (Apps, 1981). According to research by Apps (1981), students expect a learning environment consistent with the humanistic philosophy.

Jean Piaget, a Swiss psychologist famous for his studies of the intellectual growth of children and his influential theories of cognitive development, argued during the 1920s and 1930s that students heard what they perceived, which may not be what the teacher said, and that the individual learning and interpretation is based on past experiences and perceptions (Marlowe & Page, 1998). Piaget's theory on Constructivist learning has had a wide-ranging impact on human learning, teaching methods, and education and is an underlying theme of many education reform movements. One cannot overestimate Piaget's contribution to the formation and understanding of adult learning and constructivism.

Although Constructivism did not originate within the field of adult education, it is an important application to adult education. Many adult learning theories and theories of online instruction are based in these same cognitive theories (e.g., Brooks & Brooks,

1993; Cognition and Technology Group at Vanderbilt, 1993; Collins, Brown, & Holum, 1991; Guzman, 2000; Honebein, Duffy, & Fishman, 1993). Therefore, the next section begins by examining adult learning theories and online learning.

Adult Learning Theory

Knowles (1980) pioneered the field of adult learning with the development of a theory known as andragogy, which he defines as the “art and science of helping adults to learn.” Andragogy was based on four major hypotheses: (a) adults need to know what, how, and why they need to learn, (b) adults need to learn experientially, are self-directed, and like to have higher levels of input into the curriculum, (c) adults approach learning as problem solving, and (d) adults learn best when the information is of immediate value and they are therefore motivated to learn. Like Knowles, Tough (1978) explained how adults naturally engage in self-directed learning and even recommends adapting this natural activity to formal learning settings.

Brookfield (1995) presented an argument against the idea of adults being self-directed learners. Learning requires a broader perspective to ensure a deeper understanding. He referred to Jarvis (1987) by noting that adult learning is more socially embedded and is a socially constructed phenomenon. He pointed out that much of the research on adult education has been done by Europeans and North Americans and that a greater cross-cultural perspective is required to formulate legitimate theories. He explained that the differences in class, culture, personality, ethnicity, life experiences, and gender are more significant than a person’s age in determining their learning preferences. While he agreed that adults learn by experience, he did so by using it to prove his point that all experiences form learning, especially the culture in which learning occurs. To

understand learning, we need to know of its connections to learning in childhood and adolescence and to the formation during these periods of interpretive filters, cognitive frames, and cultural rules (Brookfield, 1995).

Mezirow's (1994) theory, known as transformational learning, was based on critical reflection and awareness of why we attach the meanings we do to our reality. He believed that self-reflection, which fosters a change in perception, was the foundation for transformation. His work has been applied to a variety of groups of adult learners: displaced homemakers, male spouse abusers, and persons with long-term illnesses (Brookfield, 1995). Transformative learning theory became popular because it was unique to adult education (Taylor, 1998).

Cross (1981) offered the Characteristics of Adult Learners (CAL) model. Her model integrated Knowles's adult learning and Rogers's experiential learning with lifespan psychology. Cross's model was intended to provide guidelines for adult education programs. The four basic principles of the model were that (a) adult learning programs should capitalize on the experiences of the adult, (b) they should adapt to the aging limitations of the participants, (c) adults should be challenged to move toward advanced stages of personal development, and (d) adults should have as much choice as possible in the organization and availability of the learning program.

Similarly, McClusky's (1963) theory was that one's degree of learning is dependent upon the demands placed on the individual given their individual resources or power for dealing with them and that there are internal and external loads that affect learning.

The next section provides a clearer understanding as to how much these theories and models are actually applied to computer-based instruction.

Teaching Strategies With Adults and Online Learning

One important aspect of the constructivist theory of learning is that it stressed the need for validating new perspectives through social negotiations (Ertmer & Newby, 1993). Dialogue helps humans clarify their thoughts and reframe their ideas and, in turn, learning occurs. This concept has a significant role in online instruction. Accordingly, constructivism was the theory behind the collaborative learning paradigm of Computer Mediated Communication (Bonk & Cunningham, 1998), which is how interaction/communication occurs in online courses (Feenberg, 1989; Harasim, Hiltz, Teles, & Turoff, 1995).

Two constructivist instructional strategies that can be easily applied to online instruction are situated cognition and anchored instruction (Guzman, 2000). Situated cognition emphasized context in learning (Merriam & Caffarella, 1999). Learning was embedded in experience and personally constructed. Instruction involved learning in real-world contexts that include collaboration and social interaction (Jonassen, Davidson, Collins, Campbell, & Haag, 1995). Anchored instruction was a computer-based cognitive strategy that put situated cognition theory into practice (Merriam & Caffarella, 1999). Anchored instruction promoted learning by making the context more meaningful, providing multiple ways of learning, and making maximum use of experience and existing knowledge (Dunlap & Grabinger, 1996).

There are few studies that combine adult education theory and online instruction. Pitt and Clark (1997) found that most online course designers were concerned with

delivery strategies rather than cognitive learning strategies. They indicated that the goal of online instruction was to provide easy access to courses as opposed to improving learning outcomes. They felt that most instructors had no underlying philosophy when developing courses and that most courses were developed by trial and error, usually with modifications due to advances in technology.

Those researchers who have considered adult learning theory as applied to online instruction most often relied on the work of Knowles (Berge, 1998; Frey & Alman, 2003; Rossman, 1993). One such study evaluated findings from five focus groups based on adult learning theory (Frey & Alman, 2003). The adult participant feedback was reviewed based on four major authors who have been discussed in the Adult Learning Theory section of this review: Knowles (1990), Cross (1981), McClusky (1963), and Mezirow (1994). Based on principles of adult learning theory and feedback from focus group students, recommendations for the development and teaching of online courses were provided (Frey & Alman, 2003, p. 8): (a) state clear expectations by providing a detailed syllabus with schedule, grading criteria, assignments, number of postings per week, deadlines, and office hours; (b) avoid changing aspects of the course once it begins; (c) state contingency plans for when technology fails; (d) incorporate multiple forms of feedback into the course; and (e) use specific, consistent feedback from both learners and instructor.

Pitt and Clark (1997) also relied on the work of Knowles and determined that there are 10 traditional classroom instructional strategies that could be successful in online learning environments: learning contracts, lecture discussion, self-directed learning, mentorship, small-group work, project method, collaborative learning, case

study, and forum. Collins (1992) believed that the following seven elements were most crucial in adult online instruction: a cooperative learning climate; involving participants in mutual planning; involving participants in diagnosing their own learning needs; involving participants in setting their learning objectives; sequential activities for achieving objectives; selection of methods, materials, and resources for design execution; and on-going evaluation of the adult learning experience for future improvements.

Similarly, Brogan (2000) determined that facilitator-directed case studies, role-playing, simulations, and self-evaluations were more appropriate than lecture for adults. Stites (1999) contended that adult learning environments should use technology in ways that maximize opportunities for learner-centered, problem-focused, and contextualized learning. He believed that the use of multimedia in adult education supported the learner-centered approach in that it offered a variety of choices for the various learning styles. It also allowed adults to control the pacing, scope, and sequence of their instruction.

Recommendations that most commonly occur across the many studies are those that encourage collaborative and cooperative learning and those that allow the adult learner greater control of learning.

One learning model that was specifically designed for computer-based instruction is the Reeves Process Model (Reeves, 1998). This model illustrated several variables that may have accounted for learning online. It is appealing because it addressed cultural habits of the mind, attitudes, individual differences, and motivation. The ability of an educational system to be flexible enough to address the needs of many different individuals is of greater importance in computer-based instruction. Computer-based

instruction eliminates the location barrier and opens the classroom to many other countries, cultures, and backgrounds.

Instructional Strategy and Online

There are several models of courses that take advantage of computer technology. There are those that are strictly computer-based and those that combine computer-based with traditional instruction. For the combined method, the class may meet as a group in person for several sessions and via the Internet for others. During the Internet meetings, students may interact through chat rooms, email, or by posting on bulletin boards.

Mason (1998) presented a well-organized and informative description of three models of online instruction most commonly used. These models included Content + Support, Wrap Around, and Integrated.

The Content + Support model was considered by Mason to be the earliest and most extensive category of online courses. The content is available separately from the course either as a prepackaged, web-accessed unit or via preprinted materials, which can be taught by any instructor, not necessarily the designer. The students spend about 20% of their learning time accessing the online component of the course.

The Wrap Around Model consists of tailor-made activities, study guides, and discussions that “wrap around” existing materials (textbooks and tutorials). Mason (1998) considered this a 50/50 model because half of the student’s time is spent with content and the other half with online discussion and procedural concerns. The teacher or tutor has a greater role because more of the course is created (discussions and activities) each time the course is taught.

The Integrated Model is completely opposite to the Content + Support model. This model consists of collaborative activities, learning resources, and joint assignments. Most of the course is conducted online through discussion and carrying out tasks. This model supports the notion of a learning community in which the group directs the content and flow of instruction. Real-time communication might be video, audio, and/or text-based and supports small-group activities.

Communication in online instruction is often referred to as “interaction” and is widely seen in the literature (Frey & Alman, 2003; Jonassen et al., 1995; Sherry, 1996). Several studies have determined that there is a need for online courses for adult students to offer a successful interaction component (Frey & Alman, 2003; Jonassen et al., 1995; Millbank, 1994). As pointed out in the previous section, instruction involving learning in real-world contexts, which involve collaboration and social interaction, are strongly encouraged (Jonassen et al., 1995). Millbank (1994) found that the introduction of real-time interaction in online corporate training sessions raised the retention rate from 20% to 75%. Successful interaction occurred between teacher and student, between students and the learning environment, and between students themselves and was not limited to just audio and video (Sherry, 1996). Successful online education is dependent on two-way interaction (Salmon, 2001; Walker, 2001). Without this interaction, students may feel isolated and begin to procrastinate.

Aside from the human need to interact, communication in online classes seems to have two main purposes: (a) to answer general course questions that traditionally would be answered when a student raised his/her hand and (b) to summarize the state of the discussion and provide direction for the course. These comments are known as

weavings or threaded discussions. It is the role of the instructor to manage the communication/interaction in the course.

Feenberg (1989) determined that as a moderator, the online instructor's role can be summarized into three categories or what he calls functions. These are known as contextualizing functions, monitoring functions, and meta functions. Contextualizing functions include opening the discussion or announcing the theme, setting norms, and setting the agenda. Monitoring functions include welcoming the students, correcting context, soliciting comments, and assigning work. Meta functions include solving problems in context and summarizing the discussions. Generating good discussions and interaction among students takes careful planning and structuring. Often instructors will break up large numbers of students into groups of 10 or less; provide specific tasks such as searching for answers to set questions in readings or on the web, and set timelines for discussions (Mason, 1998).

Pitt and Clark (1997) determined that there were strategies that did and did not adapt well to online instruction. They specified four categories of teaching strategies that have adapted well to online instruction. These include (a) support/facilitation: forum discussions, online debates, group work, group problem solving, email interaction, and chat forums; (b) learning tasks: lecture, tutorial, small-group work, simulation, role play, research activities, linking to interactive websites, and self quizzes; (c) structures/learner expectations: clear goals and objectives, assignments dated clearly, and time frames for completing work; and (d) resources: demonstration screen captive movies, storage bank for lectures, case studies, linking to personal stories and case studies, and providing clear notes for easy access. Those strategies that were reported by Pitt and Clark (1997) as not

effective included traditional lectures, lots of text on web pages, motivation, personal contact, practical exercises, group social environment for learning, practical to theory was reported as much more difficult to accomplish, free-ranging class discussion, and individualized attention to struggling students.

I thought it necessary to become familiar with the literature related to student achievement and attitudes towards their online experience. Therefore, student-centered literature is included in the next section.

Student Success

Many studies have found no significant difference between traditional and online learning in terms of grades and achievement (Carr, 2000; Hiltz, 1997; Lim, 2002; McKissack, 1997; Relan & Gillani, 1997; Rivera, McAlister, & Rice, 2002; Russell, 1999; Spooner, Jordan, Algozzine, & Spooner, 1999). In contrast, others found that students in online classes received higher grades compared to students in traditional classroom settings (Bartlett, 1997; Bothun, 1998; Heines & Hulse, 1996; Koch, 1998; Tucker, 2001). These conflicting results have led some researchers to question the validity of the studies (Ravitz, 1997; Sonner, 1999). They question the degree to which online students are actually able to apply their knowledge to real-life jobs and situations. For example, Parker and Gemino (2001) found no significant difference in final exam scores between traditional classroom-based and online classes.

Lim (2002) reported that the “no significant difference” between traditional and online learning also applied to the application and transferability of knowledge. The study consisted of a 34-item Likert-type scale that measured the perceived degree of the learning and application of 19 undergraduate students majoring in human resource

development who took a course in the three different delivery formats: web-based instruction, classroom, and satellite-based instruction. Students' course evaluation results analyzed by the university's evaluation center were compared with the data analysis results of the study.

Others argue that these different modes of learning cannot be compared quantitatively because they focus only on student results (Hara & Kling, 2000; Pouget & Pym, 2000). They argue that qualitative studies would uncover the real issues. Some researchers have pointed out that there are differences among the learner populations with many online students holding full-time jobs and therefore having less time (Dutton, Dutton, & Perry, 2002; MacBrayne, 1995; Qureshi, Morton, & Antosz, 2002) and being much older than the traditional student (Dutton et al., 2002; Knobloch, 2000; O'Donnell, 1998; Qureshi et al., 2002; Rossman, 1993). The issue of different amounts of time on task as well as the amount of time to complete assignments was also revealed by Hiltz (1997), Jaffee (1997), and Joy and Garcia (2000). For example, online students may schedule learning activities for hours that are more convenient for them. They may also have more time to reflect on ideas (Jaffee, 1997) and even have more time to complete exams.

Overall, it seems that there has been little difference in the degree of success for online students when compared with students in traditional learning environments (Lim, 2002; Parker & Gemino, 2001). However, many researchers believe, for various reasons, that it may not have been appropriate to compare individuals who participate in online vs. traditional study environments (Dutton et al., 2002; Hara & Kling, 2000; Hiltz, 1997; Jaffee, 1997; Joy & Garcia, 2000; Knobloch, 2000; O'Donnell, 1998;

Pouget & Pym, 2000; Qureshi et al., 2002). The attitudes that students have toward online instruction often determine the degree of success of this mode of instruction (Biner & Dean, 1995; Rivera et al., 2002; Sanders & Morrison-Shetlar, 2002). Therefore, the next section contains literature regarding student attitudes and perceptions of online instruction.

Student Perceptions/Attitudes

Although students preferred the flexibility of online classes (Hiltz, 1997; O'Malley, 1999), some felt that the courses were not as effective as traditional courses (O'Malley, 1999). The ineffectiveness was attributed to the students' feeling that they were unable to adequately contribute in class discussions (O'Malley, 1999). In contrast, other researchers found that students felt that they were either equally involved or contributed more in their online classes than in traditional classes (Barreau, Eslinger, McGoff, & Tonnesen, 1993; Hiltz, 1997). This contradiction may have been due to age differences among the students who took part in the studies. Younger students have been noted to have greater difficulty with online instruction and many have needed to see a person face-to-face (Guernsey, 1998). Students did seem to make more friends in face-to-face classes (Hiltz, 1997). Students in Carr's (2000) study reported being less pleased with their online class, even though their grades were better than in the traditional classes. This dissatisfaction may have been attributed to the extra amount of time students had to spend on the online classes (Barbrow, Jeong, & Parks, 1996; Carr, 2000; Guernsey, 1998). This was especially true when students had to learn new technology in order to be successful (Barbrow et al., 1996). Students reported that it was much easier to procrastinate, and therefore fall behind, when taking online classes (Hiltz, 1997).

Online students rated their instructors equal to that of traditional students (Hiltz, 1997; Spooner et al., 1999). Many students felt that their online courses provided better access to their instructor (Guernsey, 1998; Hiltz, 1997); in spite of this, dropout rates or incompletes were higher for online students as compared with traditional students (Hiltz, 1997). Overall, it was the student's initial mind-set, or attitude at the beginning of the course, that determined how they felt at the end of an online course. This was true whether or not students were required to learn new technology or had limited online course experience (Murphy & Mahoney, 2001). According to Inman and Kerwin (1999), students in their study expected three things from their online instructors: (a) to provide helpful materials for interacting with the online medium, (b) if supplemented by on-campus instruction, then that class had to be helpful, and (c) to be available for assistance if needed.

A summary of Inman and Kerwin's (1999) findings showed that students were concerned mostly with instructor availability and usefulness of course material. From the information presented, students appear to have rated their instructors equal to that of traditional students (Hiltz, 1997; Spooner et al., 1999) and felt that their online courses provided better access to their instructors (Barbrow et al., 1996; Carr, 2000; Hiltz, 1997).

If researchers (Biner & Dean, 1995; Rivera et al., 2002; Sanders & Morrison-Shetlar, 2002) were correct in stating that students' attitudes toward online instruction determined their level of success, then the literature remains unclear as to student success.

Student Satisfaction

A review of the literature revealed that measures of effectiveness are subjective criteria that can be applied and interpreted in many ways. What determines effectiveness for one organization or individual may provide no additional insight into the value of a learning program for another. This is true regardless of the learning format or instructional strategy.

However, what is clear is that program evaluators often attempt to measure student satisfaction levels as one way of determining the overall effectiveness of a training program. “Student satisfaction has been shown to have lower student attrition rates, greater number of referrals from enrolled students, higher levels of motivation, greater commitment to a tele-education program, and better learning” (Biner, Dean, & Mellinger, 1994, p. 71). Employee responses to Web-based training are important because employee satisfaction is an indicator that a company’s training investment will result in positive outcomes (Biner, 1993).

Most often, student satisfaction levels are determined through the use of student surveys at the end of the training session. According to Anderson (2001), evaluators agree that “the information yielded by such surveys is useful in determining change and growth in what students have gained in the affective domain” (p. 12). The Cooperative Institutional Research Program Questionnaire (CIRP), which measures attitudes and opinions of students entering graduate programs, and the Student Goals Exploration Survey are examples of student satisfaction surveys. Anderson (2001) also states, “Student-satisfaction surveys are of little or no value in assessing the incremental learning that a student has acquired during an undergraduate or graduate program” (p.

13). However, pre- and post-surveys that measure changes in attitudes towards values or beliefs yield important information about the attitudinal development of students (Anderson, 2001).

Southeastern Louisiana University's Distance Education Task Force developed the Standards for Quality Distance Education in 1997. In this report it is suggested that "there are two levels to evaluating the success of distance education: (a) evaluating the level of student learning and (b) evaluating satisfaction with the content and delivery of the course experience" (p. 7).

Fredericksen, Pickett, Pelz, Swan, and Shea (1999) conducted a study on student satisfaction and perceived learning in online courses. They concluded: "Ninety-four percent of students who complete an Internet-based course believe that they learn as much or more as they would in a classroom-based course" (p. 18). Fredericksen et al. (1999) also state that

comments which were often made on the student survey suggest that many students perceive the Internet-based courses to be harder than traditional classroom-based courses, yet 70% indicated that they will take more courses on the Internet, and 45% responded that they would like to do all of their coursework on the Internet. (pp. 18-22)

Although this study focused on Internet-based training, these results can easily be applied to computer-based training in either the corporate or the educational setting.

Review of the literature revealed and supported that the most popular and effective way to determine student satisfaction is through the use of participant surveys at the end of the training session.

CHAPTER 3

METHODOLOGY

Introduction

This study was designed to determine if computer-based training is an effective alternative to traditional classroom training for Job Placement Teams. The research results provided statistical data for company business decision making and strategic planning efforts, relative to training.

By examining overall course completion times, test scores, and participant satisfaction levels, the following research questions and associated hypotheses were addressed in the study:

1. Is there a significant difference in the understanding of the job placement process between participants who took computer-based training and the participants who took traditional classroom training?

Hypothesis 1: Participants who took computer-based training will not differ significantly in understanding the job placement process from participants who took traditional classroom training.

2. Is there a significant difference in the overall student satisfaction levels between participants in the computer-based training and participants in the classroom training?

Hypothesis 2: Participants in the computer-based training will not differ significantly in overall student satisfaction levels from students in traditional classroom training.

3. Is there a significant difference in course completion times for participants in the computer-based training and participants in the classroom training?

Hypothesis 3: Participants in the computer-based training will not differ significantly in course completion times from participants in the traditional classroom training.

4. Is there a significant difference in the company overall job placement rate post-Job Placement Team training?

Hypothesis 4: No statistically significant difference exists in the overall company job placement rate post-Job Placement Team training.

This chapter presents a description of the research design that was used to address the research questions and hypotheses. Additionally, the overall population and sample, instrumentation, procedure, and data analysis are reviewed.

Research Design

This research study is based on a quantitative design, but also includes some support from qualitative data. The design is one of an evaluative nature that involved quasi-experimental elements. A quasi-experimental research model is designed to compare the effects of treatment on two or more groups (Patten, 2000). This structure employed defining and examining the outcome, and did not involve randomly assigning participants to treatment and control groups.

The chosen research design was applied to compare the achievement of two naturally formed groups. The work environment would not allow for random selection or random assignment to groups; all job placement personnel were required to take the course at the time their work schedules would allow. Participants merely signed up for the respective training class of choice; each individual self-selected either the required ADAPT traditional classroom or computer-based course. This process was consistent with Cross's (1981) Characteristics of Adult Learners (CAL) model. There were four basic principles of the model; the principle utilized in this instance was adults should have as much choice as possible in the organization and availability of the learning program. Further, it was not made known to class enrollees that there would be a request for volunteer participation in a research study. Therefore, class selection was not biased by the idea of participating in a study.

There were no known risks in participating in the study. Participation in the study was of a voluntary nature and was job related, therefore no form of additional payment, reimbursement of costs, or any other type of inducement was provided for participation in the study. The participant was free to withdraw at any time without penalty or prejudice.

Additionally, this type of design provides an opportunity to utilize and compare measures for groups before and after the group's involvement in a program or treatment known as "pre-test/post-test design" (Royce, 1999). In notational form, the design is depicted as:

Pre/Posttest Design Structure

N	O	X	O ₁	O ₂
N	O		O ₁	O ₂

There are two lines in the design indicating that the study was comprised of two groups. The two groups were nonrandomly assigned as indicated by the *N*. The control group (Group N_1) was the participants in the traditional classroom. The treatment group (Group N_2) was the participants in the computer-based training course. Both groups were measured before the training occurred as indicated by the first *O* in each line. Following this pretest assessment, the group in the first line received “treatment” as indicated by *X* (computer-based training); whereas the group on the second line did not. Finally, both groups were administered O_1 , the posttest, and O_2 , the Participant Reaction Questionnaire, subsequent to the training.

The independent variable was the instructional method (traditional or computer-based). I identified the dependent variables as: test scores, completion times, satisfaction levels, and job placement rates of participants. Lastly, the research design involved qualitative data collected from questionnaire with open-ended questions.

The answer from each open-ended question was copied verbatim and the comment was categorized as either a negative or positive response. The responses were then studied for common themes within each of the questions as well as any overall themes from the combined group. These data supported the quantitative data analysis for measuring treatment outcome.

Threats to Validity

Within this quasi-experimental design, major emphasis was on ruling out alternative explanations by adding the use of standardized test and scales for measuring the treatment outcome. The validity of a nonrandomized design is often noted to be susceptible to internal validity threats. Since the participants were not randomly assigned

to groups, one could not assume that the populations being compared were equivalent on all things prior to the treatment, and accordingly internal validity was threatened.

A good research design minimizes threats and the plausible alternative explanations for hypothesized cause-effect relationship (Cook & Campbell, 1979). A good research plan should, where possible, make use of multiple methods for reducing threats. In general, the design element is not the only way to minimize or rule out validity threats. However, reducing a particular threat by design is stronger.

For instance, to rule out threats of history, testing, instrumentation, education, or any other prior differences between the groups that may have had an effect on the outcome of this study, a pretest was administered and a baseline was established. The identical test was administered to the participants in each group on completion of the training. This is an example of test-retest reliability; the approach assumes that there is no substantial change in the construct being measured between the two occasions.

Additionally, to rule out potential threats to validity or alternative explanations I chose statistical analysis. For example, Jurs and Glass (1971) suggest that one could study the plausibility of attrition by conducting a two-way analysis of variance. I utilized a *t* test to compare pretest scores by group membership and a one-way analysis of covariance (ANCOVA). The comparison of pretest scores for the computer-based training group and the traditional training group was statistically significant. The statistically significant difference between the two groups indicated that the participants in the computer-based training group were coming to their programs with more knowledge about the job placement process in the organization than those participants who were in the traditional training program. I identified this as a potential threat and anticipated the need to make

adjustments. Accordingly, to adjust for the inequality of the groups prior to starting treatment, the posttest scores were compared using one-way analyses of covariance (ANCOVA). The independent variable in this analysis was group membership, with posttest scores used as the dependent variable. Pretest scores were used as the covariate in this analysis. The comparison of posttest scores measuring knowledge learned during training for the job placement process between participants in the computer-based training program and those in the traditional training program was not statistically significant. The associated effect size of .06 provided support that the difference between the groups had little practical significance. The pretest scores that were used as the covariate were statistically significant. This result indicated that the covariate made a significant adjustment to the posttest scores. Overall, this study can be considered strong with respect to internal validity.

Population and Sample

The company identified the target population for this study to be the Job Placement Teams. A Job Placement Team consists of a management, a medical, and a union representative. These teams are responsible for indentifying work and job placements for employees with medical restrictions throughout the company. This population was chosen because it is one of the job classifications that require each team member to take specific training for professional development and certification.

All representatives were from within the SAD Corporation and consisted of a population that totaled 175 members. Specifically excluded from the population were the 15 members who participated in the pilot study, resulting in a target population of 160. However, not all members completed all of the measures (pretest, posttest, and

Participant Reaction Questionnaire). Only the participants who completed all measures were included in the sample that totaled 83. This number included 63 members of the traditional classes and 20 members of the computer-based training classes.

The members in the sample were adult learners all over 25 years of age, active employees of the corporation, and a member of a Job Placement Team. All of these individuals had little to no formal training in job placement. This naturally formed sample included a mix of gender, ethnicity, age, and academic ability that was representative of the target population. The varied personal characteristics served to lessen the impact of the non-random selection.

Description of the Sample

Data were collected from 160 program participants. However, not all participants completed all of the measures (pretest, posttest, and Participant Reaction Questionnaire). A total of 83 participants completed all instruments and were included in the sample.

Responses to the demographic questions were crosstabulated by group membership. Table 1 presents results of the analysis for age, gender, and race.

Age

The majority of participants ($n = 14$, 70.0%) in the computer-based group were from 36 to 45 years of age. In contrast, the majority of participants ($n = 41$, 65.1%) in the traditional training program were over 45 years of age. Twenty-two (34.9%) of the participants in the traditional training program were from 36 to 45 years of age. None of the participants in the computer-based training program were over 45 years of age and none of the participants in the traditional training program were under 35 years of age.

Table 1

Crosstabulation: Age, Gender, and Race by Type of Training Program (N = 83)

Personal characteristics	Type of Training Program				Total	
	Computer-based (N = 20)		Traditional (N = 63)			
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
<u>Age</u>						
Under 35	6	30.0	0	0.0	6	7.2
36 to 45	14	70.0	22	34.9	36	43.4
Over 45	0	0.0	41	65.1	41	49.4
<u>Gender</u>						
Male	14	70.0	43	68.3	57	68.7
Female	6	30.0	20	31.7	26	31.3
<u>Race/ethnicity</u>						
African	6	30.0	13	20.6	19	22.9
Caucasian	10	50.0	43	68.3	53	63.9
Hispanic	1	5.0	3	4.8	4	4.8
Other	3	15.0	4	6.3	7	8.4

Gender

The majority of participants in both the computer-based training program ($n = 14$, 70.0%) and traditional training program ($n = 43$, 68.3%) were male. Six (30.0%) of the participants in the computer-based training program and 20 (31.7%) of the participants in the traditional training program reported their gender as female.

Race/Ethnicity

Ten (50.0%) members of the computer-based training program and 43 (68.3%) members of the traditional training program reported their race/ethnicity as Caucasian. Six (30.0%) computer-based training program members and 13 (20.6%) traditional training program participants indicated their race/ethnicity as African American. Of the 4 (4.8%) participants who were Hispanic, 1 (5.0%) was in the computer-based training

program and 3 (4.8%) were in the traditional training program. Three (15.0%) participants in the computer-based training program and 4 (6.3%) members of the traditional training program indicated “other” as their race/ethnicity.

The participants provided their educational levels and work classification (hourly or salaried) on the survey. Their responses were crosstabulated by group membership for presentation in Table 2.

Table 2

Crosstabulation: Education and Work Classification by Type of Training Program (N = 83)

Professional characteristics	Type of Training Program					
	Computer-based (N = 20)		Traditional (N = 63)		Total	
	N	%	N	%	N	%
<u>Educational level</u>						
High school	1	5.0	10	15.9	11	13.3
Some college	6	30.0	21	33.3	27	32.5
College grad	5	25.0	21	33.3	26	31.3
Medical school	8	40.0	11	17.5	19	22.9
<u>Work classification</u>						
Salaried	13	65.0	26	41.3	39	47.0
Hourly	7	35.0	37	58.7	44	53.0

The course participants were members of a Job Placement Team that included union, management, and medical representatives. The education level of this diverse group ranged from high school to medical school. The largest group of participants ($n = 27, 32.5\%$) reported they had completed some college, with 6 (30.0%) participants in the computer-based group and 21 (33.3%) participants in the traditional program indicating this level of education. Five (25.0%) participants in the computer-based group and 21

(33.3%) participants in the traditional group reported they were college graduates. Of the 19 (22.9%) participants who indicated they had completed medical school, 8 (40.0%) were in the computer-based group and 11 (17.5%) were in the traditional group. One (5.0%) participant in the computer-based group and 10 (15.9%) participants in the traditional group reported a high-school education as their highest level of education.

Thirty-nine (47.0%) participants in the study were salaried employees. Included in this number were 13 (65.0%) members of the computer-based group and 26 (41.3%) were members of the traditional group. Seven (35.0%) members of the computer-based group and 37 (58.7%) members of the traditional group reported their work classification as hourly.

Instrumentation

For this study, I used a pretest and posttest assessment (see Appendix A) and a Participant Reaction Questionnaire (see Appendix B) to collect data from the two groups. The pretest, posttest assessment, and Participant Reaction Questionnaire were designed to measure participant understanding of the job placement process, overall program effectiveness, and participant satisfaction. Additionally, I used the company quarterly job placement data reports to determine post-training job placement results. Also, included in this section is the course development process.

Pretest Assessment

The main objective of the pretest assessment is to assist both the trainer and the participant as they begin their work together in the course by assessing what the participants, individually and as a group, know about the course topic. This allows the

trainer to identify topics which may need additional emphasis during the course.

Providing the results of the pretest assessment to the participants enables them to focus on their individual learning needs. In addition, the questions alert participants to the content that will be presented in the course.

The questions are presented in the true-false and multiple choice formats. All participant scores are stored in a Learning Management System computerized database. Using this system, the trainer and participants quickly charted the number of correct answers for each of the 30 questions. By examining the data results, the group members easily determined their collective strengths and weaknesses and jointly planned with the trainer how to best use the course time to achieve the desired learning objectives.

For the trainer, the assessment results identified particular topics which may have needed additional emphasis during the learning sessions. Conversely, for those categories where 80% or more of participants answered the questions correctly, the trainer may have elected to use some of the allotted time for other purposes. For example, if the participants as a group did well (80% or more correct) in answering the questions in the category "Six-step Process," the trainer may have elected to assign Module 2, "The ADAPT Six-step Process" reference module as homework rather than discussing these topics in class.

For the participants, the learning objective(s) related to each question and the corresponding chapters in the reference manual are noted beside the answer column. To make the best use of the limited course time, participants were encouraged to address their individual learning needs by studying the designated chapter(s).

Posttest Assessment

This knowledge assessment was given on the last day of the course after all subject areas were presented and practice in each area had been accomplished. The posttest assessment is the same instrument used in the pretest assessment. The posttest assessment scores were used to measure participant knowledge learned.

This pretest/posttest assessment approach is applied when the same test is administered to the same sample on two different occasions (McGraw & Wong, 1996).

Participant Reaction Questionnaire

Participants' perceptions of effectiveness of the training and satisfaction with the program were measured through a pre-designed Participant Reaction Questionnaire. Review of the literature revealed that the most popular and effective way to determine student satisfaction is through the use of participant surveys at the end of the training session.

The Participant Reaction Questionnaire included a series of 18 items regarding (a) the course content, (b) instructional strategies, and (c) overall evaluation rating, and a write-in area provided participants with opportunities for feedback on their reaction to the entire program. Each item was rated using a 5-point Likert scale ranging from *strongly agree* to *strongly disagree*. What characterizes the Likert scale is that the categories are recognizable and hierarchical (Royce, 1999). For this reason, the Likert scale was used in the design of the Participant Reaction Questionnaire.

Company Quarterly Data Report

The company-required quarterly report provided the data for analysis to determine the job placement rate. This report was available from the company and was used to compare participant pre-training and post-training job placement rate.

Accordingly, the course completion times were measured by proctors timing the start and stop times for both the classroom and the computer-based training.

Procedure

Specifically, the groups were comprised of adults over the age of 25, active employees within the corporation, and a Job Placement Team member.

The motivation and importance of this study was influenced by an administrative requirement for this researcher to determine the feasibility of utilizing computer technology for on-the-job training. I was assigned the task to compare the effectiveness of computer-based training with traditional classroom training, as a means of delivery for a basic skill course for Job Placement Teams.

The study was approved by company leadership and the Andrews University Institutional Review Board. The control and treatment groups were naturally formed. The work environment would not allow for random selection. The adult participants self-selected to either the computer-based training course or the traditional classroom course depending on their work schedule. The computer-based class allowed for work at one's own pace. The participants in the instructor-led classroom group attended structured classes for 4 days, with approximately 7 hours of instruction each day.

In each class a sign-in sheet was used as the voluntary consent to participate in this research study and acknowledgment of oral instruction receipt. Because of the

voluntary nature and job relatedness of participation, there was no form of payment, reimbursement of costs, or any other type of inducement for participation in the study.

The purpose of the study was made known to each participant, including the nature of the treatment. Participants were assured confidentiality and were given an opportunity to decline to participate in the study. None of the participants refused to participate.

Training Development Process

A training course development process was used that included: assessing training needs; instructional design and development, pilot testing training; and evaluating training. This process method provided step-by-step guidelines which helped make optimum use of the time, money, and expertise invested in training development.

Developmental Approach

The ADAPT training course, which is the focus of this study, is an instructor-led classroom-based course. The course primary training objective is intended for specific job placement personnel. The course was designed to be used by individuals in a stand-alone, self-paced format, and/or by groups in various formats, both online and offline.

The course focuses on a teaching-learning continuum—at one end is directed learning and at the other, facilitated learning. The main point raised and discussed throughout the course is the union- and management-negotiated program for implementation of the job placement process for employees with medical restrictions (ADAPT).

Conceptual Framework

As a practitioner in training and development I have followed several characteristics that led to the effective design of on-the-job training and instruction. These include (a) defined goals and objectives, (b) specific relevant content, (c) focus on job relevance, (d) varied methods of learning, (e) regular participation of learners, (f) learner's experience and knowledge, (g) reinforcement, (h) realistic and problem-centered instructional examples, and (i) application and follow-up. These characteristics of effective training/instruction are predicated on the inclusion of a number of adult learning principles. These principles have supplied the foundation necessary to design effective face-to-face training for adults within the company.

The issue raised in the training development phase of this study was whether or not these same principles were required for the design of effective computer-based instruction. From this issue the key question was raised: Is there a significant difference in the effectiveness between computer-based training and traditional classroom training both utilizing the same curriculum? This question is examined in the study.

Instructional Design

Constructivism, which has as its synonyms active learning, adult learning, and self-directed learning, is the theoretical framework utilized for the instructional design. The constructivist perspective believes that learners approach a learning task with a set of personal beliefs, motivations, and conceptions about the subject area and the knowledge to be taught (Holmes & Leitzel, 1993). Kember and Murphy (1990) cite that when learners are taught, they construct meanings from the material by relating it to their existing conceptions, frameworks, and knowledge. The implications of constructivism on

teaching and learning in a computer-based environment require that teaching methods be selected and implemented that draw on the participants' experience and fosters participation from the participants. Instructional design from the constructivist perspective specifies methods and strategies that will assist learners in actively exploring complex topics. The content is designed so that knowledge is linked to the context under study and to the experiences that the learners bring to the context. Some of the specific strategies used in this paradigm include situating tasks in real-world contexts, presentation of multiple perspectives such as collaborative learning to develop and share different views, and social negotiation using such techniques as discussions and debates (Ertmer & Newby, 1993).

Creative Treatment

The ADAPT Representative is hired to deal with unique situations that come up while Accommodating DisAbled People in Transition, as the acronym indicates. The premise is that, according to the Americans with Disabilities Act, each disability must be treated on a case-by-case basis. Therefore, it was important for the participant to practice the ADAPT process and use specific case studies to aide in the learning.

To that end, anonymous injury cases, actual medical restrictions, and realistic scenarios were used to help representatives understand how to use the process and how to talk with employees who have disabilities. The following creative activities were used:

1. Read actual anonymous injury cases and discuss for analysis and next steps.
2. Analyzed the difference between Sickness and Accident, Extended Disability, and Workers' Compensation. Each participant/group defined the program, determined its benefits, and demonstrated how one was different from the other.

3. Completed a crossword puzzle to review the definition of supporting agencies.
4. Identified some common restrictions and determined the type of job that could be done based on those restrictions.
5. Provided the participant/group a set of employee questions and had the participant/group decide how to answer the questions.
6. Described an actual injury scenario and had two people role-play an employee interview. The first time one plays the interviewer and the other plays the interviewee. The second time around they switch roles.

Graphic Organizers

Graphic organizers were used to help the learner visualize where they were in the learning sequence. The two major graphic organizers were the flowchart, illustrating the six steps in the Six-step process, and the ADAPT four-petals design used to help participants see the connection between ADAPT and supporting agencies. It was recommended that these two charts be displayed to serve as a constant reference.

Content Presentation

The ADAPT course was designed with the roles and responsibilities of the ADAPT Representative as the organizational factor. The course began with an overview of the purpose, history, key concepts, and definition of the ADAPT program and its roles. Each module contained all the specific information needed to perform the role and responsibilities of an ADAPT Representative.

Two major graphic organizers guided the tour of information: the ADAPT Six-Step Process (Module 2) and the ADAPT petals (Module 5). These graphic organizers

allowed the learner to know where they were in the learning process when covering these modules. These organizers were displayed in the classroom where participants took their training as well as in the training manual. In that way, the instructor used these two documents for reference at any time during the ADAPT training.

Reviews and Assessments

The following describes the types of exercises and assessments that were used to reinforce the content and helped assess the learner's knowledge:

1. *Module Summary*—Included at the end of each module, the module summary contained all of the key points of the module. The summary was high-level, bulleted lists, featuring key points from the material just covered. Module summaries were used to reinforce the important concepts developed in the module.

2. *Pre- and Post-Assessments*—A test bank of approximately 50 questions was developed to feed the pre- and posttest questions. Participants were required to obtain a passing score of 80% in order to pass the posttest. A participant was required to retake the test if a passing posttest score was not attained.

Pilot Study Procedure and Results

From the onset, I worked with a panel of three subject matter experts (SMEs) to design and evaluate the training curriculum. The SMEs were selected from members of the company training department—two males and one female. All SMEs were certified instructors with several years' experience in curriculum design.

The SMEs reviewed and evaluated the instructional objectives of the course. Once the SMEs identified the primary objectives, the course test was reviewed to determine whether the questions properly measured each of those objectives.

Accordingly, the SMEs reviewed the survey questionnaire items, made suggestions, and recommended adding, deleting, or modifying a number of questions. These changes were made to the test and questionnaire document and given back to the SMEs for the final review. Once the SMEs agreed on the final pretest/posttest and questionnaire items, the instruments were approved to be administered in a small-group pilot study.

For the purpose of the pilot study I contacted via e-mail, telephone, and face to face the Job Placement Representatives at the SAD Corporation in the Southwest Michigan area. This area was chosen for its accessibility to the HRC training facility and allowed for cost saving. Additionally, the area was selected for its diverse demographic profile. The company has a vehicle assembly facility, service parts operation, warehouse, and powertrain facility geographically located in this vicinity.

I recruited 15 volunteers to participate in the pilot study for the newly designed ADAPT training curriculum. The pilot study population sample consisted of participants from a cross-section of the company. The group consisted of five individuals with extensive experience as Job Placement Representatives exclusive of any formal on-the-job training, five individuals new to the job position also without prior job-related training, and five individuals from the company Medical Department. The participants represented the areas of vehicle manufacturing, vehicle assembly, service parts

operations, and medical service group. These individuals were provided the prototype of the procedure and training techniques as eventually used in the larger study.

The pilot study participants were responsible for providing feedback on the overall training process (i.e., assessment, timing, flow, activities, etc.) and specifically for addressing the following issues: (a) clarity of the pretest and posttest questions and (b) questionnaire organization and structure. The pilot study was conducted at the HRC training facility over a 36-hour, 5-day time period.

Based on recommendations provided by the pilot study group, modifications were made to provide clearer test questions, structure, content, and presentation. Importantly, the Participant Reaction Questionnaire went through a number of different formats. I initially placed the statements in a column on the left side of the page, which would not have allowed the participants' selection to align with the appropriate statement (i.e., *strongly disagree*, *moderately disagree*, *moderately agree*, and *strongly agree*). Additionally, the statements were very difficult to read, and thus the present format was selected to enhance the readability (see Appendix B).

To assess the reliability of the final pretest-posttest instrument measures, the pilot study group was given the pretest and then post-tested 4 days later. The mean baseline test score was 76% and the mean retest score was 78%; the minimum score required to successfully pass the test was 80%. The reliability of the test for stability was measured using Pearson product-moment correlation coefficient. Pearson's r is a measure of association that varies from -1.0 (a perfect negative relationship or association) through 0.0 (no correlation) to +1.0 (a perfect positive correlation) (Leech, Barrett, & Morgan, 2005). The pilot study test-retest reliability of the instrument was .96. Using Pearson's

Table of Critical Values, the reliability of the test at the .94 level was statistically significant, $r(4) = .94$, $p < .05$, indicating the instrument was stable from pretest to posttest. Data obtained from the pilot study group were not used in the final research analysis, and participants in the pilot group were not permitted to participate in the large study.

Data Analysis

The data from the pretest-posttest instruments and the Participant Reaction Questionnaire were entered into an Excel file, which was then transformed into an SPSS file for statistical analyses. Cross-tabulations were used to provide a profile of the participants in the computer-based training group and the traditional training group. The analyses included the use of t tests for two independent samples and t tests for paired samples. The use of t tests for two independent samples allows two groups to be compared to determine whether the groups were significantly different on the scores for the pretest as a way to determine statistical equivalence of the participants prior to beginning treatment. The posttest scores were compared between the two groups using one-way analysis of covariance, with group membership used as the independent variable, scores on the posttest used as the dependent variable, and scores on the pretest used as the covariate. The use of paired t tests for the pretest-posttest data allowed me to determine whether the change in scores from prior to and after completing the training program changed and whether the change was in the anticipated direction. In addition, the items on the survey measuring satisfaction of the participants were determined using Mann-Whitney U test for two independent samples. The use of the Mann-Whitney test was appropriate due to the difference in the size of the two samples (computer = 20,

traditional = 63). All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

The methodology used for this study was consistent with the current pretest/posttest and questionnaire course evaluation process at the HRC.

CHAPTER 4

RESULTS OF DATA ANALYSIS

This chapter presents results of the data analyses that were used to address the research questions and associated hypotheses posed for this study. The purpose of the study was to compare the effectiveness of computer-based training with traditional classroom training, both utilizing the traditional classroom curriculum, as a means of delivery for Job Placement Teams. The specific objectives were to examine test scores, course completion times, and participant satisfaction levels between the two instructional delivery methods.

Research Questions and Hypotheses

Four research questions were developed for the study. The first two research questions were addressed using inferential statistical analyses, with all decisions on the findings based on the use of a criterion alpha level of .05. The third and fourth research questions are based on an inspection of outcome data, with supporting tables and discussion.

Research Question 1

Is there a significant difference in the understanding of the job placement process between participants who took computer-based training and the participants who took traditional training?

Hypothesis 1: Participants who took computer-based training will not differ significantly in understanding the job placement process from participants who took traditional classroom training.

To answer this question and address the hypothesis both quantitative and qualitative data were utilized.

Quantitative Data

To determine whether the two groups' knowledge of the job placement process changed from the pretest to the posttest, *t* tests for paired samples were used. An overall analysis, as well as separate analyses for the two groups, was used to determine changes in knowledge. Table 3 presents results of these analyses.

The use of paired *t* tests for the pretest-posttest data allowed me to determine whether the change in scores from prior to and after completing the training program changed and whether the change was in the anticipated direction.

Table 3

t Test for Paired Samples: Changes in Knowledge of Job Placement Process From Pretest to Posttest

Group test	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	Sig. of <i>t</i>
Total group						
Pretest	83	76.59	9.65	82	14.10	<.001
Posttest	83	90.42	6.61			
Traditional						
Pretest	63	75.95	10.42	62	12.40	<.001
Posttest	63	90.60	6.50			
Computer-based						
Pretest	20	78.60	6.46	19	7.23	<.001
Posttest	20	89.85	7.07			

The results of the t test for paired samples comparing pretest to posttest on changes in knowledge of job placement processes for the total group were statistically significant, $t(82) = 14.10, p < .001$. This finding provided support that all participants in the classes significantly increased their knowledge from pretest ($M = 76.59, SD = 9.65$) to posttest ($M = 90.42, SD = 6.61$).

Each of the groups was compared separately to determine if participants in the two groups changed in a positive direction. The difference from pretest ($M = 75.95, SD = 10.42$) to posttest ($M = 90.60, SD = 6.50$) for the traditional group was statistically significant, $t(62) = 12.40, p < .001$. The comparison of pretest ($M = 78.60, SD = 6.46$) and posttest ($M = 89.85, SD = 7.07$) scores for participants in the computer-based group was statistically significant, $t(19) = 7.23, p < .001$.

The second analysis that was used to address this research question used t tests for two independent samples to compare the pretest scores for their knowledge of job placement processes within the organization between the traditional and computer-based groups. This analysis was used to determine whether the two groups were equivalent when beginning the training. The independent variable in this analysis was group membership (computer-based training or traditional training). The dependent variable was the pretest scores. Table 4 presents results of this analysis.

Table 4

t Test for Independent Samples—Pretest Scores by Group Membership

Group	N	M	SD	df	t	Sig. of t
Computer-based training	20	78.60	6.46	81	1.07	.288
Traditional training	63	75.95	10.42			

The comparison of pretest scores for the computer-based training group ($M = 78.60$, $SD = 6.46$) and the traditional training group ($M = 75.95$, $SD = 10.42$) was statistically significant, $t(81) = 1.07$, $p = .288$. The lack of a statistically significant difference between the two groups indicated that while participants in the computer-based training group were coming to their programs with more knowledge about the job placement process in the organization than those participants who were in the traditional training program, the difference was not statistically significant.

The posttest scores were compared using one-way analyses of covariance (ANCOVA). The independent variable in this analysis was group membership, with posttest scores used as the dependent variable. Pretest scores were used as the covariate in this analysis. Table 5 presents results of this analysis.

The comparison of posttest scores measuring knowledge learned during training for the job placement process between participants in the computer-based training program ($M = 89.85$, $SD = 7.07$) and those in the traditional training program ($M = 90.60$, $SD = 6.50$) was not statistically significant, $F(1, 80) = 1.06$, $p = .306$. The associated effect size of .01 provided support that the differences between the groups had little practical significance. The pretest scores that were used as the covariate were statistically significant, $F(1, 80) = 20.90$, $p < .001$. This result indicated that the covariate made a

Table 5

One-way Analysis of Covariance—Posttest Scores by Group Membership

Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig. of <i>F</i>	<i>D</i>
Computer-based	20	89.85	7.07	1, 80	1.06	.306	.01
Traditional training	63	90.60	6.50				

significant adjustment to the posttest scores. The adjusted mean scores for the two groups are presented in Table 6.

The difference in the mean posttest scores between the two groups decreased slightly, but remained nonsignificant after adjustment by the covariate, pretest scores. Based on these findings, it appears that both groups had increased their knowledge of job placement processes within the organization as a result of their respective training programs. The mean scores indicated that members of the two groups had achieved the minimum 80% level for certification, although individual members within the groups may not have achieved at these levels.

Participants in the traditional group experienced significant increases in their scores from pretest ($M = 74.15, SD = 11.19$) to posttest ($M = 87.88, SD = 9.62$), $t(25) = 9.96, p < .001$. Similar statistically significant results were noted for participants in the computer-based group from pretest ($M = 78.38, SD = 6.36$) to posttest ($M = 87.25, SD = 6.71$), $t(15) = 4.81, p < .001$. These findings provide support that the participants gained knowledge from their participation in the classes, with similar outcomes obtained for each type of instructional delivery, traditional or computer-based.

The posttest scores were compared by gender and type of instructional delivery system using a 2 x 2 factorial analysis of covariance. The pretest scores were used as the

Table 6

Adjusted Posttest Scores by Group Membership

Group	<i>N</i>	<i>M</i>	<i>SE</i>
Computer-based training	20	89.22	1.34
Traditional training	63	90.80	0.75

covariate in this analysis to remove the effects of the pretest from the posttest. Table 7 presents results of this analysis.

The results of the factorial analysis of covariance were not statistically significant, indicating no difference in posttest scores after adjustment to remove the effects of the pretest scores. The two main effects, group membership and gender, did not differ significantly. The interaction effect between group membership and gender also did not produce any evidence of statistically significant differences. The covariate, pretest scores, was statistically significant, $F(1, 78) = 19.80, p < .001$; indicating that the amount of adjustment in the posttest scores by the pretest scores was significant. Based on these outcomes, gender does not appear to be a source of differences in posttest scores.

A 2 x 2 factorial analysis of covariance was used to determine if the dependent variable, posttest scores, differed by group membership and race/ethnicity of the participants. The race/ethnicity of the participants was limited to African American and

Table 7

2 x 2 Factorial Analysis of Covariance—Posttest Scores by Group Membership and Gender (n = 83)

Source of variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>DF</i>	<i>F</i>	Sig.
<u>Group membership</u>						
Computer-based	20	89.85	7.07	1, 78	1.34	.252
Traditional	63	90.60	6.50			
<u>Gender</u>						
Male	57	90.16	6.49	1, 78	0.13	.717
Female	26	91.00	6.96			
<u>Interaction effect</u>						
Computer-based x Male	14	90.21	6.62	1, 78	0.31	.582
Computer-based x Female	6	89.00	8.65			
Traditional x Male	43	90.14	6.52			
Traditional x Female	20	91.60	6.52			

Caucasian as the counts for Hispanics and “other” were too small to be included in the analysis. Table 8 presents results of this analysis.

The results of this analysis provided no evidence of statistically significant differences in posttest scores for main effect, group membership, or race/ethnicity. The interaction effect of Group Membership x Race/Ethnicity was not statistically significant, indicating posttest scores did not differ by group and race/ethnicity. The results of the analysis for the covariate, pretest scores, was statistically significant, $F(1, 78) = 20.04, p = .001$, indicating the adjustment in the posttest scores by the pretest scores was significant.

A 2 x 2 factorial analysis of covariance was planned using group membership and age as the independent variables. Posttest scores were intended to be the dependent variable, with pretest scores used as the covariate. However, none of the participants in

Table 8

2 x 2 Factorial Analysis of Covariance—Posttest Scores by Group Membership and Race/Ethnicity (n = 83)

Source of variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>DF</i>	<i>F</i>	Sig.
<u>Group membership</u>						
Computer-based	20	89.85	7.07	1, 78	1.05	.308
Traditional	63	90.60	6.50			
<u>Race/ethnicity</u>						
African American/Hispanic/Other	30	89.80	7.32	1, 78	0.01	.911
Caucasian	53	90.77	6.22			
<u>Interaction effect</u>						
Computer-based x African American/Hispanic/Other	10	89.20	7.21	1, 78	0.08	.785
Computer-based x Caucasian	10	90.50	7.26			
Traditional x African American/Hispanic/Other	20	90.10	7.54			
Traditional x Caucasian	43	90.84	6.05			

the traditional group was under 45 years of age and all of the participants in the computer-based group were under 45 years of age. The analysis could not be completed due to the empty cells in the age categories.

A 2 x 2 factorial analysis of covariance was used to determine if posttest scores differed by group membership and employment status (hourly/salaried). The results of this analysis are presented in Table 9.

The posttest scores did not differ significantly between participants in the computer-based and traditional training program after removing the effects of the pretest scores. The other main effect, employment status, did not produce a statistically significant difference for posttest scores. The interaction effect between group and employment status was not statistically significant. The covariate, pretest scores, was statistically significant, $F(1, 78) = 22.37, p < .001$, indicating that the amount of variance in the posttest scores that was adjusted by the pretest scores was statistically significant.

Table 9

2 x 2 Factorial Analysis of Covariance—Posttest Scores by Group Membership and Employment Status (n = 83)

Source of Variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>DF</i>	<i>F</i>	Sig.
<u>Group membership</u>						
Computer-based	20	89.85	7.07	1, 78	2.21	.141
Traditional	63	90.60	6.50			
<u>Employment status</u>						
Salaried	39	91.05	7.10	1, 78	3.29	.074
Hourly	44	89.86	6.17			
<u>Interaction Effect</u>						
Computer-based x Salaried	13	91.31	7.45	1, 78	0.34	.560
Computer-based x Hourly	7	87.14	5.84			
Traditional x Salaried	26	90.92	7.07			
Traditional x Hourly	37	90.38	6.17			

The posttest scores were used as the dependent variable in a one-way analysis of covariance. The independent variable in this analysis was educational level. Pretest scores were used as the covariate. Because of the four levels of education, the 2 x 4 factorial analysis of covariance was inappropriate as the number of participants in each of the eight cells was too small to meet the assumptions of parametric statistics (i.e., scores formed a normal curve). Table 10 presents results of this analysis.

The results of the one-way analysis of covariance were not statistically significant, indicating that the posttest scores after being adjusted for the pretest scores did not differ by level of education. The results of the analysis of the covariance were statistically significant, $F(1, 67) = 14.40, p < .001$. This finding indicated that the amount of adjustment in the posttest scores by the pretest scores was statistically significant.

Qualitative Data

The participants in both the traditional classes and computer-based training programs were asked to provide comments regarding the course through a post-training questionnaire. The written comments were directly related to the training:

Table 10

One-way Analysis of Covariance—Posttest Scores by Educational Level (n = 83)

Source of variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>DF</i>	<i>F</i>	Sig.
High School	11	90.27	7.14	3, 78	1.63	.189
Some college	27	88.96	6.05			
College graduate	26	90.62	6.49			
Medical school	19	92.32	7.23			

1. Please provide any overall training comments.
2. What specific things will you do differently as a result of this training?
3. What barriers/support do you anticipate in applying what you have learned?

The comments were summarized, with comparisons and contrasts made between the traditional and computer-based training programs. Table 11 presents participant comments related to Research Question 1: Changes in Knowledge.

The comments regarding training by the participants in the traditional classes were generally positive, with many members indicating the information presented was relevant to their roles at their home units. Many participants commented that the course was helpful and informative, the training process was very effective and the materials clearly instructed the steps, and the workshop was the best. These comments were repeated many times and provided support that the participants were engaged and enjoyed the training program.

However, some comments indicated shortcomings of the program, such as the lack of a manual that covered the course content. For example, one participant indicated that the “information [is] relevant for my role; [I] would have liked to have the manual to take home, but will wait for it.” Another participant remarked, “Good course, only notable issue was the availability of manuals to make notes in and take back to plant. However, do understand the reasons why this was not possible.”

Some participants indicated that the course could have been shorter. One participant commented that they “could have moved through the material more quickly,” and another indicated that the “course was drawn out and time not managed well. Need to move lunch later. Was very hard for group to stay functioning for 4 hours after lunch.”

Table 11

Qualitative Analysis—Changes in Knowledge Due to Training

Traditional classroom comments:	Computer-based training program
<p>I only got half right on the pretest. The posttest was a far greater score due to training. I appreciate the opportunity to be in this class.</p>	<p>No comments related to changes in knowledge from the program.</p>
<p>The training was more than adequate. I have been the Management Rep. for approx. 9 years and this was my only formal training. It will help me to improve in several aspects of my performance.</p>	
<p>Very good learning tool. I feel that the knowledge gained in this class can be applied to my job as soon as we return to our plant. I never received any type of training when I was assigned to this job.</p>	
<p>The training process was very effective and materials clearly instructed the steps.</p>	
<p>This type of training worked better than conferences.</p>	
<p>I enjoyed the process of learning the detailed ADAPT program. It will be valuable in bringing my location up to spec. Learning the specifics of the job for me was critical because I am new to the role of ADAPT Rep.</p>	
<p>Good presentations, overall good program.</p>	
<p>I thought the class was very informative, pertinent and essential for any persons associated with the ADAPT Program. The facilitator was very knowledgeable on the subject. I feel honored to receive this specialized training in this manner.</p>	
<p>This training class was well put together and the material was great. I think in some form or fashion the key 4 should attend this training.</p>	
<p>The material and the class exercises were real life examples.</p>	

According to one participant, the “content could have been covered in 2 to 3 days. Course is too long!”

In reviewing the comments from participants in the computer-based program, none were relevant to question of knowledge gained from the program. However, the comment trends from the participants in the computer-based training were primarily in regard to satisfaction with the training.

Summary

Research question 1 stated, Is there a significant difference in the understanding of the job placement process between participants who took computer-based training and the participants who took traditional classroom training? The associated null hypothesis stated, Participants who took computer-based training will not differ significantly in understanding the job placement process from participants who took traditional classroom training. Based on the results of the analysis from both quantitative and qualitative perspectives, no significant differences were found between the mean test scores of the two sample groups. In comparing the results from the computer-based class pretest ($M = 78.38, SD = 6.36$) and posttest ($M = 87.25, SD = 6.71$), $t(15) = 4.81, p < .001$, to the participant results from the classroom training pretest ($M = 74.15, SD = 11.19$) to posttest ($M = 87.88, SD = 9.62$), $t(25) = 9.96, p < .001$, the null hypothesis was supported. In reviewing results of the additional analyses comparing posttest scores by gender, race/ethnicity, educational level, and employment status, no statistically significant differences were found, indicating that knowledge gained from the training program was independent of the participants' demographic characteristics.

Research Question 2

Is there a significant difference in the overall student satisfaction levels between participants in the computer-based training and participants in the classroom training?

Hypothesis 2: Participants in the computer-based training will not differ significantly in overall student satisfaction levels from students in traditional classroom training.

To answer this question and test the hypothesis, both quantitative and qualitative data were utilized.

Quantitative Data

At the end of each course, participants in both groups were asked to complete a questionnaire that measured satisfaction with the training program. The items on the questionnaire measured satisfaction with program content, instructional strategies/materials, and overall course satisfaction. The participants rated each of the items using a 5-point Likert-type scale ranging from 1 for *strongly disagree* to 5 for *strongly agree*. The summed scores for satisfaction with the training program were used as the dependent variable in a *t* test for two independent variables. The type of training program was used as the independent variable in this analysis. Table 12 presents results of this analysis.

The results of the comparison of total scores for satisfaction by group membership were statistically significant, $t(81) = -2.64, p = .010$. Members in the traditional group ($M = 48.54, SD = 4.99$) had significantly higher levels of satisfaction than members of the computer-based training ($M = 44.80, SD = 6.95$).

Table 12

t Test for Independent Samples—Satisfaction With Training Program by Group Membership

Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>t</i>	Sig. of <i>t</i>
Computer-based training	20	44.80	6.95	81	-2.64	.010
Traditional training	63	48.54	4.99			

To further examine this difference, the individual items measuring satisfaction were compared by group membership. Because of the difference in the number of participants from the traditional program ($n = 63$) and the computer-based program ($n = 20$), and the ordinal scaling of the individual variables, Mann-Whitney tests for two independent samples were used. Table 13 presents results of these analyses.

Six of the items differed significantly between participants in the traditional and computer-based groups. However, all participants, regardless of their group membership, appeared to either agree or strongly agree to all of the items.

The comparison of responses regarding the item, “Met the stated objectives,” produced a statistically significant result, $Z = -3.37$, $p = .001$. Participants in the traditional group ($M = 4.54$, $SD = 0.59$) had significantly more positive perceptions on this item than participants in the computer-based group ($M = 3.95$, $SD = 0.69$). When scores for item, “Course met my overall objectives,” were compared between the traditional ($M = 4.32$, $SD = 0.67$) and computer-based ($M = 3.90$, $SD = 0.85$) groups, the difference was statistically significant, $Z = -1.99$, $p = .047$. Participants in the traditional group ($M = 4.63$, $SD = 0.63$) had significantly higher scores than participants in the computer-based group ($M = 4.10$, $SD = 1.07$) for the item, “Materials can be used for

Table 13

Mann-Whitney Test for Independent Samples—Satisfaction With Training

Item and group	<i>N</i>	<i>M</i>	<i>SD</i>	Mean rank	Z-value	Sig.
A good mix of theory and practical information.						
Traditional	63	4.25	0.72	43.98	-1.45	.146
Computer-based	20	4.00	0.73	35.75		
Relevant to my job position.						
Traditional	63	4.52	0.76	42.44	-0.35	.725
Computer-based	20	4.50	0.69	40.60		
Met the stated objectives.						
Traditional	63	4.54	0.59	46.52	-3.37	.001
Computer-based	20	3.95	0.69	27.75		
Course met my overall objectives.						
Traditional	63	4.32	0.67	44.72	-1.99	.047
Computer-based	20	3.90	0.85	33.42		
Program used a variety of activities and examples.						
Traditional	63	4.44	0.59	42.70	-0.52	.601
Computer-based	20	4.30	0.80	39.80		
Course activities/exercises were practical for job application.						
Traditional	63	4.10	0.88	43.12	-0.79	.427
Computer-based	20	3.85	1.09	38.48		
Topics were organized in a clear, logical manner.						
Traditional	63	4.35	0.70	44.18	-1.59	.111
Computer-based	20	4.05	0.76	35.13		
Materials can be used for reference back on the job.						
Traditional	63	4.63	0.63	44.97	-2.35	.019
Computer-based	20	4.10	1.07	32.65		
Intrinsic value: the degree to which the material is valuable.						
Traditional	63	4.56	0.67	46.25	-3.19	.001
Computer-based	20	4.00	0.73	28.63		

Table 13—Continued.

Item and group	<i>N</i>	<i>M</i>	<i>SD</i>	Mean rank	<i>Z</i> -value	Sig.
Relevance: the degree to which the material was pertinent.						
Traditional	63	4.55	0.69	43.06	-1.21	.228
Computer-based	20	4.35	0.75	36.67		
Applicability: the degree to which the material can be readily applied.						
Traditional	63	4.51	0.62	44.65	-1.98	.048
Computer-based	20	4.05	0.95	33.65		
Engaging: the degree to which the materials held your attention.						
Traditional	63	4.24	0.82	45.06	-2.19	.028
Computer-based	20	3.75	0.91	32.38		

$p < .05$

reference back to the job,” $Z = -2.35$, $p = .019$. The difference in scores for the traditional group ($M = 4.56$, $SD = 0.57$) with the computer-based group ($M = 4.00$, $SD = 0.73$) on the item, “Intrinsic value: the degree to which the material is valuable,” was statistically significant, $Z = -3.19$, $p = .001$. The mean scores for the traditional group ($M = 4.51$, $SD = 0.62$) for the item, “Applicability: the degree to which the material can be readily applied,” differed significantly from the mean scores for the computer-based group ($M = 4.05$, $SD = 0.95$), $Z = -1.98$, $p = .048$. When participants in the traditional group ($M = 4.24$, $SD = 0.82$) were compared to the computer-based group ($M = 3.75$, $SD = 0.91$) on the item, “Engaging: the degree to which the materials held your attention,” the difference was statistically significant, $Z = -2.19$, $p = .028$. The remaining six items comparing satisfaction between the two groups were not statistically significant, indicating the participants in the traditional and computer-based groups had similar levels of satisfaction with their training for job placement processes.

The summed scores for satisfaction with training were compared by demographic characteristics, including gender, race/ethnicity, employment status, and educational level. Each of these comparisons used either one-way analysis of variance or factorial analysis variance. Table 14 presents results of the 2 x 2 factorial analysis using group and gender as the independent variables. The summed scores for satisfaction with training were used as the dependent variable.

No statistically significant difference was found for the main effect of gender. The main effect for group membership was not statistically significant, indicating that satisfaction did not differ by type of training. The interaction effect between group membership and gender was not statistically significant. Based on these findings, it appears that male and female participants in the two groups experienced similar levels of satisfaction with the training.

Table 14

2 x 2 Factorial Analysis of Variance—Satisfaction With Training by Group Membership and Gender (n = 83)

Source of Variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig.
<u>Group membership</u>						
Computer-based	20	44.80	6.95	1, 79	3.62	.061
Traditional	63	48.54	4.99			
<u>Gender</u>						
Male	57	48.33	4.76	1, 79	3.24	.076
Female	26	49.00	5.55			
<u>Interaction effect</u>						
Computer-based x Male	14	43.35	7.71	1, 79	1.84	.179
Computer-based x Female	6	48.17	3.06			
Traditional x Male	43	48.33	4.76			
Traditional x Female	20	49.00	5.55			

A 2 x 2 factorial analysis of variance was used to determine if satisfaction with training differed by group membership and race/ethnicity. The dependent variable was satisfaction with training and the independent variables were group membership and race/ethnicity. Results of this analysis are presented in Table 15.

The results of the analysis for the main effect, group membership, were statistically significant, $F(1, 79) = 5.49, p = .022$. The comparison of the two groups indicated that participants in the traditional group ($M = 48.54, SD = 4.99$) had higher levels of satisfaction than members of the computer-based group ($M = 44.80, SD = 6.95$). The main effect of race/ethnicity was not statistically significant. The interaction effect between group membership and race/ethnicity was not statistically significant. Based on these findings, satisfaction with training did not differ among African-Americans and Caucasian participants, but did differ by group: traditional and computer.

Table 15

2 x 2 Factorial Analysis of Variance—Satisfaction With Training by Group Membership and Race/Ethnicity (n = 83)

Source of variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig.
<u>Group membership</u>						
Computer-based	20	44.80	6.95	1, 79	5.49	.022
Traditional	63	48.54	4.99			
<u>Race/ethnicity</u>						
African American/Hispanic/Other	30	46.47	5.18	1, 79	0.29	.590
Caucasian	53	48.30	5.93			
<u>Interaction effect</u>						
Computer-based x African American/Hispanic/Other	10	45.00	5.31	1, 79	0.67	.415
Computer-based x Caucasian	10	44.60	8.58			
Traditional x African American/Hispanic/Other	20	47.20	5.08			
Traditional x Caucasian	43	49.16	4.88			

Satisfaction with training between participants in the two types of training program and employment status, hourly/salaried, was compared using a 2 x 2 factorial analysis of variance. Summed scores for satisfaction with training were used as the dependent variable, and group membership and employment status were used as the independent variables. Table 16 presents results of this analysis.

A statistically significant difference in satisfaction with training was found for the main effect, group membership, $F(1, 79) = 9.96, p = .002$. The mean score of 44.80 ($SD = 7.17$) for participants in the computer-based training program was significantly lower than the mean score for those in the traditional training program ($M = 48.54, SD = 4.99$). The difference in satisfaction with training by employment status was statistically significant, $F(1, 79) = 3.97, p = .005$. The results of the analysis for the interaction between group membership and employment status were statistically significant. To

Table 16

2 x 2 Factorial Analysis of Variance—Satisfaction With Training by Group Membership and Employment Status (n = 83)

Source of variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig.
<u>Group membership</u>						
Computer-based	20	44.80	6.95	1, 79	9.96	.002
Traditional	63	48.54	4.99			
<u>Employment status</u>						
Salaried	39	47.90	5.01	1, 79	3.61	.061
Hourly	43	47.41	6.31			
<u>Interaction effect</u>						
Computer-based x Salaried	13	46.77	5.42	1, 79	3.97	.050
Computer-based x Hourly	7	41.14	8.38			
Traditional x Salaried	26	48.46	4.80			
Traditional x Hourly	37	48.59	5.18			

examine the difference on the interaction effect, a graph of the mean scores for satisfaction by group membership and employment status is presented in Figure 1.

In examining the graph of the interaction between group membership and employment status, hourly participants in the computer-based group ($M = 41.14$, $SD = 8.38$) had the lowest scores, whereas the hourly ($M = 48.46$, $SD = 4.80$) and salary ($M = 48.59$, $SD = 5.18$) participants in the traditional class had similar scores on their levels of satisfaction. Members of the computer-based group who were salaried ($M = 46.77$, $SD = 5.42$) had levels of satisfaction that were similar to those in the traditional group.

The comparison of scores for satisfaction with training was made using a one-way analysis of variance. The dependent variable was satisfaction with training, with the level of education used as the independent variable. Table 17 presents results of this analysis.

The results of the analysis comparing satisfaction with training among participants with four different levels of education were not statistically significant.

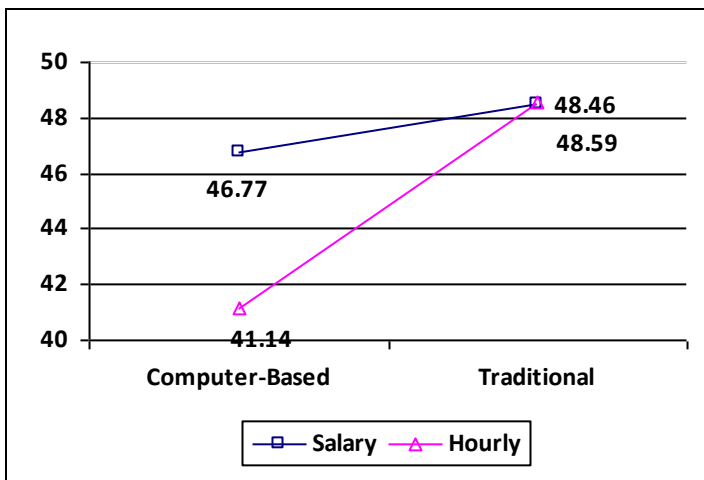


Figure 1. Interaction between group and employment status on satisfaction with training.

Table 17

One-way Analysis of Variance—Satisfaction With Training by Level of Education (n = 83)

Source of variance	<i>N</i>	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	Sig.
High school	11	48.45	5.63	3, 79	0.63	.598
Some college	27	46.52	6.68			
College graduate	26	48.54	5.35			
Medical school	19	47.53	4.82			

Based on this finding, it did not appear that satisfaction with training was related to the level of education.

Qualitative Data

The participants in both the traditional and web-based training programs were asked to provide comments regarding the classes. They provided written comments that were directly related to the training:

1. Please provide any overall training comments.
2. What specific things will you do differently as a result of this training?
3. What barriers/support do you anticipate in applying what you have learned?

The comments were summarized, with comparisons and contrasts made between the traditional and computer-based training programs.

The comments were generally positive regarding course materials and presentation of topics. For example, a participant indicated that “material for the class was informative and relevant to the program. I’m really glad I took the course.” Another participant commented that “overall, the course was very informative. The course materials could have been covered in a little faster pace.” One participant indicated that

“time and materials were presented/used well. The instructor made every effort to make sure questions were answered to my satisfaction and kept my interest level high.”

Comments relative to participant satisfaction level are presented in Table 18.

The participants in the computer-based training program made comments regarding the presentation of the course online. One participant indicated that “it would be helpful to be able to print some of the screens (especially the multi-step algorithms).” Another participant indicated, “[The training was] very interactive and an effective way to learn this material. I would highly recommend this course! Great job with a sometimes confusing topic.” A participant commented that it was a “fairly dry topic or material, making it hard to maintain interest, but presented well.”

Similar to members of the traditional training class, one participant indicated, “The course would have been more useful if it had given us reference materials to refer to in the months after the course was finished.” Another participant asserted that “I would have preferred a separate section for course documents at the end of the course.” One member of the computer-based program stated, “[I] found the material to be well-organized and a very good overview of the ADAPT program. It would be advantageous to all reps to have an up-to-date hard copy of this material to share with Plant and Union leadership.”

Summary

After review and comparison of the quantitative and qualitative data, the null hypothesis that there is no significant difference in the overall student satisfaction levels between participants in the computer-based training as compared to participants in the classroom training was retained.

Table 18

Qualitative Analysis—Student Satisfaction Level

Traditional Classroom Comments:	Computer-based Training Class Comments:
Class will help me back at the plant to do my job better.	I have a better understanding of the contractual language. I understood the 6-step process. I will pay more attention now to the correct way to fill out the forms and also to help in the audit process.
A good learning tool for ADAPT.	I continue to follow the guidelines as specified for proper completion of the program objectives.
Material for the class was informative and relevant to the program. I'm really glad I took the course.	I have a better understanding of job placements and Restriction monitoring.
Overall the class was excellent! I will be much more effective at my job when I return to the plant. This will be a benefit to myself and everybody that comes through the ADAPT program.	I will sign up for additional training to learn more about the ADAPT process.
The course was very helpful and informative.	Hopefully I can refer back to this course and use it as reference material in the future.
This class was very necessary for me as a newly appointed ADAPT representative.	Overall the course was helpful to me.
This was all new to me but was done in a way that made it easy for me to understand.	
Training content has been very valuable for us to return to the plant as an ADAPT team and implement a successful program.	
The ADAPT training was extremely helpful to me and was very thorough in content. I feel better equipped to handle restrictions in our plant.	
Was not aware that each Medical Restriction form should be sent to the ADAPT Team nor that the Team is responsible for notifying employee's supervisor of his/her restrictions. We have never used the Medical Restriction Tracking sheet (did not know it existed).	
Worthwhile course, especially for someone new, like myself.	
The class was very informative. It was a much better presentation of the information than I have ever seen before. The book was just as well done as the class.	
Very helpful to my work.	
Well done and informative. I have no doubt that it will help us at our location once all ADAPT reps and our doctor attends this course.	

Research Question 3

Is there a significant difference in course completion times for participants in the computer-based training and participants in the classroom training?

Hypothesis 3: Participants in the computer-based training will not differ significantly in course completion times from participants in the traditional classroom training.

To answer the question and address the hypothesis, both quantitative and qualitative data were utilized.

Quantitative Data

The average completion time for the traditional classroom participants was compared with the completion time for the participants in the computer-based training. Presented in Table 19 are the raw data collected for participant course completion times. The participants in the traditional classroom training program attended structured classes for 4 days, with each day having approximately 7 hours of contact time. These participants were in class for 1,680 minutes. In contrast, the participants in the computer-based training programs were free to spend as little or as much time as needed to master the modules included in the course. The computer-based training class participant start and stop times were retrieved from the associated computer learning management system database. Their times ranged from 15 minutes to 707 minutes, with a mean of 158.89 ($SD = 207.39$) minutes. Since those who participated in the classroom training all had the same completion time of 1,680 minutes, this time was used as the mean for that group.

Table 19

Participant Course Completion Times (in Minutes) (N=18)

Frequency	Computer-based Training Number of minutes	Traditional classroom Training Number of minutes	Difference
1	15	1,680	1,665
1	18	1,680	1,662
1	21	1,680	1,659
1	24	1,680	1,656
1	29	1,680	1,651
1	35	1,680	1,645
1	40	1,680	1,640
1	41	1,680	1,639
1	55	1,680	1,625
1	78	1,680	1,602
1	82	1,680	1,598
1	108	1,680	1,572
1	115	1,680	1,565
1	127	1,680	1,553
1	432	1,680	1,248
1	458	1,680	1,222
1	475	1,680	1,205
1	707	1,680	973
Means	158.89	1,680	1,521.11

Qualitative Data

Participants in both training classes were asked to provide written comments on the overall course. The reviewed comments as related to course completion times were limited. One participant in the traditional class commented on the redundancy of material stating that “the amount of time spent in redundant review of material should be cut down.” Another participant stated, “Overall, good class, however, team activities take up too much time.” However, the general theme from some participants was that the course could have been shorter. For example, “the course was drawn out and time was not managed well.” Another participant commented, “The course drags for the 1st 2 days.”

Lastly, a participant noted that the “content could have been covered in 2-3 days. Course is too long!” Analysis of the qualitative data provided by the computer-based trained participants did not reveal any comments related to course completion time.

Summary

The quantitative and the qualitative data provided did not support the null hypothesis that there was no significant difference in the course completion times. A substantial difference was found between the means of the two groups. This finding supports the fact that computer-based training has the potential to significantly impact the duration of time spent on training courses.

Research Question 4

Is there a significant difference in the company overall job placement rate post-Job Placement Team training.

Hypothesis 4: No statistically significant difference exists in the overall company job placement rate post-Job Placement Team training.

The job placement rate is the number of workplace job assignments for employees with medical restrictions. The Job Placement Teams work jointly for the purpose of providing the appropriate job placements throughout the company.

On total completion of the training classes, job placement data were obtained from the company’s quarterly reports for first quarter year 2007 (pre-training) and first quarter year 2008 (post-training) to determine the job placement rate and whether job placement improved following the training programs.

The overall percentage change in job placement rate as determined by the number of individuals with medical disabilities who were either retained on their regular job assignments or returned to work from a medical leave of absence is presented in Table 20.

Quantitative Data

The total percentage of employees on disability decreased 8.27% from 2007 ($n = 6,591, 8.16\%$) to 2008 ($n = 5,780, 7.46\%$) based on the total number of hourly employees

Table 20

*Job Placement Rate Comparison (First Quarter 2007 and First Quarter 2008)
Post-Training*

Type of placement	2007		2008		Percentage change from 2007 to 2008
	Number of employees	%	Number of employees	%	
Total number on disability	6,591	8.16	5,780	7.46	(8.27)
No job available	445	6.75	252	4.36	(35.41)
Placed in regular jobs in active workplace					
Returned to work	392	5.95	359	6.21	4.37
Retained at work	1,212	18.39	960	16.61	(9.68)
Employees reassigned to vacant positions					
Returned to work	114	1.73	94	1.63	(13.70)
Retained at work	404	6.13	540	9.34	52.37
Employees assigned to transitional work in plant					
Returned to work	116	1.76	127	2.20	25.00
Retained at work	394	5.98	291	5.03	(15.89)
Employees on disability and unable to work	3,514	53.31	3,157	54.62	2.46

corporate-wide. The number of employees who were placed in regular jobs in the workplace when they returned to work increased 4.37% from 2007 ($n = 392$, 5.95%) to 2008 ($n = 359$, 6.21%). In comparison, those who were retained at work and placed in regular jobs decreased by 9.68% from 2007 ($n = 1,212$, 18.39%) to 2008 ($n = 960$, 16.61%). The percentage of employees who returned to work and were reassigned to vacant positions from 2007 ($n = 114$, 1.73%) to 2008 ($n = 95$, 1.63%) decreased by 13.70%. However, the percentage of employees who were retained at work and were reassigned to vacant positions from 2007 ($n = 404$, 6.13%) to 2008 ($n = 540$, 9.34%) increased by 52.37%. A 25.00% increase was noted in the percentage of employees who returned to work and were assigned to transitional work in the plant from 2007 ($n = 116$, 1.76%) to 2008 ($n = 127$, 2.20%). Of those who were retained at work, a decrease of 15.89% was noted from 2007 ($n = 394$, 5.98) to 2008 ($n = 291$, 5.03%). The percentage of employees who remained on disability and did not return to work increased by 2.46% from 2007 ($n = 3,514$, 53.21%) to 2008 ($n = 3,157$, 54.62%). In addition, the percentage of employees on disability who had expressed a desire to return to work, but no jobs were available, decreased by 35.41% from 2007 ($n = 445$, 6.75%) to 2008 ($n = 252$, 4.36%).

Summary

From a company perspective these changes were considered positive; the improved placement data for both instructional delivery methods provide support that the training appeared to be effective in placing employees. A review of the job placement rate data provided some insight on the effectiveness of the training and the transferability of the skills learned and the qualitative data as reviewed in the ancillary findings indicated that both groups had similar levels of confidence that the learning would be

readily applied on the job. The research hypothesis that no statistically significant difference exists in the overall company job placement rate post-Job Placement Team training was not supported.

Ancillary Findings

Training Comments

As in all new technology programs, the participants encountered some difficulty with the program. Their comments should be considered when upgrading the program. For example, a participant commented, “Overall the course was helpful for me. I was exposed to the full content of what ADAPT is supposed to be about. There were a few screens that did not function and I had to use the auto function to see what I was supposed to be tested on.” Another comment about the program was, “Overall, the training was good and convenient. However, I did encounter some problems during the training course. One particular thing is you cannot go back. Once I clicked the ‘Back’ button. It went all the way to the beginning and I had to start over.”

What Specific Things Will You Do Differently as a Result of This Training?

Among the participants in the traditional program, two major comments were made regarding what the Job Placement Representatives would do as a result of this training. The first was documentation, with more involvement with the plant leadership. Several participants indicated they would change the documentation process to follow the steps outlined in the training. Other participants indicated they had a better understanding of the reasons for documentation. For example, one participant wrote, “I will be documenting items on the forms for better tracking and filling out the quarterly reports.

We will be conducting meetings with the Key 4 [plant leadership] on a regular basis and do a better job of informing the plant population about ADAPT.” Another participant indicated, “We will begin to use the specific forms, files, and reports that were taught in the class. I feel we are doing a good job placing people, and we do have documentation. However, we now have a specific process we can follow.” Another example of the increased use of documentation was “I will go back to my facility and continue to document, but only better. I will be more consistent in doing that.” A comment from a participant provided additional support for increased documentation: “We were compliant with the spirit of ADAPT, but did not have the paper trail to prove it. [We] will be creating files once we get back home.” According to another representative, this individual would “change some documentation processes and education of the plant population.”

Many of the participants indicated they would be working closer with the plant leadership when they returned from the training. For example, one representative stated that he/she “would meet more with the Key Four and have better documentation.” Another participant indicated they would “meet with the Key 4, develop a closing-the-gap plan for review and approval of the Key 4.” One participant indicated that they would “seek more Key 4 involvement/commitment. Be meticulous in documentation.”

Other comments indicated that the participants would be increasing communication both with their counterparts and the medical department. They would also try to explain the program better and generally try to improve the process at their plant.

The participants in the computer-based training indicated some of the same issues, including improving their documentation, interfacing with other members of the Job Placement Team, and informing more people about the program. One participant in this training indicated, “I will meet with the Key 4 to request that we institute each of the process steps in a more formal manner. I think we may have gotten a little lax in our implementation of the steps, although our program is working exceptionally well.” Another indicated that he/she would “be certain to sign, as MD [medical doctor], job placements or NJAWRs [no jobs available within restrictions]. Monitor ongoing restrictions while EE [employee] is accommodated.” One participant reported that they would “better interface with other members of the ADAPT team.”

Based on the responses of the participants, specific interests of the participants in both the traditional and computer-based training programs include improved documentation, working with plant leadership, and communication among ADAPT team members and with plant workers. In addition, the participants appeared to want more training to continue improving the operations of the ADAPT process.

What Barriers/Support Do You Anticipate in Applying What You Have Learned?

While most of the participants did not anticipate any barriers to applying their training to the ADAPT process at their plants, two themes emerged from the comments. The most often-mentioned barrier was lack of time to do the process correctly and the second was the lack of support from plant leadership.

One participant described a barrier as “Key 4 allowing more or enough time to do what is now required.” Another participant indicated that “having enough time to perform

my regular duties, as well as ADAPT responsibilities” could be a barrier. A comment that supported time as a barrier was, “Possibly time. However, I do not believe we will have any problem with support from our organization.” Because of downsizing, one participant indicated that “we no longer have the manpower resources to do the process as required. We will have to rethink how to follow the process even though we all wear more than one hat.” Another comment supporting time as a barrier was, “With the many hats we are wearing these days, time to cover all the details will be hard to come by.”

The participants also provided comments regarding plant leadership as a possible barrier to the ADAPT process. For example, one participant indicated, “Convincing the Key Four of mandatory changes and obtaining their support for the program” could be a barrier. Another representative indicated a barrier as “lack of interest by Key 4. They have a lot of other issues on their minds and schedules and this is at the back of the line.” According to a representative, “Management’s enthusiasm and drive to take responsibility to deliver required data and believe in the process” could be a barrier.

Plant leadership was also considered a support for the ADAPT program. As one participant commented, “My Key Four is very involved and supportive of all joint programs. They will give our ADAPT team all we need in terms of time and support to fulfill our contractual obligations.” Another participant indicated a support as “communication with the Key 4 and using their support to further the program along.”

The participants in the computer-based training were similar to those from the traditional training class. Some indicated there would be no barriers, while others reported time and communication as possible barriers. One participant reported, “Do not anticipate any barriers. If all members of the ADAPT team have completed the training

and understand what is needed, that is the support we need.” Another participant reported that “compliance of the worker in returning to Medical and updating Medical and ADAPT” was a barrier.

The barriers reported by the members of the traditional training program appear to be mostly related to time and getting plant leadership involved in the process. The computer-based training participants, for the most part, appear to feel that barriers to the job placement process would be minimal.

Summary of Findings

This chapter provided quantitative and qualitative data as illustrated in the tables, as well as analysis of hypotheses. A total of four null hypotheses were tested, which were based on participant test scores, participant satisfaction level, courses completion time, and job placement rate. Of the four hypotheses tested, two were retained and two were rejected. The following is a brief summary of the findings:

Research Question 1: Is there a significant difference in the understanding of the job placement process between participants who took computer-based training and the participants who took traditional training?

To determine whether participants in the two types of training programs (traditional classroom and computer-based) were equivalent in regard to their prior knowledge of the job placement process, their pretest scores were compared using *t* tests for two independent samples. The results of this analysis were statistically significant, indicating that participants in the computer-based training program were entering training with higher scores than those participants who were completing the traditional classroom training program. To compensate for the difference in the two groups prior to beginning

training, a one-way analysis of covariance (ANCOVA) was used to remove the effects of the pretest scores from the posttest scores. The results of the one-way ANCOVA were not statistically significant, indicating that at the end of the training programs the two groups were equivalent in regard to their posttest scores on the job placement process.

To determine whether the two groups' knowledge of the job placement process changed from the pretest to the posttest, *t* tests for paired samples were used. Statistically significant differences were obtained for the total group, as well as each of the types of programs. In each case, the posttest scores increased significantly, indicating that regardless of the type of instructional delivery, the participants improved their knowledge of the job placement process. There was no significant difference in the participant test scores in the computer-based training and participants in classroom training for Job Placement Teams.

Research Question 2: Is there a significant difference in overall student satisfaction levels between participants in the computer-based training and participants in the classroom training?

The participants in both groups completed a survey to measure their satisfaction with their training programs. The items measured satisfaction with program content, instructional strategies/materials, and overall evaluation rating. Because of the difference in the number of participants in the traditional program ($n = 63$) and the computer-based program ($n = 20$), the Mann-Whitney test for two independent samples was used to compare the responses on selected items from the survey measuring satisfaction with the training programs.

Of the 12 items that were compared, six statistically significant differences were noted. The participants in the traditional group had significantly higher mean scores on the item, “Met the stated objectives.” A statistically significant difference was noted for “Course met my overall objectives,” with members of the traditional group having significantly higher scores than participants in the computer-based training group. The participants in the traditional training group had significantly higher scores for “Materials can be used for reference back on the job” than members of the computer-based training program. The item, “Intrinsic value: the degree to which the material is valuable,” differed significantly, with participants from the traditional group having statistically significant higher scores than participants in the computer-based training group. The members of the traditional training group had significantly higher scores for “Applicability: the degree to which the material can be readily applied” than participants in the computer-based training program. A statistically significant difference was noted for the item, “Engaging: the degree to which the materials held your attention,” with participants in the traditional training program having significantly higher scores than participants in the computer-based training program. The remaining items did not differ significantly between the two groups, although the participants in the traditional group had slightly higher scores than participants in the computer-based training group. The analysis of the qualitative data indicated that the difference in the satisfaction level between the two groups could have been because the participants in the traditional class enjoyed the hotel, personality of the instructor, and group networking. However, the participants in the traditional and computer-based groups had similar levels of satisfaction with their training for job placement processes; and the null hypothesis that

there is no significant difference in the participant overall satisfaction levels for participants in the computer-based training and participants in classroom training for Job Placement Teams was supported.

Research Question 3: Is there a significant difference in the course completion times for participants in the computer-based training and participants in the classroom training?

The participants in the traditional classroom training program attended structured classes for 4 days, with each day having approximately 7 hours of contact time. These participants were in class for 1,680 minutes over the 4 days. In contrast, participants in the computer-based training programs were free to move through the course, spending the amount of time needed to master each module included in the course. Their times ranged from 15 minutes to 707 minutes, with a mean of 158.89 ($SD = 207.39$) minutes. The planned statistical analysis could not be completed due to discrepancy in time spent on course materials between the traditional and computer-based training programs. The hypothesis that the participants in the computer-based training will not differ significantly in course completion times from participants in the traditional classroom training was not supported; indeed there was a difference in the instructional delivery training time.

Research Question 4: Is there a significant difference in the company job placement rate post-Job Placement Team training?

Decreases were noted for most of the job placement comparisons. The job placement rate was obtained from the company for first quarter year 2007 and the first quarter year 2008 to determine whether job placement improved following training. These decreases cannot be attributed to the specific training program. Because of the

manner in which the job placement rates are presented, data on individuals responsible for job placement or by type of instructional delivery in their training programs were not available. The percentage change in the number of individuals on disability who were either retained in their jobs or returned to work was obtained and analyzed for this research study. The hypothesis that no statistically significant difference exists in the overall company job placement rate post-Job Placement Team training was not supported. However, this was hard to judge because of the data provided.

CHAPTER 5

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the major aspects of this study, discussion, conclusion and the finding, and makes recommendations for instructional activities for the company training department.

Summary

The motivation and importance of this study was influenced by an administrative requirement for me to determine the feasibility of utilizing computer technology for on-the-job training at an international company. I was assigned the task to compare the effectiveness of computer-based training with traditional classroom training, as a means of delivery for a Job Placement Team basic skill course.

The population of this study was 160 Job Placement Representatives; these individuals comprised the teams. A total of 3 Job Placement Representatives make up a team. This team consists of a management representative, medical professional, and a union representative. The function of each team is to identify work and job placement opportunities for employees with medical restrictions throughout the company. This population was chosen because it is one of the job classifications that require each team

member to take specific training for professional development and certification. All representatives were from within the SAD Corporation.

The sample from the population of 160 used in this research consisted of 83 team members. This group was naturally formed through a procedure involving each individual self-selecting either the classroom course or computer-based course. To limit bias, this research study was not made known to the participants prior to the start of class. However, all of the participants had little to no training in job placement. All participants were adult learners all over 25 years of age. There was a mix of gender, ethnicity, and academic ability that was representative of the overall target population.

Both instructional delivery methods utilized the traditional classroom curriculum. The specific objectives of the study were to examine overall test scores, course completion times, and participant satisfaction levels. To accomplish these objectives, I utilized the following measures: pretest, posttest, questionnaire with a Likert-type scale that included open-ended questions, and for post-training analysis company statistical data reports.

Statement of the Problem

Historically, most of the SAD-JAW corporate training has been developed in-house and delivered to adult learners by an instructor-led, traditional classroom approach. The company leaders were concerned with the associated program cost, time required to conduct training, the actual skills learned, and the overall participant satisfaction with the training. The corporate leadership expressed an interest in assessing the use of computer technology as a possible alternative to this traditional format for the training of Job Placement Teams within the company. Our competitors in the marketplace have begun to

follow the trend of moving away from instructor-led classroom training to more technology-driven training methods.

By switching from classroom to web-based training, some companies have realized up to 75% savings in their training budgets, making this mode of training especially appealing to companies that have large numbers of employees to train (Cole-Gomolski, 1999). According to a report by Duggan and Barich (2001), the need for employees with specific and upgradable knowledge represents an \$885 billion industry in the U.S. and a \$2 trillion industry globally. Computer-based or electronically aided learning is viewed by many companies as a cost-effective way to deliver the up-to-date, upgradable, job-related training that the industry is demanding. Online methods of training are used most extensively in the area of mandatory or compliance training, in which 35% of training is conducted “mostly or completely” online (“Industry Report,” 2006, p. 28). Consequently, because of the critical nature of compliance programs, many training institutions, such as the HRC, are evaluating the overall effectiveness, feasibility, and cost savings associated with this instructional delivery method.

Summary of the Literature

The traditional classroom training curriculum designed for the Job Placement Representatives was derived from Knowles’s (1980) Adult Learning Theory and Rogers’s (1994) Constructivist Learning Theory. Because this study focuses on the training of adult professionals it was important to review pertinent literature regarding adult learning theory. Although many different theories exist regarding the ways in which adults learn, a common theme throughout the research was that adults learn

differently from children. The literature review was guided by this same theoretical framework, general learning theories, and on-line learning and instructional strategies.

Much of the literature committed to computer-based training presents case studies and anecdotal information about how, when, where, and why training has been implemented, along with cost savings (Jones, 2004). Apparently, few studies exist concerning how on-the-job adult learners view or compare computer-based training. The studies focusing on computer-based initiatives in global companies focused more on training cost savings than on the effectiveness or satisfaction levels of the employees at work (Greengard, 1999; Jones, 2004; Levin & Bruce, 2001).

Overall, the literature review supported no significant difference in the degree of success for online students when compared with students in traditional learning environments as identified by Lim (2002) and Parker and Gemino (2001). Additionally, the finding of this research study supports no significant difference in the instructional training methods.

Theoretical Framework

Adult learning theory, developed by Knowles (1980), posits that adults are autonomous and self-directed individuals who prefer to participate actively and take responsibility for their own learning. Since adult learners have garnered a myriad of life experiences, effective learning must relate theory and concept to practical and applicable experiences outside of the classroom (e.g., the workplace). Adult learners usually have specific goals in mind when they enroll in a course, and they appreciate organization and structure in course requirements as well as the presentation of course materials. Adult learners may not be interested in taking courses for the sole sake of learning but to attain

goals that are tangible (e.g., career advancement and marketable skills). Finally, adult learners require respect; they bring life and work experiences to the classroom and want to be treated as co-creators or facilitators of their own learning.

A related theory that supports online learning and job-related training for adults is the constructivist learning theory. Constructivism asserts that knowledge is constructed based on previous experience (Spigner-Littles & Anderson, 1999). The emphasis on experience and subjective reality is consistent with the needs of adult learners. These learners connect new learning to previous experiences and acquire knowledge actively and internally rather than externally or passively as transmitted by an instructor. Adult learners, with life experience, find it difficult to accept learning that is not authentic or experiential. It is difficult to change misperceptions or preconceived ideas and beliefs when new concepts are transmitted only through lecture with no interaction between instructor and student. Adult learners are more likely to replace old beliefs when they are allowed to construct new knowledge on their own. Therefore, courses are more effective when the instructor is a facilitator, rather than a passive transmitter of student learning (Enger, 2006; Spigner-Littles & Anderson, 1999; Wonacott, 2000). The online learning environment gives adult learners an opportunity to take on a more active role in the learning process.

Research Methodology

The study utilized both quantitative and qualitative methods, with a quasi-experimental methodological approach involving two groups from the same corporation. The independent variable was the instructional training method: classroom-based or computer-based. The dependent variables included test scores, completion times, and

satisfaction levels of the participants. Group 1 was the control group and received the traditional classroom-based training, and Group 2 was the experimental group and received the computer-based training. Data from the two groups were obtained from the pretest and posttest scores (see Appendix A), course completion times, and Participant Reaction Questionnaire (see Appendix B), in order to answer the following research questions:

Question 1: Is there a significant difference in the understanding of the job placement process between participants who took computer-based training and the participants who took traditional classroom training?

Question 2: Is there a significant difference in the overall student satisfaction levels between participants in the computer-based training and participants in the classroom training?

Question 3: Is there a significant difference in course completion times for participants in the computer-based training and participants in the classroom training?

Question 4: Is there a significant difference in the company job placement rate post-Job Placement Team training?

The first two research questions were addressed using inferential statistical analyses, with all decisions on the findings made using a criterion alpha level of .05. The third and fourth research questions were based on an inspection of outcome data.

Instruments

The pretest-posttest scores measured the participant learning of job placement procedures using a standardized examination consisting of 30 multiple choice and true/false questions. The Participant Reaction Questionnaire measured the overall

effectiveness and participant satisfaction relative to the training class. The Participant Reaction Questionnaire consisted of 28 items; 23 items were rated using a Likert-type scale and 5 were open-ended questions. Three of the open-ended questions were included in the analysis. The company quarterly reports were used to determine the job placement rates.

Population and Sample

Participants in this research were employees at the SAD Corporation who were required to complete the on-the-job training (ADAPT) for Job Placement Teams. These teams are responsible for finding appropriate job placements within the company for employees with medical restrictions. Once enrolled all class participants who attended the traditional classroom or the computer-based training course were asked to participate in this study. These adult participants were all over 25 years of age and were working in the job placement activity at the company. The population for the study was 160. Of that number, a sample size of 83 was selected to participate in the study. These participants had completed the pretest and posttest instruments, as well as the Participant Reaction Questionnaire. A total of 63 members had completed traditional training classes and 20 had completed computer-based training classes. As a result, the analyses are based on fewer participants than those who actually completed the training course.

Discussion

This study has focused on the comparison of technology-assisted and traditional instructor-led learning in strategic planning and work-based environment. The research study is based on results gathered from one curriculum design that was offered in two

different formats: computer-based and classroom. The course was delivered in both formats focusing on the same work-related material. The pre- and posttest exams followed the same format and were equivalent in content. This methodology provided the opportunity to compare several demographics of the same course in two different formats with a large amount of similarity between the groups.

Four important findings emerged from the analysis. These are listed below:

Finding #1: Participants who took computer-based training did not differ significantly in understanding the job placement process from participants who took the traditional classroom training.

There was no significant difference found between the participants' mean test scores, therefore indicating the instructional delivery method was not a factor in their learning. In reviewing results of the additional analyses comparing posttest scores by gender, race/ethnicity, educational level, and employment status, no statistically significant differences were found, indicating that knowledge gained from the training program was independent of their demographic characteristics. Furthermore, the findings in this study support Neuhauser's (2002) study that compared two sections of an undergraduate course. Neuhauser found no significant differences in test scores, assignments, and final grades between the face-to-face and online sections nor did he find any significant differences between learning outcomes. I viewed the Neuhauser study and this study as support for the notion that it may not be the instructional delivery method that fosters the learning in an individual, but the design of the curriculum. The theoretical framework that guided this study was focused on the principles of adult learning and relied on the work of Malcolm Knowles. The common threads throughout the literature

on adult learning are: motivation, reinforcement, retention, and transference. I designed the training curriculum used in this research study with each of these four elements incorporated. It is interesting that it appeared that if the curriculum is designed to enhance the learning of the participant the delivery method will not make a difference.

Finding #2: Participants in the computer-based training did not differ significantly in overall satisfaction levels from students in traditional classroom training.

Analysis of the quantitative data shows no statistically significant difference. The participants in the traditional and computer-based training classes experienced similar levels of satisfaction. However, there was a slightly higher difference in the satisfaction level reported by the participants in the traditional classroom training. I attribute this slightly higher but not statistically significant difference to environmental factors and activities. I support this finding with qualitative data that were collected during this study which revealed that participants were intrigued by the physical accommodations. The accommodation for the participants in the traditional class that was held at the HRC was excellent. Each participant in attendance at the classroom training session was provided housing at a five-star-rated hotel. In addition, since the professors were also housed at the same hotel, access to professional instructors inside and outside the classroom was available. Participants also had the opportunity to network with their peers. Consequently, this slightly higher difference as reported by the traditional class participants is supported in Carr's (2000) study where the online students reported being less pleased with their online classes than the traditional classes. One reason for this is that they reported that they needed to first spend extra time learning the technology

before they could do the work for the class. Overall, the quantitative data revealed that both groups were satisfied with the training.

Finding #3: Participants in the computer-based training differed significantly in course completion time from participants in the traditional classroom training.

The times ranged from 15 minutes to 707 minutes, with a mean of 158.89 ($SD = 207.39$) for the participants in the computer-based course. Since those who participated in the classroom training all had the same completion time of 1,680 minutes, this time was used as the mean for that group. As noted, a substantial difference was found between the means of the two groups. Accordingly, this difference was not statistically valid. The participants in the traditional group had classes for 7 hours a day for 4 days. The participants in the computer-based training group could work at their own speed and they completed the course in substantially shorter times. Even though the difference is not statistically validated, this study supports Hall's (1995) study which found that the amount of training time was reduced, on average, by 40 to 60% when the training was conducted on line rather than face-to-face. Hall's study also reported that the reduction in training time had the most visible impact on monetary returns because it provided savings in wages, accommodations, and other opportunity costs. In this study, the computer-based course training budget reported an overall 70% saving as compared to the traditional course. Also, this concurs with other prior studies which found it takes less time to learn material via e-learning than via classroom training (Adams, 1992; Fletcher, 1990; Hemphill, 1997).

The common theme from the qualitative data that were collected in this study revealed that participants thought the traditional course could have been shortened by 2

days replacing the 4-day design. This thought provided evidence that the traditional class had a certain amount of non-value-added time.

Finding #4: A significant difference existed in the overall company job placement rate post-Job Placement Team training.

A review of the combined data found a significant change in the job placement rates for the company. The pre-training job placement rate as compared to post-training rate indicated a 4.37% increased percentage change. The design of this study did not provide the opportunity to determine the separate or independent contribution each group provided to the placement rate increased percent change. However, positive change occurred in each placement type excluding (a) returned to work and placed on regular job and (b) returned to work and placed in Transitional Work Center. Also, the qualitative data indicated that the participants in both groups stated that they were going to apply what they had learned on return to their respective work locations; and the data obtained from the company quarterly reports post-training classes reflect that they did. Furthermore, based on the post-training quarterly report data, on-the-job training can certainly be promoted as one effective and perhaps indispensable means for developing our employee skills and validating the effectiveness of our training department. In fact, this result is supported by the literature on adult learning as related to the critical learning element of transference.

Conclusion

Having reviewed these findings it is concluded that no significant difference exists in the effectiveness between computer-based training and traditional classroom training, both utilizing the same curriculum, as a means of delivery for the Job Placement

Teams at the SAD Corporation. It is also concluded that the company can reduce training costs with the utilization of computer-based training and improve the job placement rate within the company. While these results are promising in terms of suggesting the merits of the use of technology for the corporation training program, they also present additional questions. For example, (a) Is it the curriculum design and not the instructional delivery method that makes the difference in learning? and (b) Is social networking, as experienced by the participants in the traditional classroom training, an essential element that must be maintained for our employees? With the results from this study and developing a greater understanding of the questions posed, the leadership team will be able to use this information for future strategic planning decisions.

Recommendations

This research study investigated key factors that could influence the feasibility of utilizing computer technology for training Job Placement Teams within the SAD-JAW Corporation HRC training facility. Based on the results of this study, I recommend to the company management and to the union leadership that a set of instructional activities utilizing computer-based technology modeled on an adult learning style design replace the current traditional classroom delivery method for the corporation Job Placement Teams. Additionally, I recommend that the company conduct further research on the effect of computer-based technology as an instructional method to increased job performance in the areas of Health and Safety, Ergonomics, and Diversity certification programs.

While this research study provided a good opportunity to view the difference between computer-based and traditional classroom training for Job Placement Teams,

more controlled experiments should be able to precisely indicate where the differences lie. For example, it cannot be stated that the participants who received training in the computer-based class performed better on the job than participants who received traditional classroom training. To make this determination, a summative evaluation, particularly a secondary statistical analysis, should be conducted to examine existing and future job placement data distinct to training delivery method.

Future Research

Research should be conducted to determine if social networking for class participants has any long-term beneficial value. Finally, research should be conducted to determine the actual training time for the traditional classroom delivery method excluding class breaks.

APPENDIX

APPENDIX A
PRETEST AND POSTTEST

PRETEST AND POSTTEST

1. Which of the following statements are NOT true about the ADAPT Program?
 - a. It is for disabled people in transition.
 - b. It was developed by the National Parties.
 - c. It was initiated in 1980.
 - d. It operates around the restrictions of the employee.

2. Finding a job for a disabled employee must comply with the provisions of Local and National Agreements.
 - a. True
 - b. False

3. Which condition is NOT in the description of a disability?
 - a. A physical impairment
 - b. A mental impairment
 - c. Poor health
 - d. Limit on a major life activity

4. Paragraph (6a) of the National Agreement applies to:
 - a. Seniority provisions
 - b. Confidentiality
 - c. The Working Committee
 - d. Discrimination

5. Of the following, who is NOT a member of the Disability Team
 - a. ADAPT Represent
 - b. The Management ADAPT Representative
 - c. The Key 4
 - d. The Medical Representative

6. The ADAPT Program is not managed by the Plant Medical Department
 - a. True
 - b. False

7. A key responsibility of the ADAPT Representative is to convey the importance of the ADAPT Program to:
 - a. Medical
 - b. The Key 4
 - c. The employee
 - d. Medical, The Key 4, and all employees

8. A primary responsibility of the ADAPT Team is to educate Union and Management on the ADAPT Program.
 - a. True
 - b. False

9. Who should inform the appropriate plant personnel of the employee's restrictions?
 - a. The employee
 - b. The ADAPT Team
 - c. Personnel
 - d. Plant Medical

10. When the ADAPT Representative receives a Medical Notice of Restriction(s), the ADAPT Representative's first responsibility is to:
 - a. Notify the employee's Supervisor
 - b. Review the restriction(s)
 - c. Speak to the employee
 - d. Notify Personnel

11. When should the ADAPT Representative ask for professional/technical Medical advice?
 - a. When interviewing the employee
 - b. In resolving seniority issues
 - c. Prior to job placement
 - d. When meeting with the Joint Work/Family Representative

12. The ADAPT Program is a voluntary program for hourly employees.
 - a. True
 - b. False

13. Occupational medicine involves the diagnosis and management of work-related diseases.
- True
 - False
14. Which of the following is NOT a responsibility of the Plant Medical staff?
- Certificate of Disability
 - Write Medical Notice of Restriction(s)
 - Perform job searches
 - Sign off on the ADAPT Recommendation Form
15. Regarding the disabilities of employees, the Plant Medical Department is responsible for:
- Meeting with the employee's Supervisor
 - Completing the Medical Notice of Restriction(s) form defining restriction(s)
 - Time studies
16. The Medical Notice of Restriction(s) is initiated by:
- The ADAPT Representative
 - The Plant Supervisor
 - The Medical Department
 - Personnel
17. A Recovery Plan is developed by:
- The ADAPT Team
 - Personnel
 - Plant Medical
 - The Working Committee
18. The essential functions of a job are the basic elements of an operation.
- True
 - False
19. The primary purpose of the job description is to:
- Give specific directions for completing a job
 - Illustrate where a worker fits in on the organizational chart
 - Identify the essential functions of the position
 - Function as a job aid for each worker

20. One of the ways to determine the essential functions of a job is to:
- Ask a Supervisor
 - Fill out a Job Analysis Worksheet
 - Check with Ergonomics
 - Look it up on the Internet
21. An employer is required to accommodate every employee who asks for an accommodation.
- True
 - False
22. An undue hardship is an accommodation that may be excessively costly, extensive, substantial or disruptive, or which will fundamentally alter the nature of the operation of the business.
- True
 - False
23. Remedies for unlawful employment discrimination can include court orders, attorney's fees, and damages.
- True
 - False
24. Quarterly Reports are due to the National Parties:
- On the first day of each new quarter
 - By the tenth of the month following the end of each quarter
 - On the last day of each quarter
 - The first of each month
25. Which of the following are barriers to communication?
- Attitudes
 - Beliefs
 - Past experiences
 - All of the above
26. The Quarterly Report does NOT:
- Monitor the disability status of the organization
 - List the number of absences due to a disability
 - Record the number of jobs modified
 - Record the number of employees reassigned to vacant positions

27. What are the important things to consider when giving your presentation to management?
- Dressing appropriately
 - Prepare an agenda
 - Field questions respectfully
 - All of the above
28. Which statement is NOT true of the ADAPT Six-Step Audit Process?
- Must be conducted monthly
 - Is conducted at the Local level
 - Based on the roles and responsibilities of the ADAPT Team
 - Its function is to ensure local compliance
29. Which event or function should occur on a weekly basis?
- Key 4 updates
 - Disability Team meetings
 - Modifying job descriptions
 - Job searches
30. Which process monitors each location for the National Parties to make sure the site is compliant with the ADAPT Program?
- The ADAPT Six-Step Audit Process
 - The ADAPT Six-Step Process
 - The ADAPT Annual Audit
 - The Six-Step Audit Checklist Tool

APPENDIX B

PARTICIPANT REACTION QUESTIONNAIRE

PARTICIPANT REACTION QUESTIONNAIRE

Please circle your appropriate response by using the following criteria: 1=Strongly Disagree; 2=Disagree; 3=Somewhat Agree; 4=Agree; 5=Strongly Agree. Please answer the write-in-questions and include any additional comments you may have. Participant name or identifying information is optional.

Program Content:

- | | |
|--|-----------|
| 1. A good mix of theory and practical information. | 1 2 3 4 5 |
| 2. Relevant to my job position. | 1 2 3 4 5 |
| 3. Met the stated objectives. | 1 2 3 4 5 |
| 4. Course met my overall objectives. | 1 2 3 4 5 |

Instructional Strategies/Materials:

- | | |
|--|-----------|
| 5. Program used a variety of activities and examples. | 1 2 3 4 5 |
| 6. Course activities/exercises were practical for job application. | 1 2 3 4 5 |
| 7. Time allocation for activities was adequate. | 1 2 3 4 5 |
| 8. Topics were organized in a clear, logical manner. | 1 2 3 4 5 |
| 9. Materials can be used for reference back on the job. | 1 2 3 4 5 |

Overall Evaluation Ratings:

- | | |
|--|-----------|
| 10. Intrinsic Value: the degree to which the material is valuable. | 1 2 3 4 5 |
| 11. Relevance: the degree to which the material was pertinent. | 1 2 3 4 5 |
| 12. Applicability: the degree to which the material can be readily applied. | 1 2 3 4 5 |
| 13. Engaging: the degree to which the speaker and materials held your attention. | 1 2 3 4 5 |

Write-in Area:

14. Write-in overall comments on training:
15. Write-in overall comments on Instructional/Strategies/Materials:
16. What specific things will you do differently as a result of this training?
17. What barriers or support do you anticipate in applying what you have learned?

APPENDIX C

ADAPT COURSE TRAINING MANUAL

ADAPT

**ACCOMMODATING DISABLED PEOPLE
IN TRANSITION**

About This Course



Instructor Guide

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Table of Contents

<i>About This Course</i>	119
Description	119
Course Information	120
Course Description.....	120
Course Objectives	120
Audience	121
Course Content.....	122
Course Design.....	125
Course Timing Chart.....	126
Course Agenda.....	127
Instructor Preparation.....	127
How to Use the Guides	127
How to Set Up and Use the ELMO Visual Presenter	131
How to Conduct Successful Training	132
Course/Conference Planning	136
Facilities	136
Materials	136
Equipment.....	137
Prepared Flipcharts	138
<i>Appendix</i>	141
The ELMO Visual Presenter.....	141
Slide Show Navigation Quick Reference Card.....	144
Instructional Delivery Methods	145
Instructional Terminology	146

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About This Course

Description

This module of the Instructor Guide provides you with course information related to the goals and objectives of the course, along with accompanying materials. It consists of:

Course Information that provides an understanding of the purpose and objectives of the course, as well as describing the structure, design, and flow of the course module material.

Instructor Preparation material that provides guidelines on how to use the Instructor Guide and the Participant Manual. This detailed information helps you to conduct successful training workshops.

Course Planning that provides logistical information that you need to review before conducting the training workshop.

Course Information

Course Description

The ADAPT course addresses the complex demands of the ADAPT Program. With a primary focus on the roles and responsibilities of the ADAPT Representative, the course focuses on the Six-Step Process and helps ADAPT Representatives better understand the importance of their role in this process. The Department of Justice, the Department of Labor, and the Equal Employment Opportunity Commission (EEOC) are also intimately connected to the Six-Step Process and play an important role in day-to-day operations. ADAPT Representatives must be well-versed in all factors in decision making regarding the disabled employee. That is why this orientation to ADAPT must accompany the position.

Course Objectives

Upon completion of this course, you will be able to:

- Explain the roles and responsibilities as an ADAPT Representative.
- Present and administer the ADAPT Six-Step Process.
- Communicate with leadership, the Plant Medical staff, and employees connected with the administration of the ADAPT Program.
- Explain the government agencies, regulations, or policies connected with the ADAPT program.
- Provide cost analysis data to Leadership.
- Perform an audit of the ADAPT Process.

Audience

Primary Target Audience

It has been determined that the main target audience will consist of:

- The Job Placement Team
- Plant Medical Staff

All new JAW ADAPT Representatives will be required to take this course in preparation for their role or as soon as possible after the appointment. While it is not required for Management Representatives to take the ADAPT course, it is recommended. The Plant Medical staff is to take the course since they play a key role in the success of the program. Existing ADAPT Representatives may want to take the course to enhance their knowledge and keep up with any changes to the program since their original assignment to this role.

Secondary Target Audience

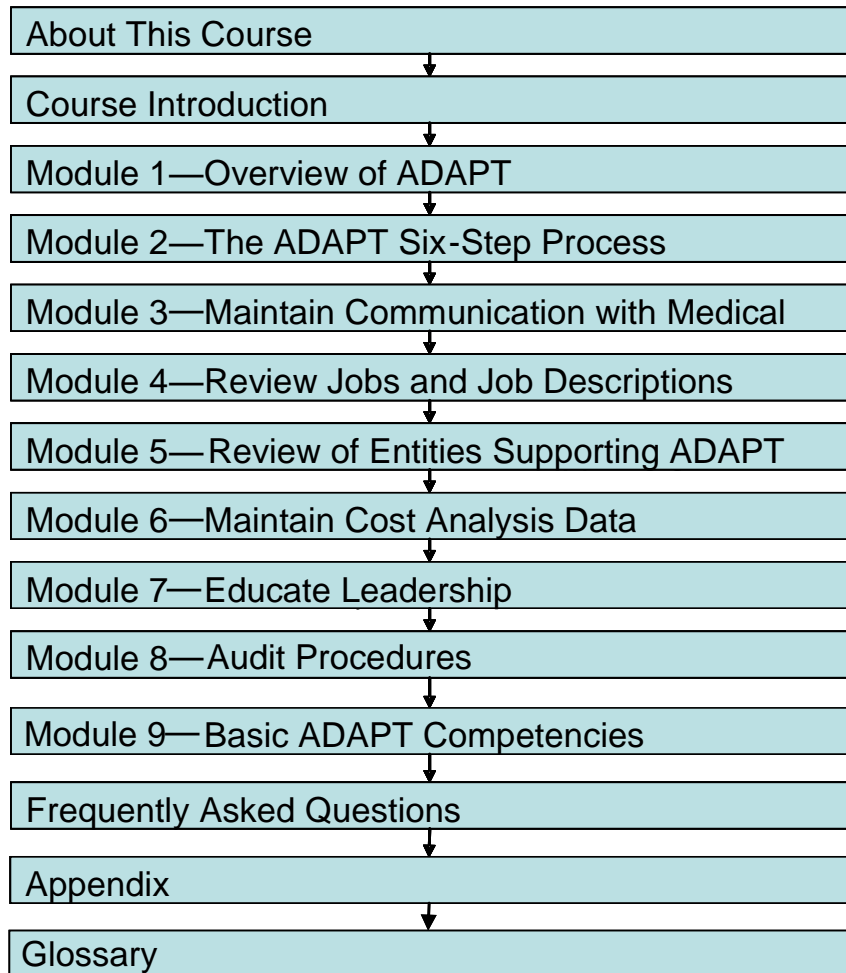
The course will also be available to the appropriate personnel who want to advance their knowledge of the ADAPT Process or better understand the role of the Job Placement Team in their plant.

Others in the Organization

The curriculum is also open, on an as-available basis, to the appropriate personnel in the organization in support of ongoing performance improvement efforts. All employees need to be aware of the existence of potential litigation against an employer who does not follow the regulations and intent of the Department of Justice, the Department of Labor, or the Equal Employment Opportunity Commission.

Course Content

The ADAPT course, in its entirety, looks like this:



Each module is described below:

Module 1—Overview of ADAPT

Module 1 provides a general overview of the ADAPT Program. It defines what a disability is, focuses on several Local and National Agreement documents, and introduces key concepts of the course. Roles and responsibilities are identified for the ADAPT Representative, the Key 4, and the Disability Team.

Module 2—The ADAPT Six-Step Process

Module 2 introduces the ADAPT Six-Step Process using an organized flow chart and an explanation of each step of the process. Suggestions for communicating the ADAPT Process to employees are provided and notification to the restricted employee is discussed. A Dispute Resolution Process is also included.

Course Content (Continued)

Module 3—Maintain Communication With Medical

Maintaining communication with the Plant Medical staff and other personnel is an essential element of the ADAPT Program. This module explains the important roles and responsibilities of the Medical staff in defining restrictions and providing medical expertise. A high-level overview of the health services information database is also presented.

Module 4—Review Jobs and Job Descriptions

An important task of the Job Placement Team is to review jobs on the plant floor and stay current with new technology and processes. This module covers the reasons for clearly written job descriptions that cover the essential functions of the job. Essential Work Task Breakdown examples are discussed and you will be able to determine if a function of the job is essential or not by using a rating tool. Further, the purpose and function of the Transitional Work Center is explained.

Module 5—Review Entities Supporting ADAPT

Many of the ADAPT policies and procedures are intimately connected to government programs. These government programs require conformity to their rules and regulations. Some of these associated programs include The Americans with Disabilities Act (ADA), Workers' Compensation, the Family Medical Leave Act, the Occupational Safety and Health Administration (OSHA), and the Equal Employment Opportunity Commission (EEOC). Not following the regulations under these various government programs can cause serious legal ramifications. Some of these ramifications are explained and ADAPT Representatives are encouraged to understand these programs and stay within their guidelines. Sections on Ergonomics, Health and Safety, and the National Benefit Center are also included.

Module 6—Maintain Cost Analysis Data

Each ADAPT Representative has responsibilities related to cost analysis. This module helps the Job Placement Team identify the appropriate parties to receive financial information, as well as determining financial and cost-saving measures and strategies. Since Quarterly Reports are sent to the National CHR, the module describes these reports and stresses the importance of submitting them on a timely basis. The Monthly ADAPT Activities Spreadsheet is presented along with an explanation of how to use it.

Course Content (Continued)

Module 7—Educate Leadership

Module 7 explains the role of the Job Placement Team in educating Leadership on the ADAPT Program. Each ADAPT Representative is responsible for presenting the details of the ADAPT Six-Step Process to Leadership and answering any questions they may have. Hints and techniques for effective communication are given and basic presentation skills are explained to support the representatives' role in speaking to Leadership. Practice in presenting the Six-Step process is provided along with suggestions for enhancing your presentations to Leadership.

Module 8—Audit Procedures

Audit procedures are necessary for the improvement of quality in the ADAPT Program. Both the Six-Step Audit Process and the Annual Audit Procedure are explained in this module. A Six-Step Audit Checklist is provided as a tool to help the Joint Job Placement Team comply with the program. Every step is important in the Six-Step Process, as well as completing documentation for each of these steps. A timeline of ADAPT Responsibilities is illustrated in a chart and the competencies of the ADAPT Representative are explored.

Module 9—Basic ADAPT Competencies

Every ADAPT Representative has certain required training to attend in order to be an effective ADAPT leader. Both required and suggested curriculum courses are identified and representatives must attend all required training. Additional suggested training will serve to enhance the basic essential skills of the ADAPT Representative. Looking at the road ahead, this module explains how to use the CD that accompanies this manual.

Course Design

This course is instructor-led and highly interactive. A combination of lecture, group work, role plays, and active presentations keep participants involved.

- The lecture materials provide the background and required training pertaining to ADAPT.
- Exercises provide the opportunity to practice skills and recall knowledge gained during the training.
- Group work helps participants tap into the resources of their fellow ADAPT Representatives.
- Role plays help Representatives practice for the interviews they must conduct with the employee.
- Each participant will be presenting one step in the ADAPT Six-Step Process. This practice will help them prepare for their presentation to the Key 4.

Course Timing Chart

The ADAPT Training Course consists of a Course Introduction, two, 2-page foldouts and nine modules. The Course Introduction sets the stage for understanding and explaining the objectives of the course. Each module contains content that describes topics related to the roles and responsibilities of the ADAPT Representative. Each module describes a different responsibility of the ADAPT Representative, key points, citations, and key concepts.

Course Introduction	0 hrs. and 20 min.
Module 1—Overview of ADAPT	2 hrs. and 35 min.
Module 2—The ADAPT Six-Step Process	3 hrs. and 40 min.
Module 3—Maintain Communication With Medical	1 hr. and 20 min.
Module 4—Review Jobs and Job Descriptions	1 hr. and 5 min.
Module 5—Review Entities Supporting ADAPT	5 hrs. and 10 min.
Module 6—Maintain Cost Analysis Data	1 hr. and 30 min.
Module 7—Educate Leadership.....	4 hrs. and 20 min.
Module 8—Audit Procedures	2 hrs. and 25 min.
Module 9—Basic ADAPT Competencies	1 hr. and 10 min.
Total.....	23 hrs. and 35 min.

Course Agenda

Agenda Breakdown Per Day

Day 1

Introduction Module

Module 1—Overview of ADAPT

Module 2—The ADAPT Six-Step Process

Module 3—Maintain Communication with Medical

Day 2

Module 4—Review Jobs and Job Descriptions

Module 5—Review Entities Supporting ADAPT

Module 6—Maintain Cost Analysis Data

Day 3

Module 7—Educate Leadership

Module 8—Audit Procedures

Module 9—Basic ADAPT Competencies

Day 4

Review and Presentations

Instructor Preparation

How to Use the Guides

Instructor Guide

The Instructor Guide provides assistance with the delivery of the ADAPT course work. It is a guide; it is not a word-for-word script. Where appropriate, you may want to add examples, analogies, or short stories to share your experiences and expertise. This is appropriate, provided you stay within the framework designed to achieve the module objectives. To become proficient in the delivery of these materials, you should participate in structured trainer preparation and study the materials.

To help you find your way through an individual module, you will notice that each module contains:

- **Description**—Identifies the overall purpose of the module.
- **Objectives**—Identifies the particular instructional goals for the module.
- **Instructor Pages**—Include timing for the stated content and detailed instruction on how to prepare participants for the



















instructor-led training they are about to begin.

- **Module Activities**—Challenge the learner to review and discuss the main points of the current topic or make practical application of the information in their daily jobs.
- **Module Review**—Some type of review is included to help participants retain information.
- **Module Summary**—Provides all of the most important facts of that module for review and summary.
- **Citations**—This section lists Internet sites that can help participants learn more about topics covered in the module.
- **Key Concepts**—lists all of the important words and definition in that module.

Use all of the included materials to create an interactive teaching approach. Instructor action verbs and icons placed throughout this manual help you use the material. The definitions on the following pages will help you recognize and interpret their use.

How to Use the Guides (Continued)

The following icons are used as cues in the Instructor Guide to remind you of actions you need to perform.

Action Verbs and Icons			
ASK		INFORMATION	
CHART		OBSERVE	
CHECK		RELATE	
CLICK		REFER TO	
DESCRIBE		REMIND	
DISCUSS		REVIEW	
EXPLAIN		SUGGEST	
FLIPCHART		<i>[Lesson] or [Module] Timing</i> # MINUTES	
HANDOUT		TRANSITION	

How to Use the Guides (Continued)

Page Formatting

The pages of this Instructor Guide show a reduced size print of the visual that matches the content on the opposing page. Listed below the visual are key points for you to convey to the participants. **Bold text** indicates detailed direction and provides a method to deliver the content.

ADAPT Training Program | Instructor Guide

What is ADAPT?

Accommodating Disabled People in Transition (ADAPT) is a program developed by the National Parties that enables qualified employees to be retained at work or returned to work from Sick or Workers' Compensation Leave and be placed on jobs in line with the Local and National Agreements and their physical restrictions.

SECTION OBJECTIVE
15 MINUTES

- EXPLAIN** the definition of the ADAPT Program. (Cites the limited work or returned to work.)
- DESCRIBE** the key of the ADAPT Program and emphasize the ramifications to the organization for claims related to The Americans with Disabilities Act for other government agencies.
 - 1993-USA/AGM Delphi National Negotiators agreed to develop program.
 - Clarified as Job Placement Program.
 - 1998-USA/AGM Delphi-SBAKT Conference.
 - 2000-USA/AGM Delphi-SBAKT Conference.

Page Break

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Instructor Text

Instructor Guide | Module 1- Overview of ADAPT

WHAT IS ADAPT?

Definition

Accommodating Disabled People in Transition (ADAPT) is a program developed by the National Parties that enables employees to be retained at work or returned to work from Sick and Accidents/Workers' Compensation Leave and be placed on jobs in line with the Local and National Agreements and their physical restrictions.

The program was initiated in 1998 to address the growing concern of Corporations/employers regarding possible claims against employers and unions. In the opinion of The Americans with Disabilities Act (ADA), Congress sought to change the American work culture by trying to eliminate discrimination based on disability, justice, and bias against people with disabilities. Further, the Department of Justice would now allow claims against employers and unions if any of these attitudes were reported.

The litigation process, as well as lessons learned through the court decisions, will be shared with you in more detail in Module 5. However, it is significant for you to know that the courts are showing little tolerance for discrimination based on disability and prejudice.

Page 8 of 11

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Participant Text

Participant Manual

The Participant Manual provides the material for participants to read and use as you present the modules. The manual provides space for note taking under the slide placement. At the end of the workshop, participants keep their manuals as a personal document and to use it as reference material.

How to Set Up and Use the ELMO Visual Presenter

Refer to Appendix A for more information on the ELMO Visual Presenter.

Displaying the PC Screen

1. Turn on the ELMO visual presenter.
2. From the **INPUT** selection buttons, select **RGB1**.
3. The upper lamp will automatically turn on when you power up the unit. Turn the lamp off.

Displaying a Hard Copy Document

1. Turn on the ELMO visual presenter.
2. From the **INPUT** selection buttons, select **MAIN**.
3. From the **LAMP** buttons, select **UPPER**.
4. Use the **TELE/WIDE ZOOM** buttons to zoom to a specific area (**TELE**) or zoom out (**WIDE**) to view the entire document.
5. Use the **NEAR/FAR FOCUS** buttons or the **AUTO FOCUS** button to make the image clear.
6. To turn off the lamp, select **UPPER**.

Displaying an Overhead Transparency

1. Turn on the ELMO visual presenter.
2. From the **INPUT** selection buttons, select **MAIN**.
3. From the **LAMP** buttons, select **BASE**.
4. Use the **TELE/WIDE ZOOM** buttons to zoom to a specific area (**TELE**) or zoom out (**WIDE**) to view the entire document.
5. Use the **NEAR/FAR FOCUS** buttons or the **AUTO FOCUS** button to make the image clear.
6. To turn off the lamp, select **LOWER**.

How to Conduct Successful Training

Before the Training

1. Review the entire Instructor Guide. Place your own additional notes in your Instructor Guide.
2. Become familiar with the visual aid presentation, scripts, handouts, etc., needed to enhance individual/group discussion. Make sure you know content, sequence, highlights, etc. Review areas where you may have to add your own expertise.

NOTE: There are three modules that require special attention and additional preparation.

Module 2—This module explains the ADAPT Six-Step Process in detail and takes participants in a step-by-step manner through the entire process. A PowerPoint presentation is used to cover these six steps. Practice using the slides, hyperlinks, and shortcuts. See *About This Course* for shortcut tips in the PowerPoint View mode.

In this module, you will be presenting the Six-Step Process but make note of the fact that you are also modeling how the participants should do the presentation. Expectations are that they will have to demonstrate giving parts of the presentation to the class. They will also be expected to give the entire presentation to Leadership.

Module 5—This module contains information on all the entities that support ADAPT. It is a long module and requires several guest lecturers (whenever possible). Check on the availability of these guest lecturers and confirm their attendance.

Module 7 uses a communication activity that requires a set of laminated cards. In this activity, the participants work in pairs. Two laminated cards are needed for one partner, paper and markers are needed for the other partner. Review this activity in the Instructor Guide and make sure you know how to facilitate it.

3. Prepare and/or secure visual aids, handouts, or other materials that are outside of the online presentation, if necessary.
4. Be familiar with facilities, material, and equipment requirements.

How to Conduct Successful Training (Continued)

During the Training

- Arrive 30–45 minutes prior to the start of class. During this time, check the room arrangement, your supplies and equipment, and, if necessary, sign on to Microsoft PowerPoint® to get the presentation visuals open and ready for use.

- **Monitor Your Pace**

Your Instructor Guide provides suggested timing guidelines for presenting all course content. These guidelines help you determine an appropriate pace. Every group is a little different, and you will need to respond to cues indicating dissatisfaction, confusion, or knowledge differences—adjust pacing as appropriate. To help you plan for the pacing needs of the group, consider the following factors that influence pace:

- Your rate of speech
- Repetition of key points or phrases
- Repetition or rephrasing of questions
- Overextension of discussion or sidetracking
- Use of examples, analogies, and “war stories”
- Pauses

- **Set Up and Monitor Individual Activities**

Make sure participants understand instructions for each activity. Ask yourself, “Would one of my colleagues be able to understand the instructions just given?” Circulate among participants to observe their progress and interact with them to determine if they may be struggling with the activity or materials.

- **Set Up and Monitor Group Activities**

Several activities require group interaction. Encourage each group member to participate in the activity. Observe the progress of each group in completing activities. Time is important. Try to influence the progress of the group by reminding them of the number of minutes left to complete their activity.

How to Conduct Successful Training (Continued)

During the Training (Continued)

- Practice Effective Communication

When communicating, make a connection with participants and take opportunities to clarify and reinforce material.

- Listen actively; avoid interrupting participants when they are speaking or presenting their viewpoints, etc.
- Maintain eye contact when speaking to participants or groups.
- Acknowledge participant comments—use verbal and non-verbal signs.
- Seek clarification when needed.
- Paraphrase and make reflective statements to ensure you understand what participants have told you.
- Maintain a friendly manner at all times.
- Provide personal recognition to participants when needed; say “thank you” often.

- Manage Presentation Visuals Effectively

When using the presentation visuals, maintain rapport with the audience.

- Always face participants. Avoid talking to the screen or the projector (or PC), or turning your back to them.
- Make sure that everyone has an unobstructed view of the visual. Gesture with the hand closest to the screen; avoid crossing your body.
- Talk only when looking at participants. It is fine to look at your visual for a moment, but wait to talk until you are facing your participants again.
- Leave the lights on whenever possible. Note: Inactivity in the rooms at the CHR will cause the lights to turn off; they are motion controlled.
- Gesture to the screen; do not gesture to the projector. Get comfortable with the remote, hand-held mouse and use the laser feature to point to areas on the graphic or picture where you want to call attention.

How to Conduct Successful Training (Continued)

During the Training (Continued)

- Maximize Diversity and Jointness

The Corporation has a long history of promoting and valuing diversity. In many respects jointness is an exercise in diversity. Recognizing that diversity is not just respecting race, religion, sex, and age, but a uniqueness that is built into each individual, an instructor can take full advantage of diversity by:

- Instructing with the knowledge that participants are more valuable because of their differences.
- Creating an atmosphere where it is safe for all participants to ask for help.
- Actively seeking participation from people from a variety of backgrounds and cultures.
- Showing respect and appreciation for the views of people whose opinion may be different than yours.
- Deferring to the strengths, talents, and job responsibilities of a fellow facilitator when joint teaching is performed.
- Seeking to influence rather than dominate.
- Searching out the knowledge and expertise of subject matter experts, as appropriate, to enhance your background of knowledge.

“Insight, I believe, refers to the depth of understanding that comes by setting experiences, yours and mine, familiar and exotic, new and old, side by side, learning by letting them speak to one another.” Mary Catherine Bateson

- Let the visuals enhance rather than replace your own effectiveness.
 - Introduce the visual in a way that will help the audience see what point it makes and how it fits into what you have been saying.
 - If you show a text visual with several statements, run through all of the statements quickly to set the agenda. Then, expand on each statement. This helps the audience from wandering ahead or wondering what you are going to say.

After the Training

- Examine Level 1 evaluations for suggested course improvements.

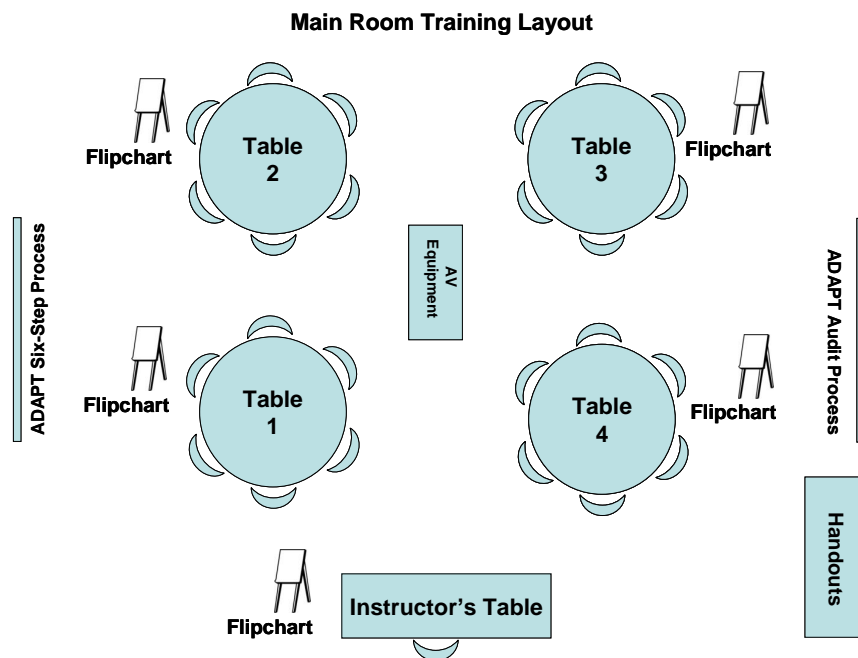
Course/Conference Planning

Facilities

The general setup for the main training room will include:

- 4 tables for groups of 5 (the maximum class size is 20 people)
- Table for Facilitator
- Equipment table for PC, ELMO, etc.
- One flipchart stand per table and instructor (5 flipcharts)

The room layout for the main training room will look like this:



Note: Tables can be square if the room does not have round ones.

A second room with 10-15 computers is also required for Module 4 and 7.

Materials

The following materials are needed for this workshop:

- Instructor Guide
- Participant Manuals
- Ten PowerPoint presentation files for the Course Introduction and nine modules
- One, color-coded wall poster of the ADAPT Six-Step Process

Materials (Continued)

- Four blank posters (one per table) of the ADAPT Six Step Process for the final activity of Module 2.
- Individual laminated cards of each step of the process—one set per table. Place cards in an envelope.
- Laminated cards for the communication game (two per pair) in Module 7, pages 7-13.
- Blank sheets of paper for the communication activity.
- Handouts
 - Examples of Job Descriptions (4 copies, one per table)
 - Examples of Medical Notice of Restrictions (5 different examples) Each table should have a different MNOR. (One per person).
 - Anonymous status Information sheets from Personnel (4 copies)
 - Empty file folders (enough for everyone in the class)
 - Blank Medical Restriction Tracking System forms (one per person)
 - Blank ADAPT Employee Interview Forms (enough for everyone in the class)
- One wall poster of the ADAPT Audit Process in Module 8.
- Prepared flipcharts
- Flipchart markers
- Name tents, pads of paper, and pencils/pens (one per participant)
- Broad Tipped Markers, Dry Erase markers
- Highlighters

Equipment

The following equipment is needed for this workshop:

- Computer for the instructor loaded with Microsoft Office.
- A ratio of one computer per two people is preferred for Module 4 to practice the Monthly Activities Spreadsheet and Module 7 to practice the PowerPoint presentations to leadership.
- ELMO (electronic imaging projector).
- Easel with full chart pad and markers for the instructor.
- Four other easels, one per table.

Prepared Flipcharts

The instructor is responsible for preparing the following flipcharts in advance.

Course Introduction

Flipchart - Introductions and
Expectations

What do you hope to learn during this course?

How do you think this course will influence your role?

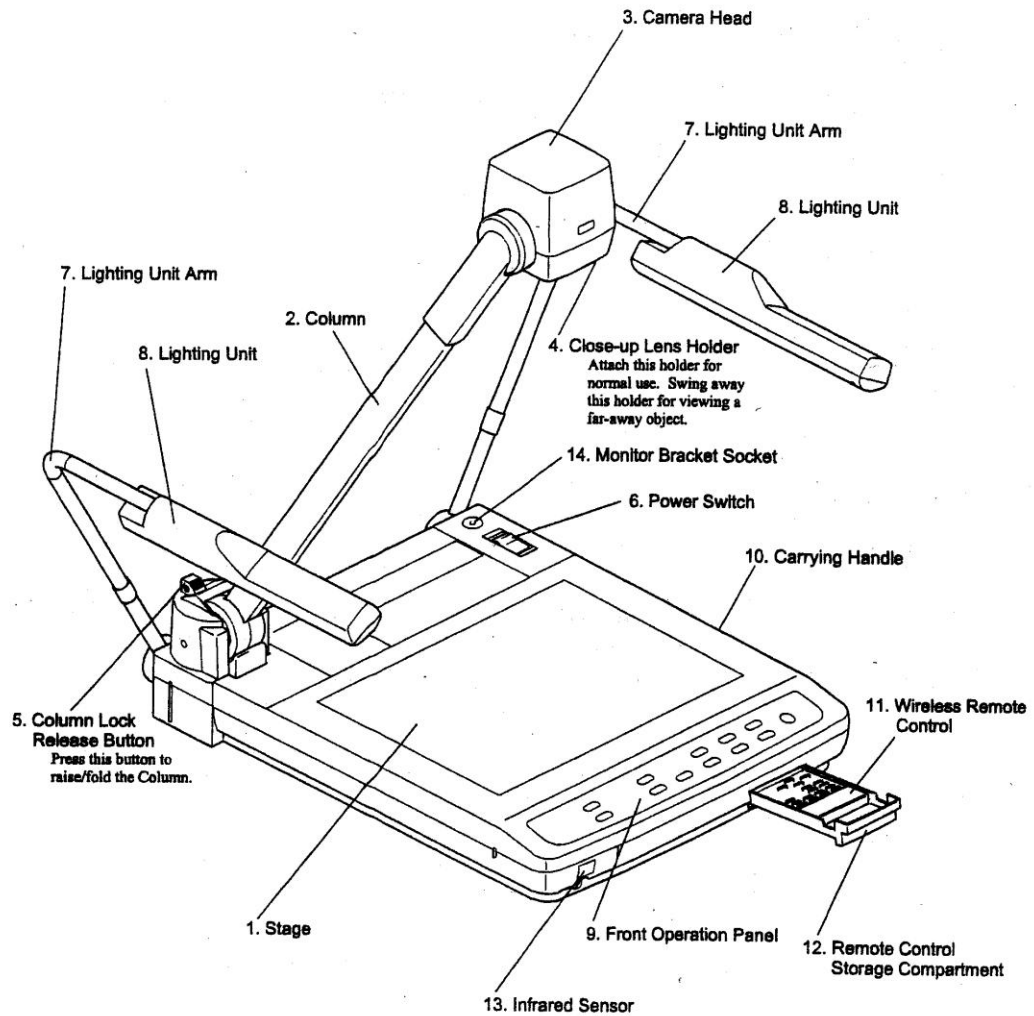
APPENDIX



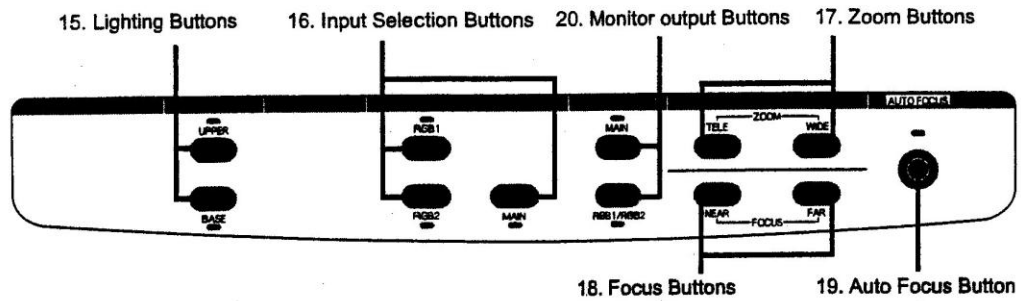
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Appendix

The ELMO Visual Presenter



Front Operation Panel



	Part Name	Function	Reference Page
15	Lighting Buttons	To turn the lighting unit ON/OFF.	P. 19
16	Input Selection Buttons	To change the input line.	P. 19
17	Zoom Buttons	To change the image size.	P. 22
18	Focus Buttons	To adjust focus (powered).	P. 23; P. 24
19	Auto Focus Buttons	To focus automatically. This is a one-shot auto focus system (FOCUSFREE).	P. 23
20	Monitor Output Buttons	To select the signal to be output to the NTSC/PAL monitor. To change the Monitor Output mode (NTSC/PAL) using the built-in camera button.	P. 20; P. 22 P. 21

Troubleshooting Hints

Symptoms	Possible Cause/Countermeasure
No Images on TV Monitor	<ul style="list-style-type: none"> ▪ Cable is not properly connected to the video-in terminal of the monitor. ▪ The power cord is disconnected from the wall AC outlet. ▪ The plug is disconnected from the power cord receptacle of the ELMO Presenter. ▪ The power switch is not turned ON. ▪ Zoom is set at TELE to display only African American/Caucasian part of the material. ▪ The switch is turned ON immediately after it is turned OFF. In this case, the Presenter may not start. Wait several seconds after turning OFF the power switch, and then turn ON the power switch.
Out of Focus	<ul style="list-style-type: none"> ▪ The object is too close to the lens. Check if it does not stand higher than 10 cm above the stage surface. ▪ Zoom is set at TELE after focusing at WIDE angle. Focus on the point of max.TELE. ▪ With auto focus, focusing is difficult in some cases.
Monitor Doesn't Display Video-Output Image Normally	<ul style="list-style-type: none"> ▪ Try switching NTSC/PAL setting of the main unit. If you connect a PAL-set (Monitor Output setting) main unit to an NTSC-only monitor, you might not get normal images (with vertical/horizontal "eye-scoring" lines, or no color, etc.). Switch the Monitor Output setting from PAL to NTSC, referring to "NTSC/PAL switching on P. 21.
Lamp Is Not Quickly Turned ON	<ul style="list-style-type: none"> ▪ For protection purposes, the lamp is turned ON after preheating for two seconds. This is not a fault.
Image Is Too Dark	<ul style="list-style-type: none"> ▪ The ambient light is sufficient. Press the upper lighting unit button [UPPER] to turn ON the upper lamp.
Moire Pattern Appears on the Screen Image	<ul style="list-style-type: none"> ▪ This is caused by the interference fringe between the meshed part of the object and the CCD elements. This is normal. This may be reduced by changing the projection range. ▪ Vertical stripes may appear on the liquid crystal projector screen. This can be reduced by manually adjusting the dot clock frequency on the projector side. (Refer to P. 13)
Brightness Tone Is Off the Setting	<ul style="list-style-type: none"> ▪ This may be reduced by switching the gamma setting.

If the trouble remains after checking all of the above, consult your dealer or an authorized ELMO service center.

Slide Show Navigation Quick Reference Card

Basic Keyboard Shortcuts for Presenting in Slide Show View.

To do this:	Press this
Move to the next slide	N SPACEBAR or ENTER PAGE DOWN DOWN ARROW key RIGHT ARROW key
Move to the previous slide	P BACKSPACE PAGE UP UP ARROW key LEFT ARROW key
Move to a specific slide	Key in slide number on the keyboard and press ENTER CTRL+S, and then slide number and ENTER
Move to slide last viewed	SHIFT+F10 then V CTRL+S, and then slide number and ENTER
Go to first slide	Key in 1 on the keyboard and press ENTER Press both mouse buttons for 2 seconds.
End a slide show	ESC
Disable the shortcut menu.	In PowerPoint, on the Tools menu, click Options . On the View tab, deselect the check box in front of Show menu on right mouse click .
Change the pointer to a pen	CTRL+P
Erase any drawings made with the pen	E
Change the pointer back to an arrow	CTRL+A
See a list of key combinations	Press F1

Instructional Delivery Methods

To more fully understand the various types of instructional delivery methods, definitions are provided in this Appendix. These definitions provide a clear explanation of the intent of each learning method. It is important to remember that each course is designed with a particular type of learning method in mind. We recognize that, for organizational purposes, you may need to make adjustments, at times, to the original learning method intent. While this adjustment may sometimes be necessary, it should rarely be done. If you must use an alternative delivery method, you should carefully read over the Instructor Guide so that you can make the necessary adjustments to the intended instruction and/or equipment.

Computer-Based Training

Computer-assisted educational delivery systems are those systems, that capitalize on the use of computers to assist educators in improving learning productivity. The material is often similar to that provided in a participant guide; however, it is often more interactive and is visually able to enhance important concepts. Drill and practice exercises can be embedded in game-like situations.

Instructor-Led Classroom Training

This form of training includes the formal process of using a competent instructor to deliver training to several participants using participant guides, visual aids, PowerPoint presentations, and/or lecture. Usually, an instructor stands in front of the classroom and explains concepts and information to participants. Participation by the learners is based on the skill of the instructor and the flexibility of the instruction.

One-on-One Training

This training is conducted to meet the needs of individuals. It may be in response to a new employee's entry into the department outside of the scheduled training courses, or it could be in response to the employee's need for extra assistance on a specified topic.

Self-Paced Study

Self-paced study can be computer-driven or text-driven material. The assistance of an instructor is not needed because the course material is designed to be studied independently. It does not require a scheduled time or pace. The material is designed to allow participants to read through material that does not require formal explanation by an instructor. Charts, graphs, arrows, and graphic organizers are often used to make the material easy to understand.

Group Interactivity

Group interactivity provides the opportunity for participants to talk or participate in activities individually, or with one other, rather than simply listening to a lecture. This group method offers excellent results.

Workshop

Workshops are scenario-based and/or hands-on, focused instruction designed to give the learner experiential practice with a new concept of learning. Exercises are provided which the learner tackles independently, but the expertise of the subject matter expert/instructor may be relied on when needed. Difficult problems may require discussion and interaction with the group. These workshops are often used for problem solving and best-case scenarios.

Instructional Terminology

Delivery Setting

The setting is the place where the learning takes place or is used or implemented; for instance, in a classroom, at a trainee's desk, one-on-one with instructor and participant, hands-on setting, etc.

Evaluation

Any systematic method for gathering information about the impact and effectiveness of a learning offering. Results of the measurements can be used to improve the offering, determine whether the learning objectives have been achieved, and assess the value of the offering to the organization. According to Kirkpatrick's *Four Level Evaluation Model* (1994) there are four levels of evaluation.

Level One—measures the participant's reaction.

Level Two—measures the affect on learning.

Level Three—measures performance on-the-job.

Level Four—measures the impact on the organization.

Instructor Guide

Instructor guides contain the material necessary for an instructor to successfully deliver instruction. The level of detail included in the guide will vary with the experience of the intended users. For example, experienced instructors may need content points and activity instructions shown only in bulleted lists, while inexperienced instructors may need more scripting.

Instructor Preparation

Once a course has been developed, an instructor will need time to prepare for the class. This entails going over the instructor guide, preparing flipchart notes, preparing handouts and other classroom setups. This must be done in order to help the class run smoothly.

Job Aid

Job Aids are short, concise explanations of some type of procedure, concept, process, or learning. Job Aids are tools used to perform a specific task, and are designed to direct immediate performance as the need to know arises. Instead of needing to remember information for periodic use, workers use Job Aids to complete a task that might be infrequent or new. Job Aids can include: checklists, quick reference guides, or any reference document focused on performance.

Operational Procedures

Operational procedures include tools such as flowcharts, organizational charts, and procedure maps.

Participant Guide

This is a text-based manual used by the student to follow along with the instructor in an instructor-led, self-study, or CBT course. The participant guide includes material to support the information provided by the instructor. It will often have charts, graphs, and graphic organizers to help group the information into understandable segments. It may contain case studies, summaries, and quizzes designed to enhance learning.

Instructional Terminology (Continued)

PowerPoint Presentation

PowerPoint presentations are used to help an instructor or presenter condense learning points so that all of the major topics of instruction are covered in a sequential manner. The slides are designed to be shown in front of a group to keep their attention and help them follow along with the delivery. The information should be short and concise to minimize extensive reading. Often visuals are used to enhance the learning and illustrate, in simple graphics, important concepts. Notes pages to accompany the slides can also be provided to the presenter. Slide handouts can be reproduced to allow an audience to take notes.

Reference Guide

Reference guides provide important summaries of key learning concepts. These guides are given to the participant to take back to their workstation to look up material as needed on specific topics. They often contain definitions of terms, charts which illustrate relationships in concepts, and procedural checklists.

Skill Assessment

When trying to assess the skill level of a worker, testing and observation can be performed to ascertain the person's ability to complete a given competency. Four of the most common performance assessments are on-the-job observation, simulations, skill exercise, and written tests. Checklists are often used to ensure that a worker performs all of the necessary steps in the process. Skill assessment can be used to determine the need for a course in a job-related competency.

Train-the-Trainer

The intent of a Train-the-Trainer session is to brief an instructor on the material in the instructor guide. This is usually done one-on-one or in a small group session with the master trainer and/or the instructional designer. Instructional strategies and activities are explained and the instructor is allowed to ask questions to clarify learning objectives and methods of presentation.

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APPENDIX D
QUALITATIVE RESPONSES

Question 24. Training Comments:

- WQ24 It would be helpful to be able to print some of the screens (especially the multi-step algorithms).
- WQ24 A very interactive and effective way to learn this material. I would highly recommend this course! Great job with a sometimes confusing topic.
- WQ24 It might be more helpful if additional attention is placed on the inclusion of small video clips, sound files or other types of media to enhance the learning experience. The presentation, while full of information, was “flat” in terms of keeping my attention.
- WQ24 Fairly dry topic or material, making it hard to maintain interest, but presented well.
- WQ24 The course would have been more useful if it had given us reference materials to refer to in the months after the course was finished.
- WQ24 I would have preferred a separate section for course documents at the end of the course.
- WQ24 Found the material to be well organized and a very good overview of the ADAPT program. It would be advantageous to all Reps to have an up-to-date hard copy of this material to share with Plant and Union leadership.
- WQ24 Overall, the training was good and convenient. However, I did encounter some problems during the training course. One particular thing is you cannot go back. Once I clicked the Back button, it went all the way to the beginning and I had to start over.
- WQ24 Overall the course was helpful for me. I was exposed to the full content of what ADAPT is supposed to be about. There were a few screens that did not function and I had to use the auto function to see what I was supposed to be tested on.

Question 27. What specific things will you do differently as a result of this training?

- WQ27 Follow step-wise approaches.
- WQ27 I have a better understanding of the contractual language. I understood the 6-step process, as we have been using it as presented for a few years now. I will pay more attention now to the correct way to fill out the forms and also to help in the audit process.
- WQ27 Continue to follow the guidelines as specified for proper completion of the program objectives.
- WQ27 Be certain to sign, as MD, job placements or NJAWRs. Monitor ongoing restrictions while EE is accommodated.
- WQ27 Inform more people about the program.

WQ27 I will meet with the Key 4 to request that we institute each of the process steps in a more formal manner. I think we may have gotten a little lax in our implementation of the steps although our program is working exceptionally well.

WQ27 Better interface with other members of ADAPT team.

WQ27 Try to sign up for initial training to learn more about the ADAPT process.

WQ27 Hopefully I can refer back to this course and use it as reference material in the future.

Question 28. What barriers/support do you anticipate in applying what you have learned?

WQ28 No barriers. Can better communicate now the logic behind the rules to floor management.

WQ28 Do not anticipate any barriers. If all members of the ADAPT team have completed the training and understand what is needed, that is the support we need.

WQ28 Compliance of the worker in returning to Medical & updating Medical & ADAPT.

WQ28 More communication with ADAPT team.

WQ28 My management counterpart has no interest in the program. My goal is to get him interested without filing a grievance.

WQ28 Time

WQ28 None

WQ28 The members of the ADAPT team here are clearly highly motivated to make it work properly.

WQ28 Not really sure what they might be at this time.

Question 24. Training Comments:

TQ24 I think if the instructor had more knowledge of the intricacies of what is being presented, the overall activity would be less frustrating.

TQ24 Have a good day.

TQ24 I would re-look at the presentation exercises—they seem to be of limited worth. Consider mock interviews with “employees” presenting different attitudes.

TQ24 Being read too is hard to keep focused.

TQ24 Good conference.

TQ24 The training was very good.

TQ24 Good program. It will continue to improve. Always maintain focus on keeping class on appropriate topic.

- TQ24 I liked the class interaction; however, I feel that there were too many presentations by the class.
- TQ24 Overview of the Excel spreadsheet was probably not value added because those who know Excel could figure it out with a simple explanation and those who don't know Excel would need a full course just to understand the concept.
- TQ24 The workshop was the best.
- TQ24 Class will help me back at the plant to do my job better.
- TQ24 I learned I was not doing my job correctly and all the things I should have been doing.
- TQ24 This was by far one of the most complete courses concerning the subject matter. This training should allow the team to better manage their program. In addition, I feel personally that I have a better understanding of what's expected of my role.
- TQ24 Could have moved through the material more quickly.
- TQ24 A good learning tool for ADAPT.
- TQ24 I only got half right on the pretest. The posttest was a far greater score, due to training. I appreciate the opportunity to be in this class.
- TQ24 Class was and will be very helpful to reps.
- TQ24 Good class I would recommend it to all.
- TQ24 I would have liked to have had more interaction with persons that had a working knowledge of the program to answer some of the questions specific to each of the plants as they came up. There was quite a bit of time wasted debating things.
- TQ24 Information relevant for my role, would have liked to have the manual to take home.
- TQ24 It is very clear, that the people who developed and present this training class are interested in helping other people.
- TQ24 Material for the class was informative and relevant to the program. I'm really glad I took the course.
- TQ24 Mix of small plants with assembly plants made it difficult to relate. The differences in the ADAPT process application was like comparing apples and oranges. It would be helpful to have the assembly plants together.
- TQ24 Needed more expertise from the national parties to be shared with the group. Not a lot of real life examples given based on how plants really operate. Would have been better received if the class was co-facilitated with one of the representatives from the plant.
- TQ24 Seems that there are still some gaps in the process when related to SPO.
- TQ24 The ADAPT process as presented is a superb candidate for computerization in a database format. The logic flows are already worked out! Computerization would ensure correct completion of defined steps and forms uniformly across the company.

- TQ24 The course was well prepared.
- TQ24 The presentation from legal was very well thought out and enlightening concerning ADA.
- TQ24 The training was more than adequate. I have been the Management Rep. for approx. 9 years and this was my only formal training. It will help me to improve in several aspects of my performance.
- TQ24 Time and materials were presented/used well/instructor made every effort to make sure questions were answered to my satisfaction. Kept my interest level high.
- TQ24 Very good learning tool, but did not answer the hard questions. I feel that the knowledge gained in this class can be applied to my job as soon as we return to our plant. I never received any type of training when I was assigned to this responsibility.
- TQ24 Overall the class was excellent! I will be much more effective at my job when I return to the plant. This will be a benefit to myself and everybody that comes through the ADAPT program
- TQ24 I believe day 5, presenting to the key 4 or explaining process was not needed. It is not real world. If anything, ask questions of everyone to assess knowledge.
- TQ24 Enjoyed the class from start to finish. Everyone in the class was enjoyable and added to the learning experience. The only thing I would change would be to put all members from the same facility in the same class.
- TQ24 Good course, only notable issue was availability of manuals to make notes in and take back to plant. However, do understand the reasons why this was not possible.
- TQ24 Great class, a must for anyone associated with the ADAPT program.
- TQ24 I appreciate the opportunity to go through the training. I only wish that it could have been available earlier in the agreement so that I would have been better prepared to do my job and that my counterpart would have been able to hear for themselves from the experts.
- TQ24 I believe that it is important to have both ADAPT team members attend the training together because questions/problems at each location differ and if we attend the trainings at the same time we get to ask and receive the information/answers at the same time.
- TQ24 I enjoyed the class and the content was very good. It will certainly be a help to future participants who are involved in the ADAPT process. I think the format and schedule were good and conducive to the overall learning environment.
- TQ24 I feel that the course was rather well thought out and given professionally. At times it was a bit boring to those who have been performing the process for over 5 years.
- TQ24 I enjoyed the training, I learned a lot of information to ensure I perform the ADAPT process better, and I had a great instructor.

- TQ24 I would like some time with the other ADAPT reps to compare notes, techniques, tricks of the trade, etc. We have a lot of valuable information that would help us in our jobs.
- TQ24 It would seem that some of the processes/forms could be consolidated to streamline the process. I like the step-by-step process because it takes out any guesswork of the processes. The first couple of days dragged but the class picks up by midweek.
- TQ24 The 6-step process should be covered earlier in the training process. We spent a lot of time discussing items the 6-step process would have made clear from the beginning.
- TQ24 The course was very helpful and informative.
- TQ24 The training process was very effective and materials clearly instructed the steps.
- TQ24 This class was very necessary for me as a newly appointed ADAPT rep.
- TQ24 This type of training worked better than conferences.
- TQ24 This was all new to me but was done in a way that made it easy for me to understand.
- TQ24 Training content has been very valuable for us to return to the plant as an ADAPT team and implement a successful program
- TQ24 Very good course.
- TQ24 Big concern is that local Key 4 may not understand the importance of the ADAPT process when it is presented to them by ADAPT reps.
- TQ24 After taking the posttest, it would have added to the learning experience to be able to see the questions I answered wrong.
- TQ24 Course was drawn out and time was not managed well. Need to move lunch later. Was very hard for group to stay functioning for 4 hours after lunch.
- TQ24 Good training experience.
- TQ24 I enjoyed the process of learning the detailed ADAPT program. It will be valuable in bringing my location up to spec. Learning the specifics of the job for me was critical because I am new to the role of ADAPT Rep.
- TQ24 It would have been better to have all members of the local adapt team present. The material for the medical department representatives could have been condensed into 2 days.
- TQ24 More time could have been allocated to the letter and the 6-step process.
- TQ24 More time should be allowed to prepare for the presentations
- TQ24 Overall the course was very informative. The course materials could have been covered in a little faster pace.

- TQ24 Some of the activities which did not deal directly with ADAPT content (such as describing locations of rectangles) could have been eliminated and did not contribute to learning about the ADAPT process.
- TQ24 The ADAPT training was extremely helpful to me and was very thorough in content. I feel better equipped to handle restrictions in our plant.
- TQ24 The first scenario when the 6-step process exercise was started was very disorganized. The instructor lost control of the class and it was very unproductive. I would recommend that the instructor go through the 6 steps one by one.
- TQ24 The training and topics covered were very well explained and represented. I would encourage a training to take place at least every 2 to 3 years for refresher updates on new changes to keep the ADAPT rep viable for the benefit of the company and employees.
- TQ24 Was not aware that each Medical Restriction form should be sent to the ADAPT Team nor that the Team is responsible for notifying employee's supervisor of his/her restrictions. We have never used the Medical Restriction Tracking sheet (did not know it existed).
- TQ24 Worthwhile course, especially for someone new, like myself.
- TQ24 Content could have been covered in 2-3 days. Course is too long!
- TQ24 Good presentations, overall good program.
- TQ24 I thought the class was very informative, pertinent and essential for any persons associated with the ADAPT Program. The facilitator was very knowledgeable on the subject. I feel honored to receive this specialize training in this manner.
- TQ24 Overall, good class. Team activities take up too much time.
- TQ24 The class was very informative. It was a much better presentation of the information than I have ever seen before. The book was just as well done as the class.
- TQ24 The final day could be better spent in a total course review process. Some plants don't have a proper ADAPT process. The more exposure the better.
- TQ24 The key to applying the course will depend on the speed in which we will receive the new guidelines from the National Parties.
- TQ24 This training class was well put together and the material was great. I think in some form or fashion the key 4 should attend this training. The material and the class exercise were real life examples.
- TQ24 Valuable in future litigation.
- TQ24 Very helpful to my work.
- TQ24 Well done and informative. I have no doubt that it will help us at our location once all ADAPT reps and our Dr. attend this course.

- TQ26 An exercise to consider might be for each category of team member—hourly, salaried, medical present their ADAPT paradigm (roles, attitudes, beliefs, frustrations, etc.) at the beginning of training and at end of training.
- TQ26 Breakout assignments related to making presentations for key for were unnecessary. Reviewing outside forces such as OSHA, FMLA, ERGO in a presentation form was counterproductive. We could have easily read the material and learned just as much.
- TQ26 A lot of activities for a 4-day training program. I would have preferred to not do any of them and thoroughly cover all the modules.
- TQ26 Good materials. Looking forward to seeing the CD.
- TQ26 Cut down on amount of time spent in redundant review of material.
- TQ26 Materials will help me with the process of the ADAPT Process.
- TQ26 All will be useful in performing the ADAPT process.
- TQ26 Eagerly await having my copy of the manual in my facility. I feel it is a good resource.
- TQ26 Good material. All information was helpful.
- TQ26 Good working book.
- TQ26 Needs some color and more dynamic, possibly pictorial materials.
- TQ26 The book appears to be very valuable.
- TQ26 The material appears to be well written and will be a useful tool to refer back to when needed at work.
- TQ26 The material was covered—but we needed more time to answer the contractual questions. I'm not sure that putting the SPO and assembly plants together is a good idea. We seem to have different issues and it wasted a lot of class time answering questions.
- TQ26 Very good presentation and presentation skills of a lot of material.
- TQ26 Would have been better to have your own book to make notes in it during different topics.
- TQ26 All were helpful.
- TQ26 Drags for the 1st 2 days.
- TQ26 Everything on point and useful in conducting the local ADAPT program.
- TQ26 Good materials but I would have liked to write in my manual and take it home with me at the end of the course.
- TQ26 I wish the manuals were ready at the time of class because I will have lost a lot of info since I could not write in my manual.
- TQ26 Materials are useful and helpful.

- TQ26 Materials were excellent and clearly laid out. Can't wait to have my manual of the ADAPT program so I can write in it!! (smile)
- TQ26 Same as course comments—availability of course materials to make notes in and take back to plant.
- TQ26 The manual will be very helpful as a reference tool when questions arise. I know that the manual is undergoing revisions, but I would have liked to have been able to write notes in the book to jog my memory when back at the plant to know what my comments were.
- TQ26 The process flow charts will be helpful in implementing the process at our plant and keeping us on track as time goes on.
- TQ26 Was extremely frustrating not to be able to write in manuals. Finding time to read future materials that are promised to be sent will be difficult.
- TQ26 Good materials, but the booklet must be put in final form and distributed.
- TQ26 It would have been nice to have a manual to write in and take notes.
- TQ26 More materials than needed.
- TQ26 This was not done when first covering the 6 steps and the group became lost. Also some doctors would drag subjects into the conversation that were not related to ADAPT and disrupt the group.
- TQ26 The manual was easy to read as were the course materials.
- TQ26 The materials explained in detail what was required, how to accomplish the task, etc.
- TQ26 The mix of materials and activities made the training more enjoyable and easier understand
- TQ26 Two of the key roadblocks to fully implementing the program, in my opinion, is the requirement of all initial work related restrictions of working employees must go through the adapt rep and the limitation of all long-term restrictions to 3 months.
- TQ26 Flow chart was too much detail.
- TQ26 I thought the instructional materials were well put together and there was a good mix of instruction and activity.
- TQ26 Just wish there were more materials to take back, and I realize that some are not ready yet.
- TQ26 Keep class on point.
- TQ26 Summary booklet was a good idea. Allows for rapid reference to info in a concise form. I can carry it around or keep it nearby for easy access. Not so with the large manual which often gets chucked on a shelf somewhere and forgotten.
- TQ26 The instructor's strategies and her materials were very good.

- TQ26 You have an outstanding ADAPT plan. Work the plan that you have do not continually change the program or expand it to satisfy all parties.
- TQ27 Have more communication with my medical department.
- TQ27 Communicate more with my counterparts.
- TQ27 Able to explain the program better.
- TQ27 Not much . . . but the material has helped clarify some questions.
- TQ27 Administer the process correctly.
- TQ27 Ask for a few volunteers for exercises and let the class observe the process to save time in order to complete the modules.
- TQ27 Change some documentation processes, and education of the plant population.
- TQ27 Everything starting from the 1st step of the process to the weekly Disability Team meetings.
- TQ27 I will go back to my location and document everything pertinent to each individual case.
- TQ27 Document more!
- TQ27 I will make sure all my paper work is done and my partner is doing his part to.
- TQ27 Make sure class has proper mix of Union, Mgt., and medical personnel.
- TQ27 To work better with the key 4.
- TQ27 Improve the process at our plant.
- TQ27 Make sure all employees receive all information available.
- TQ27 Document, document, document.
- TQ27 Have the manual for the student ready to write in for notes and reference, so it can be taken back to the home plant.
- TQ27 I will be documenting items on the forms for better tracking and filling out the quarterly reports. We will be conducting meetings with the Key 4 on a regular basis and do a better job of informing the plant population about ADAPT.
- TQ27 I will be involved with the daily placement of employees, i.e., placement interviews, etc.
- TQ27 Make sure all paper work is completed. Get needed help by informing Key 4.
- TQ27 Maybe put the new people in a class together and the more experienced people in a class together for the first 2 days. Then mix up (old with newer) the group the last 3 days. Involve discussions the first 2 days around the basics.
- TQ27 Meet more with the Key 4 and have better documentation.
- TQ27 Paperwork! I did not realize we were required to use standardized forms/quarterly reports.
- TQ27 See first note.

- TQ27 We were compliant with the spirit of ADAPT but did not have the paper trail to prove it. Will be creating files once we get back home.
- TQ27 We will begin to use the specific forms, files, and reports that were taught in the class. I feel we are doing a good job placing people, and we do have documentation. However, we now have a specific process we can follow.
- TQ27 Use the contract as a basis for every action I take.
- TQ27 Work the process the way it was intended to work.
- TQ27 Assume more of an active role in the adapt process.
- TQ27 Assure that the organization is fully aware of requirements and make sure that all contractual requirements are met.
- TQ27 Definitely look forward to Key 4 presentation so that we not only have their buy-in but also to let them know that they play an important role in this process . . . something that I don't think they realize now.
- TQ27 Ensure compliance at the local level to the ADAPT Process. Cross-train others so when people leave we do not lose the changes we make and are still in compliance to Doc 121.
- TQ27 Follow the additional requirements as outlined in the program.
- TQ27 Follow the process.
- TQ27 Have weekly meeting and use all ADAPT forms to perform ADAPT process.
- TQ27 I now understand the process as it is supposed to be implemented and have the tools to be successful in doing so.
- TQ27 I will be following the process with increased knowledge of the expected outcome. The placements of employees will be done with much more documentation than previously done.
- TQ27 I will do it by the book.
- TQ27 Implement the modified ADAPT Process as I have been instructed to.
- TQ27 Joint interviews. Key 4 presentation and need some answers to a couple of issues.
- TQ27 Key 4 annual refreshers—annual employee mailings—feel more empowered.
- TQ27 Make the necessary changes locally to be compliant with the National Parties as well as governmental regulations.
- TQ27 Meet weekly with disability team.
- TQ27 Operation of transitional work center in our plant will be run differently. Forms used need to be updated. Annual letters to all employees need to be sent out.
- TQ27 Our location ended up with the same results, but we went about the process a little differently.
- TQ27 Interview all and track the MONEY.
- TQ27 Allow ADAPT team to better do their job.

- TQ27 As a medical representative, I am doing nearly all that is currently required except for signing another form. Another exception is implementing the 90 day restriction limitation.
- TQ27 Be more aware of importance of each step in the process to ensure compliance.
- TQ27 Bring the key 4 down at same time.
- TQ27 Can now confidently do my job.
- TQ27 Can't comment as I am new to the ADAPT process.
- TQ27 Closer contact with union ADAPT to help him with the process.
- TQ27 Document!
- TQ27 Documentation and more attention to following the 6-step process.
- TQ27 First and foremost, ensure that all employee interviews are conducted jointly (this was not happening).
- TQ27 Follow process better. Have joint interviews.
- TQ27 I'm really not sure because I felt the mix of activities and learning is the best way that I personally learn.
- TQ27 Interview all employees and explain process to all parties, document all interviews.
- TQ27 Meet with the Key 4, develop a closing the gap plan for review and approval of the Key 4.
- TQ27 This was my first exposure to ADAPT, so everything I do will be different as a result of this training.
- TQ27 Weekly meetings will be held.
- TQ27 Work on program compliance.
- TQ27 Adhere to the 6-step process, and do better with the audit process.
- TQ27 Basically, our involvement level will be expanded. Coordinating the interviews with each employee will be a challenge as some had just worked on their jobs without the involvement of ADAPT.
- TQ27 Begin the true ADAPT Process.
- TQ27 Better documentation. Work more as a team. Have a better knowledge base to work from.
- TQ27 Communicate to plant changes and start better adherence to the process.
- TQ27 Eliminate the graduation presentation.
- TQ27 Follow closer attention to 6-step process.
- TQ27 Follow the guidelines for documentation.
- TQ27 I will go back to my facility and continue to document but only better. I will be more consistent in doing that.

- TQ27 Make an effort to ensure that all locations sent a full range of participants.
- TQ27 Seek more Key 4 involvement/commitment. Be meticulous in documentation.
- TQ27 Understanding.
- TQ28 Key 4 allowing more or enough time to do what is now required!
- TQ28 Barriers from production floor management in not wanting to provide accommodations.
- TQ28 Local management will not make accommodations.
- TQ28 The barriers will include the usual politics, and their remedies.
- TQ28 Do not anticipate problems.
- TQ28 Should not be none if they want it to work.
- TQ28 None other than the employees themselves.
- TQ28 Everything.
- TQ28 Having enough time to perform my regular duties, as well as ADAPT responsibilities.
- TQ28 I don't see any barriers and we have the needed support from all leadership to do what we need to do.
- TQ28 May have difficulty getting the Key 4's attention at first.
- TQ28 Our plant is very receptive to this program.
- TQ28 Possibly time. However, I do not believe we will have any problem with support from our organization.
- TQ28 Supervisors on the plant floor.
- TQ28 Support from key 4, barriers will be that upper mgt. will not allow the time needed.
- TQ28 Timing.
- TQ28 We have full support.
- TQ28 Working team participation.
- TQ28 None.
- TQ28 Barriers—convincing the Key 4 of mandatory changes and obtaining their support and commitment for the program.
- TQ28 Be a better listener/consider employee more input for placement.
- TQ28 Certain individuals in our plant will continue to block placements due to their lack of buy-in to the placement process.
- TQ28 Communicating with plant supervisors.

- TQ28 I believe that a roll out to the plant will give us more support as the working committee members will be able to see and understand the need for their help and participation in this process.
- TQ28 I don't anticipate any barriers at this time.
- TQ28 It will take time to train the employees, the Key Four, and labor relations to the new process so that everyone will be comfortable with it and follow it.
- TQ28 Joint leadership and many employees believe that the company has a greater obligation to find jobs for co-workers injured in the course of their employment.
- TQ28 Lack of interest by Key-4. They have a lot of other issues on their minds and schedules and this is at the back of the line.
- TQ28 Management's enthusiasm and drive to take responsibility to deliver required data and believe in the process.
- TQ28 May be some resistance to any policy implementation involving the incurring of lost work days "since this is a scorecard issue."
- TQ28 None.
- TQ28 Some issues with our local agreement.
- TQ28 The local leadership will want to see everything we say in writing.
- TQ28 There will defiantly be a time constraint. We are all wearing too many hats!
- TQ28 We no longer have the manpower resources to do the process as required. We will have to rethink how to follow the process even though we all do more than one job.
- TQ28 When you have 2 part-time ADAPT people, it is very difficult to have the time for the joint interviews and to work together. This is the smallest part of my job and it is hard to allocate the time and energy it deserves.
- TQ28 With the many hats we are wearing these days, time to cover all the details will be hard to come by.
- TQ28 Adequate staffing at the plant level.
- TQ28 As long as I have the Key 4's buy-in at my location, there should not be any barriers. Thus the support will be there.
- TQ28 Difficulty in communicating to all employees in the plant. Management's lack of support at the mid-level position 6th - 8th
- TQ28 How to move employees with restrictions efficiently from medical through the joint interview to the job.
- TQ28 I believe our Key 4 will support our efforts.
- TQ28 I would estimate that our plant has restrictions on over 2,000 of 3,000 total employees and reviewing those restrictions every 90 days would be an almost insurmountable problem.

- TQ28 Key 4 may not have resources to allow ADAPT to place workers on restricted jobs.
- Q28 More help for me in the medical department.
- TQ28 My Key Four is very involved and supportive of all joint programs. They will give our ADAPT team all we need in terms of time and support to fulfill our contractual obligations
- TQ28 New plant management and P.D., so we'll see.
- TQ28 No barriers.
- TQ28 No barriers and I do expect support.
- TQ28 None.
- TQ28 None at this time.
- TQ28 None, outside of meeting with the Key 4.
- TQ28 Primary barrier would be whether the Key 4 will buy-in to the ADAPT process.
- TQ28 Resources concerning trained manpower.
- TQ28 The barrier that may occur for our plant is getting the Key 4 together for a given amount of time. It is hard to get them altogether at one time but I know it can be done. They are usually very cooperative and eager to hear what is going on to help our team.
- TQ28 Access to out-of-GM resources (convention, training events, consultants training programs)
- TQ28 Key 4 commitment—not a high priority, not a good appreciation for net cost savings. Once spreadsheet info is available it will be easier to make a financial case for accommodations.
- TQ28 Communication with the Key 4 and using their support to further the program.
- TQ28 I do not expect any barriers.
- TQ28 I think my plant will help me implement the process as directed.
- TQ28 Lack of participation by UAW ADAPT rep.
- TQ28 None.
- TQ28 None at this time.
- TQ28 None.
- TQ28 Previous plant perceptions.
- TQ28 Resistance from the working committees. Getting all parties of the disability team on board.
- TQ28 Time is going to be a key issue.

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Education

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1989 MSA - Central Michigan University, Mt. Pleasant, MI, Masters of Science in Administration

1985 Certificate of Achievement, Industrial Health & Safety, Detroit, MI, General Motors University

1975 BS - Ferris State University, Big Rapids, MI, Bachelor of Science Degree – Social Science

Professional Profile

Human Resource and Labor Relations professional with broad experience in automotive industry, corporate training, and development, and particular expertise in labor negotiations, grievance resolution, strategic planning, and leadership.

Instructor/Trainer Experience

As a supervisor/manager for over the past 18 years with one of the largest manufacturing companies in the world, I design and develop research-based training programs. I have incorporated adult learning strategies, positive reinforcement, and group dynamics in all corporate training activities. I give presentations in dozens of different venues that require sensitivity to individual variability, such as “Violence in the Workplace” and “Sexual Harassment.”

As owner/operator of a vocational training center in Flint, Michigan, I trained students in the operation and functionality of information processing equipment. The students were primarily adults preparing to enter or re-enter the workforce. I also conducted feasibility studies for private, public, and non-profit agencies (Dow Corning and Chemical, Citizens Bank, United Way, etc.). Additionally, I served as a teacher in classes for primary, secondary, and college-level students in the local area. The experience provided me with a front-line view of the public education system. I currently foster a leadership role in training and development for public and private companies on regulatory standards through various communication systems (workshops, videotape, teleconference, etc.).

Further Research Study:

Adult Learning Style From a Cultural and Environmental Perspective