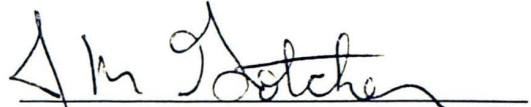


RETENTION OF INFORMATION IN A WORKPLACE TRAINING
SETTING USING LECTURE VERSUS VIDEO TRAINING METHODS

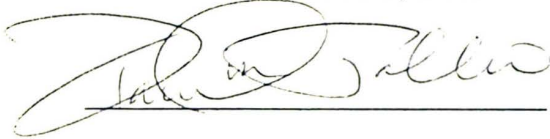
LISA A. CHEEK

To the Graduate Council:

I am submitting herewith a thesis written by Lisa A. Cheek entitled "Retention of Information in a workplace training setting using lecture versus video training methods". I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Communication Arts.


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SETTING USING LECTURE VERSUS VIDEO TRAINING METHODS

A Thesis

Presented for the

Master of Arts

Degree

Austin Peay State University

Lisa A. Cheek

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ABSTRACT

This research explored the efficiency of lecture versus video training methods when applied in a workplace, as opposed to a classroom, setting. Captain D's, a concept in the publicly held Shoney's, Inc. company, is a fast service seafood restaurant consisting of 365 company owned and 204 franchised restaurants in 26 states. Turnover of employees is high, and the cost of training new employees as well as developing existing employees is very high. This study was designed to determine whether the video training library that Captain D's currently uses is the most efficient method of training the employees. Twenty-four participants were divided into two groups. The lecture treatment group listened to the researcher present information regarding the Counter Opening Procedures for Captain D's and then took a test. The video treatment group watched the Counter Opening Procedures video and then took the test. The study showed that the Lecture treatment group performed better overall on the test than the video treatment group did. And within the video treatment group, the older participants performed much poorer than the younger participants.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	1
Statement of the problem	2
Purpose of the study	2
Justification of the study	2
Limitations of the study	5
Assumptions of the study	6
Statement of Hypotheses	6
Definition of Terms	7
II. LITERATURE REVIEW	8
Benefits of on-going learning for Employees and Companies	8
Scope of Alternative Training Methods	11
Lecture versus Video Training Comparisons	13
III. METHODOLOGY	15
Population	16
Selection	17
Arrangements for conducting the study	17
Procedures for testing and gathering data	18
Development of the instrument	18
Training Program	19
Extraneous Sources for Error	19
IV. RESULTS	20
Demographic information review	21
Scoring Results	23
Results based on Gender criteria	23
Results based on Race criteria	25
Results based on Age criteria	27
Results based on Education criteria	29
Results based on Length of Service criteria	31
Results based on Full Time / Part time criteria	33
Quality Type Results – Lecture versus Video	35

V. DISCUSSION	42
Discussion and implications of demographic information and the results	45
VI. CONCLUSIONS	50
VII. LIST OF REFERENCES	54
APPENDICES	61
Captain D's Opening Checklist	62
Informed consent form	63
Demographic Information sheet	64
Captain D's Counter Opening Procedures Test	65
VITA	67

LIST OF TABLES

TABLE	PAGE
1. Lecture group results by gender	24
2. Video group results by gender	25
3. Lecture group results by race	26
4. Video group results by race	27
5. Lecture group results by age	28
6. Video group results by age	29
7. Lecture group results by education level	30
8. Video group results by education level	31
9. Lecture group results based on length of service	32
10. Video group results based on length of service	33
11. Lecture group results based on full-time / part-time status	34
12. Video group results based on full-time / part-time status	35
13. Lecture group responses to questions 1 through 10	36
14. Video group responses to questions 1 through 10	37
15. Lecture group responses to questions 11 through 15	38
16. Video group responses to questions 11 through 15	39
17. Lecture group responses to questions 16 through 20	40
18. Video group responses to questions 16 through 20	40

CHAPTER I

Introduction

On-going training in the workplace is essential for the success of any person working in the United States today, as well as any company wishing to compete in the ever expanding global economy of the new millennium. A wide variety of training methods, some of which are traditional, and some of which are newly developed based on available technology, are used to improve the quality of our workforces nationwide. Do any training methods stand out above all others as being the most widely effective training method for a workplace environment?

This study will explore the effectiveness of two particular training methods, and compare the effectiveness each to the other in a specific workplace setting. The workplace setting is different from the structured school learning environment, in that learning is not the primary focus of the day to day worker; rather, the employee must learn in addition to performing the tasks that are necessary for the position they hold.

Using the most effective training method means that the employer can make the most of the limited time for training while ensuring the employee learns as much as possible, enabling the employee to more effectively contribute to the success of the company.

Statement of the Problem

Most training programs used in the workforce use a combination of several training methods to communicate the information they are teaching their employees. Captain D's uses a varied combination of written text in the form of training manuals that the employees read, videos, and hands-on training to completely train an employee on a particular task. Since these training methods are used in varying combinations depending on the task being taught, the effect of one particular method on a well defined group has not been determined.

Purpose of the Study

It would be useful to Captain D's to know whether lecture instruction or video instruction best increases retention with employees so that future training programs can utilize the most effective method and reduce the amount of hands-on training required for the trainee to successfully learn a new task, making the entire process more labor and bottom line profit friendly.

Justification of the Study

Captain D's is a publicly held company with bottom line profit to the shareholders being a very important consideration in the implementation of systems in the company's structure. Controlling costs at the restaurant level is the most significant means of ensuring increased profit at the end of the year, thus yielding a greater return for the stockholders and making the company stronger. Food costs, supply costs, and labor costs are all controllable at the

restaurant level. Optimizing efficiencies in the restaurant requires each employee to be able to contribute to the controlling of these costs.

The efficiencies that are made possible in the restaurant by a well-trained staff include control of food waste (ensuring that all product served is prepared to procedure and always meets the company's quality standards), control of maintenance expense (employees who can perform the simple repair duties themselves without the expense of an outside vendor), and control of labor dollars spent in the restaurant. Control of labor dollars is most likely to be the most volatile of these controllable expenses, since so many factors influence this number.

Labor expenses extend beyond merely the dollars paid to employees each week, which increases as the minimum wage increases, and as employees receive merit increases in pay. Labor expenses also include the cost of turnover, the costs of acquiring and training new employees over and over. Turnover can be attributed to many factors, with individual variables of turnover being more predictive under prosperous conditions than when the economy is strained (Muchinsky & Morrow, 1980). However, Shirah (1993) found specifically that the lack of adequate training contributes to a high turnover rate. Holdsworth (1994) also believes that education can help solve the employee retention problems that companies are facing. And with regard to workforce mobility, Roger Vaughan (1990) found that trained employees are less likely to move than those who have received less training.

Training new employees, and long-term employees to new tasks and responsibilities, makes the company a more efficient and profitable organization. However, it requires a commitment from the company to devote time, labor dollars and materials for employees' development. Captain D's typically uses three methods of training: hands-on, videos, and written text (posters, and manuals).

The written text is quickly obsolete due to changing procedures and newly implemented policies, and the videos, which are more expensive and more time-consuming to develop, are even more outdated as a day-to-day training tool. Currently, the only training method that can be used to accurately teach every single task an employee must learn at Captain D's is the hands-on method. This method is very labor intensive, requiring the time of a qualified trainer to disseminate information, perform the function, answer questions the trainee might have, and then observe the trainee performing the function to satisfaction.

To decrease the labor intensive hands-on time spent with trainer and trainee, the videos and the text (manuals) must be utilized as viable training options to be used in conjunction with hands-on training once the employees have absorbed basic information. Updating manuals is a fairly cost efficient process, requiring only corrected paperwork, getting the information to the stores, and informing the employees of changes in policies or procedures. However, new production of videos on a frequent enough schedule to keep pace

with the changing industry can become quite costly, reducing the efficiency of this training method.

Should a strictly lecture presentation of the information be as effective in providing employees with needed training as the video presentation of information is, then the process of providing employees with up to the minute training could be updated with the distribution of written corrections to previous procedures or policies and the dissemination of these corrections by a management person, rather than the expense of the production of video edits or entirely new videos and the time required for the employee to watch them. The two training methods to be used in conjunction with hands-on training would then be text and verbal presentation of materials by a management person.

Limitations of the Study

1. This study included 24 subjects.
2. All participants were Captain D's employees, employed less than one year.
3. The video used in the test was the Captain D's Counter Group 3 Opening Procedures tape (created by Captain D's Training Department in 1997).
4. The lecture presentation was based on the Captain D's Counter Opening Checklist revised by Wayne Harris, Director of Training, in April of 1996.
5. The test was developed by the researcher based on information available from both the video and the lecture presentation of the checklist.

6. The researcher performed the lecture presentation to each of the 15 lecture group participants.

7. The research presented the lecture information to each participant separately, which does not ensure the exact same presentation to each of the participants, while each of the video group participants will be subjected to the exact same video presentation.

8. The researcher was not aware of any previous training in opening procedures by the participants in the study.

Assumptions of the Study

The study was conducted based on the following assumptions:

1. Each of the participants was fluent in the English language and able to comprehend the information given them.

2. Each of the participants had an equal opportunity to ask questions prior to the start of the testing phase of the study.

3. Each of the participants was able to comprehend the questions asked and able to respond in the requested manner.

Statement of Hypotheses

This research project addressed the question of whether a strictly video presentation of material is more readily retained by employees at a Captain D's restaurant than a strictly lecture presentation of the same material.

Hypothesis I: A video presentation of operational procedures will ensure greater retention of the information presented to employees at a Captain D's restaurant than a strictly lecture presentation will.

Hypothesis II: The younger employees will be more responsive to a video presentation of procedures than an older group of employees will be.

Definition of Terms

Opening Procedures

That set of procedures defined by the Captain D's company as duties to be performed by the counter personnel prior to the opening of business each day.

Counter Opening Checklist

A laminated list of duties to be performed by the counter personnel prior to opening the restaurant. The list is mounted on the wall and duties are to be checked off each morning as the particular tasks are performed.

Captain D's Seafood

Captain D's is a concept in the publicly held Shoney's Inc. Company. Captain D's is a fast service seafood restaurant chain consisting of 365 company owned restaurants and 204 franchised restaurants in 26 states.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

Learning, in its most general meaning, is a process that each human being engages in on a daily basis throughout most of their life. Webster (1992) defines learning as the act or process of acquiring knowledge or skill. Most of us attend formal school through at least the high school level, and then decide to continue our education, or to join the workforce. The purpose of continuing our education is to expand our options when we do enter the workforce. According to the journal *Workforce Economic Trends* (1997), more high school graduates are enrolling in college upon completion of high school than ever before. Additionally they report that enrollment in graduate and professional schools is increasing steadily. This on-going learning is necessary in order to compete in the global economy of the new millennium.

Benefits of on-going learning for Employees and Companies

According to *Workforce Economic Trends* (1997), over nine in ten companies provide educational assistance to their employees. The reasons for providing this continued education are varied, but the most obvious reason is that trained employees perform significantly better than untrained employees (Schorgmayer & Swanson, 1975). They performed a study to determine the effects of conceptual versus specific training techniques on the trouble-shooting performance of maintenance technicians. The subjects were divided into three groups. Two received differing methods of training, and the control group

received no training. Results indicated that the training programs were equally effective, and that both trained groups performed significantly better than the control group.

Darany (1992) says that one way for agencies to reduce fiscal stress is to minimize employee turnover, and Holdsworth (1994) in his "Here Today, Gone Tomorrow" publication states that some companies believe that education can help solve these employee retention problems corporations are facing.

Supporting this theory, Shirah (1993) found that lack of adequate training contributes to a high turnover rate among child care employees. Among caregivers who received training in the Mobile, Alabama area, 68% were still employed one year after graduation. The Workplace Literacy Partnership for Nursing Home Employees established a seven-member training collaborative to upgrade the literacy and language skills of their employees and found that they could use the training program as a recruitment tool and that they increased both the attendance and productivity of their participating employees.

Additional benefits to employee training programs include improved communication, greater on the job safety, and reduced machine down time due to operator error (Mark, 1985). Lankard (1991) says that for the employer, training supports organizational culture and goals while encouraging efficiency, innovation, quality in worker performance and productivity. And in his study of the advantages and disadvantages of certification for work-based training, Geale (1995) found that the organizational benefits of employee training included

improved productivity and profitability, employee motivation, and industrial relations.

As far as the benefits that employees can enjoy as a result of on-going education in the workplace, Calabria (1995) found that by including job and life skills in their training programs, companies can enable it's employees to achieve professional success. Lankard (1991) explains that the employee benefits of training are both economic and educational. Meyers (1994) determined that Hispanics could enhance their professional careers by finding jobs with corporations that offer to pay for graduate tuition. Vaughn (1990) maintains that employer training accounts for an estimated two-thirds of the earnings gained over a working career, while job changes account for only one-sixth, and that job training greatly reduces the possibility of experiencing unemployment.

Geale (1995) found many benefits to employees who participated in employee training programs, including career advancement, mobility, job security, self-confidence, pride, job satisfaction, and personal fulfillment. And the Workplace Literacy Partnership for Nursing Home Employees found that the employees that participated benefited by becoming more skilled in their jobs, preparing for training for advancement, and becoming more comfortable socially.

However, despite the benefits to both the companies providing the training and employees participating in the training programs, Bishop (1993) found clear evidence that the U.S. employers and workers underinvest in on-the-job training, compared to other developed countries. U.S. employers devoted

less time and fewer resources to training entry-level, blue-collar, clerical and service employees than do employers in Germany and Japan. He attributed this lower training rate to a higher employee turnover rate of employees in the U.S., as well as lower rates of technological progress.

Scope of Alternative Training Methods

The scope of the training programs available to companies is increasing and much research has centered on the use of these alternative methods of teaching with regard to information retention and skill acquisition of students and employees in a workplace setting.

Meyer & Jung (1995) investigated whether regulating the closed-captioned videotape prompt rate could improve reading comprehension levels in elementary school students. Gutenko (1995) experimented with the playback of audio/video at a temporal frame rate faster than that used when recorded (RTC). His research showed that RTC could enhance the retention of content. Shelton (1995) looked at the use of visual aids in presentations by health care professionals to the public they serve. He found that visual aids enhanced understanding, added authenticity, added variety, helped the presenter have a lasting impact, and built the presenter's ethos as a speaker. Pepper, et al (1994) examined the effects of non-traditional instructional methods on student learning in an engineering course at the University of Texas at El Paso. The course used video presentations, vocabulary quizzes, computer exercises, student project groups and homework to enhance student retention. The study found that

homework grades have a slightly negative effect on course grade and that group project grades had a significant positive effect on course grades. Kupsh (1994) examined how multimedia, defined as the integration, control and manipulation of text, art and graphics, photography, animation, audio and video for presentations, affected retention rates, interest and motivation, and learning effectiveness of university students at the California State Polytechnic University at Ponom. Whaley & Fisk (1993) conducted two experiments to determine the effects of part-task training on the acquisition and retention of a skill. Vasquez, et al (1993) found that cooperative learning, compared with traditional instruction, resulted in greater learning of technical information and a greater ability to perform job functions among U.S. Navy air traffic controllers. Verhagen (1992) studied the optimum length of video segments in interactive video programs. Clariana, et al (1991) investigated the effects of different feedback strategies using computer administered multiple-choice questions as instruction. Back in 1979, Hailer looked at individualized instruction in employee training programs. His results indicated that in-house training was growing in importance as a result of a shortage of experienced staff, and that training of manufacturing skills would increase rapidly and use individualized instruction extensively. He stated that individualized instruction, which is cost-effective and useful in handling problems created by geographical dispersion of employees, was a medium of high potential growth for training in technical subject matter.

And as far back as 1963, Holt examined the cost effectiveness of programmed instruction for the Bell Telephone System which conducts massive employee training programs. The programmed method included small steps, continual responding, immediate feedback, and self-pacing. The students preferred the method to traditional group-paced instruction.

Lecture Versus Video Training Comparisons

However, none of this research specifically compared lecture versus video training methods in an attempt to discover which method affects retention of information the greatest.

Hanley (1995), as well as others, did perform specific research to find out whether an audio or a video training method was more effective with her subjects. She found video to be a more effective visual organizer than pictures with narrative when presented in a foreign language in an elementary school program. Video was the preferred training method for the students. Duquette (1993) presented French second language vocabulary learning in two contexts, video and audio, to her students. Her results also showed achievement to be greater for the video than the audio treatment group. Both of these research projects involved students.

However, Billett (1994) evaluated a workplace literacy program at a mining and processing plant by interviewing 15 participants and found that most disliked videos. They instead preferred learning guides and computer based learning.

Drew (1985) conducted a study examining the relationship between audio and visual channels on television and the process of learning from television news. Results showed that close coordination between audio and video improved audio recall of television news stories and that redundancy aided story understanding and audio information recall. And Fleet (1980) explored the relative effectiveness of four modes of delivery, live, audio, video-audio, and manuscript, on content retention among Black college students. She did not find significant differences in retention among the four experimental groups, but contributed the lack of difference to the small amount retained in general.

CHAPTER 3

METHODOLOGY

The need for on-going education in the workplace has been examined and carefully documented over the years. As technology advances and the world becomes even more globally competitive, the importance of continuing education and the development of our workforce will only become more important. Companies benefit from well-trained employees, as do the trained employees. Determining the best method for training these employees is an area of research that has not been exhausted by any means. This research project will add a small measure to the vast amount of knowledge regarding appropriate and effective training methods in the workplace, and as it specifically relates to a particular company, will offer Captain D's realistic expectations regarding the effectiveness of the training methods they employ.

Captain D's uses a combination of training methods to teach employees procedures and policies necessary for the day to day operations of a Captain D's restaurant. Currently the company uses text (manuals and posters), videos, and hands-on training in varying combinations depending on the task to be learned. A key effort in controlling costs in the restaurant is to optimize training dollars spent. Hands-on training is the only method currently available to accurately teach policies and procedures to employees, but this method is highly labor intensive, requiring a dedicated trainer to disseminate information, perform the

function, answer questions, and then observe the trainee successfully performing the function.

Videos and manuals are quickly outdated, and the only option available currently is to have a management person watch the video with the employee and point out all discrepancies in procedures or policies, or to correct the written text, creating a messy, unprofessional manual. However, an option to strictly hands-on training is necessary to help control costs.

Changing the presentation method of information from videos to a verbal presentation by a designated trained employee would eliminate the cost of reproducing videos and constantly updating operational manuals. However, it is first necessary to determine whether employees can retain the same level of information when procedures are presented in audio format as they do when it is presented in video format, since retention of this initial information is necessary to make the subsequent hands-on training time most efficient.

This research project is designed to determine the level of retention employees achieve when presented operational procedures through an audio format compared to a video format.

Population

Twenty-four participants were chosen from Captain D's restaurants in Nashville and Clarksville, Tennessee.

Selection

The main criteria for participation were that the participants be hourly employees of the company. The participants were not allowed to be management personnel. All hourly employees were eligible to participate in the study, provided they were scheduled to work a shift in one of the restaurants during the week of October 10 or the week of October 24.

Arrangements for Conducting the Study

All of the participants were paid by Captain D's for their participation in the study. Each was allowed to participate in the study during a regularly scheduled shift.

The audio presentation group received an audio presentation from the researcher in the dining room of the restaurant. The participants sat at the dining tables, in groups of not larger than five people, and listened to the researcher present the information. Then they took the tests at the dining room tables.

The video presentation group also participated from the dining room of the restaurant. Televisions are mounted in the dining room for training purposes, and the tests were taken at the dining tables.

No instruction or tests were given during busy meal periods. The video instruction took place before the restaurant opened in the morning, and the

audio presentation took place in the slower afternoon period between the hours of 2:30 and 4:30 P.M.

Procedures for Testing and Gathering Data

The participants each signed a consent form, agreeing to participate in the study, after which they completed the demographic information sheet. Once the instruction was complete, whether that be audio presentation, or viewing of the Opening Procedures video, the participants were instructed to take the test (See Appendix A). The employees completed the test at their own pace, with no time restrictions given. Upon completion of the test, the employees returned to their regular duties.

The tests were graded individually by the researcher and assigned a percentage grade. The individual responses to each question (correct or incorrect) were loaded into an Access database along with the demographic information provided by the participants. The Access database allows the researcher to query the information based on any criteria entered.

Development of the Instrument

The researched viewed the Opening Procedures video and studied the Opening Checklist and then developed a 20-question test that included only questions that could be answered given either method of instruction (See Appendix B). Ten Questions are fill in the blank, five questions are multiple choice and five questions are true or false.

Training Program

The researcher performed all research herself, so no training program was necessary. The researcher is also proficient in the use of Microsoft Access so she performed the analysis of the data as well without additional training.

Extraneous Sources for Error

1. The researcher did not review the tests in the presence of the participants to ensure completeness of answers given. If a question was unanswered, it was assumed incorrect.
2. Keying errors may have occurred as I entered the answers into an Access database for analysis.

CHAPTER 4

RESULTS

Twenty-four Captain D's employees participated in the research project. Twelve of the respondents were classified into the lecture group, and twelve of the respondents were classified into the video group.

The lecture group first signed the consent form, agreeing to participate in the study. They then completed the demographic information page as completely as they could. They were instructed to leave blank any questions to which they did not know the answers. The researcher then gave a lecture presentation covering the Opening Procedures at Captain D's using the Opening Checklist as a reference. Only items on the Opening Checklist were discussed and there was no question and answer period given. Immediately upon completion of the lecture presentation, the participants completed the test. Lecture participants were given the lecture presentation in groups not larger than five at one time.

The video group also completed the consent form first, agreeing to participate in the study. The demographic information page was completed next, with the same instructions to leave blank any questions to which they did not know the answer. Then the participants viewed the Captain D's Counter Opening Video. No question and answer period was given. Immediately upon completion of the video, the participants completed the test. Video participants viewed the video in groups not larger than five at one time.

Demographic Information Review

Gender

The lecture group included eight females, and four males. The video group included five females and seven males. The participants were chosen at random from varying stores, based upon availability and current staffing in the restaurants at the time the researcher was present.

Race

In the lecture group, seven participants were white, three were black, and two were Mexican. In the video group, ten were white and two were black. Again, the participants were chosen at random based on staffing in the restaurants at the time of the study.

Age

In the lecture group, the average age is 21.5 years, with ages ranging from 16 to 55. In the video group, the average age is 28 years, with ages ranging from 16 to 62.

Education

In the lecture group, only 11 of the 12 participants responded to this question. Eight are still in high school, two completed the General Education Diploma, and one has a college degree. In the video group, 11 of the 12 participants responded to this question. Eight are still in high school, one has a college degree, and two are currently in college.

Head of Household

In the lecture group, two participants are the head of household. In the video group, four are the head of their household.

Household Income

In the lecture group, five participants responded to this question. The amount of household income varied from \$1,400 per month to \$26,500 per year, with only one claiming household income of over \$20,000 per year. In the video group, seven participants responded to this question. The amount of household income varied from \$10,000 to \$35,000 per year, with five of the respondents claiming household income of over \$20,000 per year.

How long at Captain D's

In the lecture group, length of service at Captain D's ranges from two days to three and a half years, with 3 people reporting length of service in excess of one year. The average length of service for this treatment group is 235 days. In the video group, length of service at Captain D's ranges from six days to four years, with three participants reporting at least one year of service. The average length of service for this treatment group is 300 days.

Full or Part Time

In the lecture group, five participants claimed to be employed full time. In the video group, four participants claimed to be employed full time.

Scoring Results

Lecture and Video Groups Combined

Of the 24 participants, six scored 100% on the test. Six scored between 90% and 99%, five scored between 80% and 89%, three scored between 70% and 79%, and four scored between 60% and 69.

Lecture Group

Of the 12 participants in the lecture group, four scored 100% on the test. Two scored between 90% and 99%, four scored between 80% and 89%, one scored between 70% and 79%, and one scored below 70%.

Video Group

Of the 12 participants in the video group, two scored 100% on the test. Four scored between 90% and 99%, one scored between 80% and 89%, two scored between 70% and 79%, and three scored below 70%.

Results Based on Gender Criteria

Lecture Group

One male and three females in this treatment group scored 100%, and a female scored the low score of 60%. See Table 1 for the score and gender of each participant in the lecture treatment group.

Table 1: Lecture Group Results by Gender

Gender of Participant	Score
Male	100
Female	100
Female	100
Female	100
Female	95
Female	90
Male	85
Female	85
Male	80
Male	80
Female	70
Female	60

Video group

Both a male and a female score 100% in this treatment group, and both a male and a female scored the low score of 60%. See Table 2 for the score and gender of each participant in the video treatment group.

Table 2: Video Group Results by Gender

Gender of Participant	Score
Female	100
Male	100
Male	95
Female	90
Female	90
Male	90
Male	80
Male	75
Female	75
Male	65
Male	60
Female	60

Results Based on Race Criteria

Lecture group

The four participants that scored 100% were all white. A Mexican participant achieved the low score of 60%. See Table 3 for the score and race of each participant in the lecture treatment group.

Table 3: Lecture Group Results by Race

Race of Participant	Score
White	100
White	100
White	100
White	100
White	95
Black	90
Mexican	85
White	85
Black	80
Black	80
White	70
Mexican	60

Video group

One participant that scored 100% was white, and one participant that scored 100% was black. Both participants achieving the low score of 60% were white. See Table 4 for the score and race of each participant in the video treatment group.

Table 4: Video Group Results by Race

Race of Participant	Score
Black	100
White	100
White	95
White	90
White	90
White	90
White	80
Black	75
White	75
White	65
White	60
White	60

Results Based on Age Criteria

Lecture group

The four participants that scored 100% were between the ages of 16 and 20. The low score of 60% was achieved by a 17-year-old participant. See Table 5 for the score and age of each participant in the lecture treatment group.

Table 5: Lecture Group Results by Age

Age of Participant	Score
20	100
17	100
18	100
17	100
22	95
16	90
18	85
17	85
18	80
23	80
55	70
17	60

Video group

The participants that scored 100% were 19 and 31 years old respectively.

The low score of 60% was achieved by a 31 year old and a 62-year-old participant. See Table 6 for the score and age of each participant in the video treatment group.

Table 6: Video Group Results by Age

Age of Participant	Score
19	100
31	100
20	95
16	90
18	90
17	90
20	80
18	75
38	75
46	65
31	60
62	60

Results Based on Education Criteria

Lecture group

The four participants that scored 100% were either in high school or had completed a GED. A tenth grade high school participant achieved the low score of 60%. See Table 7 for the score and education level of each participant in the lecture treatment group.

Table 7: Lecture Group Results by Education Level

Education Level	Score
Grade 11 – High School	100
Grade 10 – High School	100
GED	100
Grade 10 – High School	100
College	95
Grade 9 – High School	90
GED	85
Grade 11 – High School	85
(no answer given)	80
Grade 12 – High School	80
Grade 8 – Elementary School	70
Grade 10 – High School	60

Video group

The participants that scored 100% were in college and a high school graduate respectively. Both participants that achieved the low score of 55% completed High School. See Table 8 for the score and education level of each participant in the video treatment group.

Table 8: Video Group Results by Education Level

Education Level	Score
Sophomore Year in College	100
Grade 12 – High School	100
(no response given)	95
Grade 9 – High School	90
Grade 11 – High School	90
Grade 10 – High School	90
Sophomore Year in College	80
Grade 12 – High School	75
Grade 12 – High School	75
College degree	65
Grade 12 – High School	60
Grade 12 – High School	60

Results Based on Length of Service Criteria

Lecture group

Length of employment for the 4 participants that scored 100% ranged from 4 days to 2.5 years. The participant that scored the low score of 60 had been employed for three days. See Table 9 for the score and length of service of each participant in the lecture treatment group.

Table 9: Lecture Group Results by Length of Service

Length of Service	Score
2.5 years	100
2 weeks	100
4 days	100
2 weeks	100
1 month	95
3 weeks	90
6 months	85
6 days	85
2 days	80
3.5 years	80
1 year	70
3 days	60

Video group

Captain D's had employed the participants that scored 100% for seven months and 1 year respectively. The participants that scored the low score of 60% had been employed between three and ten months. See Table 10 for the score and length of service of each participant in the video treatment group.

Table 10: Video Group Results by Length of Service

Length of Service	Score
1 year	100
7 months	100
4 years	95
4 months	90
14 months	90
4 weeks	90
2 months	80
6 days	75
6 months	75
1year	65
10 months	60
3 months	60

Results based on Full-time / Part-time criteria

Lecture group

Two of the participants that scored 100% were full time employees, and the other two were part time employees. A part-time employee achieved the low score of 60%. See Table 11 for the score and employment status of each participant in the lecture treatment group.

Table 11: Lecture Group Results by Full-Time / Part-time Status

Employment Status	Score
Full-time	100
Part-time	100
Full-time	100
Part-time	100
Full-time	95
Part-time	90
Part-time	85
Part-time	85
Part-time	80
Full-time	80
Full-time	70
Part-time	60

Video group

One participant that scored 100% was a full-time employee, and one was a part-time employee. Also, one participant that scored the low score of 60% was a full-time employee, and one was a part-time employee. See Table 12 for the score and employment status of each participant in the video treatment group.

Table 12: Video Group Results by Full-Time / Part-Time Status

Employment Status	Score
Part-time	100
Full-time	100
Full-time	95
Part-time	90
Part-time	90
Part-time	90
Part-time	80
Part-time	75
Part-time	75
Full-time	65
Full-time	60
Part-time	60

Question Type Results - Lecture Versus Video

The test consisted of 20 questions. Questions 1 through 10 were "Fill in the Blank". Questions 11 through 15 were "Multiple Choice". Questions 16 through 20 were "True / False". For analysis, the researcher has compared the number of correct responses to each of these three question types, as well as for each question.

Analysis of lecture group Answering Questions 1 through 10

Four participants in the lecture treatment group responded correctly to each of the Fill in the Blank questions. The question most frequently missed by this group in this category was question number 4. See Table 13 for the number of participants that responded correctly to the individual questions.

Table 13: Lecture Group Responses to Questions 1 through 10

Question Number	Number of incorrect responses
1	0
2	1
3	1
4	4
5	3
6	2
7	2
8	2
9	1
10	2

Analysis of Video Group Answering Questions 1 through 10

Three participants in the video treatment group also responded correctly to each of the Fill in the Blank questions. The question most frequently missed

by this group in this category was question number 7. See Table 14 for the number of participants that responded correctly to the individual questions.

Table 14: Video Group Responses to Questions 1 through 10

Question Number	Number of incorrect responses
1	0
2	2
3	3
4	3
5	3
6	0
7	4
8	2
9	3
10	2

In the lecture treatment group, eight people accounted for the 18 total incorrect responses, while in the video treatment group, nine people accounted for the total of 22 incorrect responses in the Fill in the Blank category.

Analysis of Lecture Group Answering Questions 11 through 15

Six participants in the lecture treatment group responded correctly to each of the Multiple Choice questions. The question most frequently missed by this

group in this category was question number 14. See Table 15 for the number of participants that responded correctly to the individual questions.

Table 15: Lecture Group Responses to Questions 11 through 15

Question Number	Number of incorrect responses
11	1
12	2
13	2
14	3
15	1

Analysis of Video Group Answering Questions 11 through 15

Five participants in the video treatment group responded correctly to each of the Multiple Choice questions. The question most frequently missed by this group in this category was question number 11. See Table 16 for the number of participants that responded correctly to the individual questions.

Table 16: Video Group Responses to Questions 11 through 15

Question Number	Number of incorrect responses
11	5
12	2
13	3
14	1
15	0

In the lecture treatment group, six people accounted for the nine total incorrect responses, while in the video treatment group, seven people accounted for the total of 11 incorrect responses in the Multiple Choice category.

Analysis of Lecture Group Answering Questions 16 through 20

Eight participants in the lecture treatment group responded correctly to each of the True / False questions. The question most frequently missed by this group in this category was question number 16. See Table 17 for the number of participants that responded correctly to the individual questions.

Table 17: Lecture Group Responses to Questions 16 through 20

Question Number	Number of incorrect responses
16	3
17	1
18	0
19	0
20	0

Analysis of Video Group Answering Questions 16 through 20

Five participants in the video treatment group responded correctly to each of the True / False questions. The questions most frequently missed by this group in this category were question number 16 and question number 17. See Table 18 for the number of participants that responded correctly to the individual questions.

Table 18: Video Group Responses to Questions 16 through 20

Question Number	Number of incorrect responses
16	3
17	3
18	1
19	2
20	2

In the lecture treatment group, four people accounted for the four total incorrect responses, while in the video treatment group, seven people accounted for the total of nine incorrect responses in the Multiple Choice category

CHAPTER 5

DISCUSSION

The findings of the research indicate that the lecture treatment group scored better on the Opening Procedures Test than the video treatment group did. Thirty-three percent of the lecture treatment group (four participants) scored 100% while only 16% of the video treatment group scored 100%. 50% of the video treatment group (six participants) as well as 50% of the lecture treatment group (six participants) scored 90% or above. In the middle of the grading scale, 33% of the lecture treatment group (four participants) scored between 80% and 89%, while only 8% of the video treatment group (one participant) scored between 80% and 89%. And at the bottom end of the grading scale, 8% of the lecture treatment group (one participant) scored below 70%, compared to 25% of the video treatment group (three participants).

Hypothesis I stated that a video presentation of operational procedures will ensure greater retention of the information presented to employees at a Captain D's restaurant than a strictly lecture presentation will. In this case, the lecture presentation seems to have allowed for better overall test scores than the video presentation did. These results indicate that the hypothesis posed in this research is not supported. This may be due to many demographic factors, which I will discuss.

Results indicate that in addition to performing better overall on the tests, the lecture treatment group scored better in each of the different categories of

questions as well, and scored well above the video treatment group on the True / False bank of questions.

Fill in the Blank questions

In the lecture treatment group, four participants scored 100% on this section of the test, while in the video treatment group, three participants scored 100% on this section of the test. The video treatment group as a whole missed 22 questions, or 18%, while the lecture treatment group as a whole missed 18 questions, or 15%.

The lecture treatment group missed question 4 most often (4 times), but also missed other questions almost as often as this, missing question 5 three times, and questions 6, 7, 8, and 10 twice. The video treatment group saw a similar pattern of missed answers. The question most often missed (4 times) was question number 7; however, questions 3, 4, 5 and 9 were missed 3 times each as well. There did not seem to be a significantly more difficult question among the first ten questions in either treatment group.

The 12 participants in the lecture treatment group combined correctly answered only one of the Fill in the Blank questions, while the 12 participants in the video treatment group correctly answered two of the Fill in the Blank questions.

Multiple Choice Questions

In the lecture treatment group, six participants scored 100% on this section of the test, while in the video treatment group, five participants scored 100%. The remaining six participants in the lecture treatment group missed a total of nine

questions, or 15%, while the remaining seven participants in the video treatment group missed a total of 11 questions, or 18%.

Three participants in the lecture treatment group missed question 14, which was the most incorrectly answered Multiple Choice question for this group. Five participants of the video treatment group missed question 11, which was the most incorrectly answered Multiple Choice question for this group.

The lecture treatment group as a whole did not score 100% on any particular one of the multiple-choice questions, while the video treatment group scored 100% on question 15.

True / False

The lecture treatment group performed considerably better than the video treatment group in responding to this type of question. The video treatment group had five participants that scored 100% on this section of the test, while the lecture treatment group had eight participants score 100% on this section.

The lecture treatment group as a whole responded correctly to three of the questions, while the video treatment group as a whole did not respond correctly to any of the True / False questions.

The lecture treatment group missed only four questions in this section, or 6%. The video treatment group as a whole missed 11 questions, or 18%.

Discussion and implications of demographic information and the Results

Gender

Comparing the lecture and video treatment groups, 50% of the lecture group scored 90% or better, and 83% scored above 70% on the test. 50% of the video treatment group scored 90% or better, and only 58% of this group scored above 70% on the test.

In the lecture treatment group, 62% of the females scored above 70%, with the two low scores (70 and 60) coming from females. However, three females did score 100%. 100% of the males scored above 70%, with one male scoring 100%. The females that did well, did very well. These were generally younger females, and either still enrolled in school or just out of school. The two females that performed poorly in this area were relatively speaking older (55), and of another culture (Mexican). The female from Mexican heritage might be experiencing a language barrier depending on her grasp of the English language at the time of the test.

In the video treatment group, the females scored very closely to the males. 57% of the males scored above 70%, with one male scoring 100%, and 60% of the females scored above 70%, with one female scoring 100%. There does not appear to be any significant difference with regard to gender and the ability to perform the tests following the video treatment group.

Race

The lecture treatment group was comprised of participants from three differing races, while the video treatment group was comprised of participants from two differing races. In the lecture treatment group, the top five scores were from white participants, while the bottom seven scores were comprised of two white participants, two Mexican participants, and three black participants. One of the Mexican participants scored the low score (60%), while the other Mexican participant scored a respectable 85%. Again, it is possible that the younger Mexican participant does not have a good grasp on the English language and therefore performed poorer on the test. However, since the company hires without discrimination, they must take into consideration the fact that they need to effectively train people with other primary languages.

In the video treatment group, there were only two black participants, which does not allow for any significant conclusions regarding their performance on the tests. One scored above 90% and one scored below 90%, with both scoring above 70% which is a passing grade.

Age

The average age for the lecture treatment group (21.5 years) is slightly younger than for the video treatment group (28 years). The ages in the lecture treatment group ranged from 16 to 55, but the 55 year old participant was the only participant above the age of 23. Among those participants between ages 16 and 23, the scores are fairly evenly dispersed, with an equal number scoring above 90%

as scored below 90%. The older participant (55) scored low, but this is not enough information to determine if age is a factor in the effectiveness of the training method.

The ages for the video treatment group fluctuated from 16 years old to 62 years old. This group had more participants score below 80% than the lecture treatment group did. Only two participants in the lecture group scored below 70% and they were older (55) and Mexican. Three participants in the video group scored below 70% and their ages were 46, 31 and 62. Thus the average age of the participants in the video group that scored below 70% was 46.33, while the average age of the participants in the lecture group that scored lower than 70% was 36. The average age of those scoring 90% or better was 20.16 years, and the average age of those scoring above 70% was 35.8 years. Hypothesis II, which stated that younger employees will be more responsive to a video presentation of procedures than an older group of employees will be, is supported. Within the video treatment group, the older employees scored much lower than the younger employees.

Education Completed

Education levels in the lecture group may have had an effect on the scores for this group, with most of the participants currently enrolled in high school, or having completed a GED. One participant had a college degree, but it had been some time since he had attended school. The older participant that scored low had only an elementary school education and it had been a long time since she had attended school as well. And the low score was achieved by a Mexican participant

who was enrolled in high school. This researcher feels that those participants who routinely take tests and are expected to remember facts and recite in a structured way will perform better on a written test than someone who has not been in the educational arena for years.

It is more difficult to discern whether or not education played a part in the video treatment group, since the 3 participants scoring lowest on the test were either in high school or had a college degree, and 66% of those scoring above 70% are currently in high school, with the remaining percentage attending college. Since each of the low scoring participants in this group were older in years, it is possible that lack of experience in taking formal, written tests, is a factor in the scoring. Education level does not appear to influence the results as much as age does.

Length of Service

Length of employment was also not a factor in the lecture treatment group, with the range of employment time running the gamut. Of the four participants that scored 100%, one had been employed for 2.5 years, but the other three had been employed less than 3 weeks. 26% of the participants had been employed less than a year.

This was also not a factor with the video treatment group, with the length of employment ranging fairly consistently throughout the scores. The two highest scoring participants had been employed for seven months and one year respectively, but the low scoring participants had been employed for one year, ten months and three months respectively. Differing from the lecture treatment group, these

participants each had a minimum of four months employment with only one exception. Length of service did not help these participants score better on the tests.

Employment Status

Fifty-eight percent of the lecture treatment group is employed part time, and 42% is employed full time. Yet among the two low scoring participants, one is full time and one is part time. This does not seem to have an effect on scoring for the participants in this treatment group.

Thirty-three percent of the video treatment group is employed full-time, and 66% are employed part time. However, among the low scoring participants this ratio is exactly reversed with 66% of the low scoring participants being employed full time and only 33% being employed part time. Among the four participants that scored 100%, there was an equal number of full and part time employees. No significant conclusions can be drawn about the effect of employment status on the results of this treatment group.

CHAPTER 6

CONCLUSIONS

On-going training becomes more important to the success of Captain D's business each and every day. In order to help the company remain fiscally sound, it is useful for the company to determine if it is making the most efficient use of it's resources of people, time and money as possible when training employees of all ages, races, and varying backgrounds.

The training methods currently employed by Captain D's involve the fairly extensive use of video instruction, in addition to reading and hands-on experience. These videos are quickly outdated, requiring expensive editing or perhaps, complete re-shooting of the footage. The purpose of this research study was to determine if the video training method is indeed more effective than the lecture training method that a qualified trainer can implement with easy editing and accurate, up-to-date information in all training sessions.

Hypothesis I stated that a video presentation of operational procedures will ensure greater retention of the information presented to employees at Captain D's restaurant than a strictly lecture presentation will. This was not supported. In fact, the lecture treatment group performed better in overall scoring, as well as in each of the categories of questions. Additionally, more participants in the video treatment group scored lower than 70% than did the participants in the lecture treatment group.

With regard to demographic information, much data was accumulated comparing the demographic criteria within the training method and against each other.

The lecture training method appears to be an effective training method for males, with 100% of the male participants passing the test. While several females did very well in this group, the two low scores came from females. However, it could be that other demographic factors weighed more heavily on their results than did their age. In the video treatment group, males and females scored similarly, indicating no significant effect of this training method on either gender. There was not enough race diversity in the video treatment group to discern whether the training method was more effective for one race as opposed to another, but in the lecture treatment group, the white participants clearly performed better than the black or Mexican participants did. This could have a serious implication if a large section of the Captain D's employment population is of a race other than white. Further research should more completely address the effectiveness of the video training method on differing races.

With regard to age differences, there was actually little diversity in the lecture group, with only one participant being older than 24. The video treatment group did show Hypothesis II to be supported. Hypothesis II stated that the younger employees will be more responsive to a video presentation of procedures than an older group of employees will be. This was found to be

supported, with the average age of the participants scoring below 70% being 46.33 years, while the average age of the participants scoring 90% or above is only 20.16 years of age. Careful consideration should be given to the average age of the Captain D's employee when considering whether or not to commit to the high cost of video training materials.

Education level may have had an impact in the lecture treatment group with the older low scoring participant having only an elementary school education. Among the high school enrolled participants, there was no significant difference among scores, with all but one of these participants scoring above 70%. In the video treatment group, the education level of the participants did not seem to affect the outcome of the test results for the participants.

Although the research is admittedly limited in its scope with regard to the number of participants compared to the total number of employees at Captain D's, the information will be helpful to the Captain D's company as it considers how to spend valuable dollars in the training arena. It is critical that Captain D's be the most efficient trainers possible and utilizing the most effective training methods will certainly help achieve that goal. It would be my recommendation not to re-create or edit the out of date videos, but instead to focus on personalized training with qualified trainers in the field. A video may give too much information, or not enough, and does not allow for feedback, and while the lecture treatment group was also not allowed feedback in this experimental setting, the lecture presenter can make sure that all critical information is

covered without extraneous information that confuses employees and lessens retention of the most valuable information.

This researcher also recommends studying the effectiveness of more modern training techniques, such as computer based learning and interactive training using the computer as the company proceeds with technological advances. The most efficient training method may not yet have been determined for this company.

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APPENDICES

TO BE COMPLETED BY 10:30 AM
CAPTAIN D'S

OPENING CHECK LIST

CHECK EACH ITEM DAILY	MON	TUES	WED	THURS	FRI	SAT	SUN
Make Tea (Sweet & Unsweetened)							
Spray for flies							
Check for room temperature (72 -74)							
Check light fixtures							
Check booths & chairs (crumb free)							
Check window shades							
Clean windows							
Check inside window sills							
Check set-ups (stocked & clean)							
Check floor for lint & mop strings							
Clean doors & thresholds							
Check trash cabinet cans for liners & cleanliness							
Check restrooms							
Put lemons							
Stock per case & check dates on milk							
Bring out pies							
Taste drinks & purice forward or juice bin							
Check supply items							
Fill condiment stand with product & stock bouffie cups for customer use							
Clean window sills outside							
Clean Drive-Thru & Exit signs							
Sweep Boardwalk							
Turn on music & microphones							
Turn on Drive-Thru equipment							
Check advertisement material							
Wipe under registers							
Cash Control Sheet							
Check register date & paper							
Fix tea pitchers for DR refills							
Portion strawberry topping							
Fix Handy Pot coffee thermos don't make coffee until first customer orders							

INITIAL APPROPRIATE SPACE BESIDE TASK AFTER TASK HAS BEEN COMPLETED!

INFORMED CONSENT STATEMENT

The purpose of this investigation is to determine whether the method of instruction, either verbal or audio-visual, has an impact on the retention of the information by the subject.

Your responses are confidential. At no time will you be identified and since the test is a written test, and not one conducted on the back office computer system in the restaurant, the only person who will have access to the tests is the investigator. The investigator will not share the tests with restaurant management.

The demographic information collected will be used only for purpose of analysis. Your participation is completely voluntary, and you are free to terminate your participation at any time without any penalty. The scope of the project will be fully explained upon completion.

Thank you for your cooperation.

.....

I agree to participate in the present study being conducted under the supervision of a faculty member of the Department of Communication at Austin Peay State University. I have been informed, either orally or in writing or both, about the procedures to be followed and about any discomforts or risks which may be involved. The investigator has offered to answer any further inquiries as I may have regarding procedures. I understand that I am free to terminate my participation at any time without penalty or prejudice and to have all data obtained from me withdrawn from the study and destroyed. I have also been told of any benefits that may result from my participation.

Name (Please Print)

Signature

Date

Training Method / Retention Study

Please fill out the following demographic information. This information will only be confidential, and used for purposes of this study only. The information will not be shared with anyone connected with Captain D's.

PLEASE DO NOT PUT YOUR NAME ON THIS SHEET OR ON THE TEST.

Demographic Information

Age: _____

*Must be at least 18 years old to participate in study

Gender: _____

Race: _____

Education completed: _____

Household income: _____

Are you the Head of Household: _____

How long have you worked for Captain D's: _____

Do you work Full Time or Part Time? _____

Captain D's Counter Opening Procedures Test

Fill in the blank:

1. What do you do with milk that is out of date?

2. Which dessert is served at room temperature, health department regulations allowing?

3. If your restaurant has 2 microphones, how should they be positioned?

4. At what height should the window shades be placed?

5. How long can you hold coffee in the Handy Pot before it becomes an unacceptable quality for Captain D's? _____
6. What time should opening procedures be completed by?

7. Why should they be completed at that time?

8. When should you make the first pot of coffee?

9. What temperature should the dining room thermostat be set at?

10. What rotation method does Captain D's use?

Multiple Choice:

1. Which of the following supplies should be checked on the counter in preparation for a meal period?
 - a. cups and lids
 - b. trays
 - c. registers
 - d. trashcan liners

2. Part of opening procedures includes:
 - a. re-stocking napkin holders
 - b. filling and shining vinegar bottles
 - c. checking the set-ups that were completed the night before
 - d. cleaning ashtrays
3. What is positioned to the left of the napkin holder?
 - a. Vinegar bottle
 - b. Ashtray
 - c. Salt and pepper shakers
 - d. Table tent
4. What is positioned to the right side of the napkin holder?
 - a. Vinegar bottle
 - b. Ashtray
 - c. Salt and pepper shakers
 - d. Table tent
5. Opening procedures performed outside include:
 - a. Sweeping the boardwalk and cleaning the drive-thru menu board
 - b. Checking POS and wiping under the registers
 - c. Checking trash cabinet and cans for liners and cleanliness
 - d. Checking light fixtures

True / False:

1. The Opening Checklist must be completed three times per week - no exceptions.
2. You must check advertisement materials each morning before opening
3. You should wait to spray for flies until you see them present in the dining room
4. Part of opening procedures includes checking all tables and booths for cleanliness.
5. Cleaning the thresholds is not done each morning since it is on the Weekly Cleaning List.

Vita

Lisa A. Cheek was born in Gainesville, Georgia on November 22, 1964. She attended Tennessee State University where she received the degree of Bachelor of Arts in Communication in 1988. In January of 1993 she began work on her Master of Arts degree in Communication Arts. She completed the degree in May of 2000.

She was employed for five years as a Training Advisor for Captain D's restaurants, responsible for the training of all employees, including management, in approximately 120 restaurants, and is currently working as a Regional Marketing Manager for the same company, coordinating the marketing efforts for over 180 company and franchise restaurants, including print, television, radio advertising and local store marketing efforts.