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Efficacy of Gaming Verses Video Viewing in Hospital Annual Mandatory Training

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EFFICACY OF GAMING VERSES VIDEO VIEWING IN HOSPITAL ANNUAL MANDATORY TRAINING

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INTRODUCTION

Purpose of the Study

This study was designed to investigate an alternative method of instruction for Maryview Medical Center in providing annual training to all of its employees in subjects required by outside agencies. At the conclusion of the study it will be determined if the traditional method of video tape presentation is less effective than gaming at developing immediate retention of mandatory material in staff members. The goal of this research will be to determine the more effective method for the employees of Maryview Medical Center to immediately retain cognitive material.

Statement of the Problem

Maryview Medical Center in Portsmouth, Virginia is a 360 bed acute care facility employing 1562 individuals. Each employee is mandated by law and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) to attend an annual inservice training program consisting of material on hazardous communications, medical safe device act, advance directives, radiation safety and bloodborne pathogens. In past years, this training had been accomplished with video

tapes covering these topics. Each employee would attend one session lasting approximately 1 1/2 hours once every year to watch the series of videos. Enforcement of the required training has been accomplished through inclusion as an item on the employee's annual evaluation.

This method of presentation had proven to be relatively easy to administer but the question arose about whether the current training program was as effective as possible in providing immediate retention. Comments from participants had included "its boring", "nap time" and "don't we have any new films, we saw these last year?". Based upon these types of comments and the increasing number of topics that have been required to be covered, the Education Department decided to investigate an alternative method for delivering the required material. To have a little fun with the training and to reverse the attitude that the training was meaningless, it was decided that a game format may be an effective alternative.

Curriculum and Game Development

In order to have a little fun with the training, it was decided that gaming would be studied to determine if it may be an effective alternative. Since there are no predesigned games on the market, appropriate games would have to be developed. These games would become the basis upon which the

research would be based and the major variable in comparing the effectiveness of methodologies. These factors make it important to understand the foundations of the games. It is also important to understand the objectives that the curriculum is designed to meet and how both methodologies were validated for content.

Development of the curriculum began with a definition of the objectives (Appendix D). The format for the games with a selection of the material to be included in the workbook followed. Once the material was selected, the questions for each part of the games were developed and compared with the content of the workbook and the video tapes. This was done to assure that the answers were present and obviously evident to the diligent participant.

The objectives for the program had previously relied upon the policies and procedures for the hospital without a separate set of specific instructional objectives. The development of instructional objectives began with a study of the policy and procedure manual for the hospital. This process developed the priority issues to be covered by the curriculum. Interviews with risk management, education and personnel on the advanced directives committee resulted in several additional issues on which to focus.

Several principles of adult learning, active

participation, problem orientation and appropriateness to the work environment were used to develop the learning environment. A game format utilizing four approaches was chosen (Appendix E). This format allowed for teamwork when groups were large or individual work for small groups. Each game required the participants to study the hospital's policy and procedure applicable to the topic or supplementary information about the topic. Four of the topics had the appropriate policy or supplementary information provided in a participant workbook. One workbook was provided for each group during the program.

Advanced Directives was the first topic covered. A copy of the hospital's policy governing this area was included in the workbook. Each team was provided a five-question quiz to answer from the provided information. The team that completed all of the questions by finding the answers in the policy won a piece of candy for each team member. This reward system was used throughout the program. Following the contest, an opportunity to discuss individual issues was allowed for the participants to meet their own individual needs.

Bloodborne pathogens was covered by presenting each team a word find puzzle that was completed by circling words which met certain criteria. Several words in the puzzle would not be circled when the puzzle was completed. The team that found

all of the correct words and had not circled the incorrect words won this game with a piece of candy as the prize. This session included a brief discussion on the laws regulating the use of barriers and the responsibilities of the hospital and the employee.

Safe Medical Device Act was approached using a crossword puzzle. A copy of the hospital's policy governing the reporting of equipment malfunctions was included in the workbook for the participants to reference. The first team to complete the puzzle using the policy was awarded a prize for each member. Following the completion of the puzzle an opportunity to ask questions was allowed with a brief discussion of the topic.

The final game was called "Hazardy" and consisted of the teams answering questions about hazardous materials by looking the product up in copies of the Material Safety Data Sheets (MSDS) found in the hospital. The workbook contained a sample of the MSDS available to the employees. A brief instruction period was provided with an orientation to the sheets. Each team randomly chose a card containing a team name, such as the Waste Dumps, Sludge Pits or Mushroom Clouds. Four questions were verbally asked one at a time. The teams had to look up the answer and the team with the correct answer and all of the team members hands raised won the point. The final question

was "Final Hazardy" with a value of five points. This gave each team a chance to win the grand prize which was a regular size candy bar.

The last session of the presentation was on radiation safety. As there was not a brief set of policy and procedures for this and the video tape has consistently received positive evaluations, it was decided to continue using this tape. The participants were provided a five-question quiz to answer as they viewed the tape.

A major concern of the Education Department, the program must be geared to meet the educational level of all employees. The program was presented to all categories of employees and the design of the program made it very possible that employees of varying levels of education would be present in each session. This issue was approached by keeping all terminology at a common level throughout the program and any terms that could be new or confusing were explained automatically. An example of how the terminology was kept basic occurs in the hazardous communications section. The products that the participants looked up included Ivory Liquid, copier toner, natural gas and ammonia inhalants. All these are products commonly encountered by most employees. The use of teams and the informal atmosphere were also intended to allow a supportive environment in which to learn.

Method and Procedures

Eighteen sessions were held over three months with six sessions on one day each month. The sessions were scheduled for eight and ten a.m. and twelve, two, four and five-thirty p.m.. The schedule was posted several weeks in advance and there was no preregistration. The participants showed up as their schedule permitted with no precognition of the methodology.

A total of 99 employees participated in the study. Thirty-nine participated in the game sessions while 48 participated in video presentations. There were 12 employees between the two formats who were disqualified from the study for failure to complete either a pretest or a posttest because they were late or left early. The raw test scores can be found in Appendices A and B. A summary of the scores can be found in Appendix C.

The format for each session was selected in advance with nine of each type presented. The participants did not know which format they would participate in until the session began. The Education Department also did not know who would participate until the starting time. This procedure allowed the greatest possibility for random selection.

Each session began with an explanation of the pretest and posttest (Appendix F) and an assurance that only the posttest

would be reported on the class roster. It was also explained that two methods of presenting the annual inservice material were being studied and participation in the pretest was optional. No participants opted out of the pretest. The ten question pretest including two questions from each topic was given to the participants. The test was developed from the curriculum objectives approximately one month before the beginning of the sessions. The game host did not review or read the questions any time between their development and the completion of the study. This helped to prevent targeting material on the tests.

All video sessions and all game sessions were presented in the same manner each time with deviation only occurring when questions were generated by the participants. Questions occurred with much greater frequency in the game sessions than in the video sessions. As a result, the game format tended to run a little longer than the video format that lasted 1-1/4 hours. The game format occasionally lasted 1-1/2 hour.

Presentation of the video tapes was designed to follow the exact same procedure that the employees had been following in the past except for the pretest. The game format was completely new to most of the employees and had been piloted only twice in the past to polish the presentation.

BACKGROUND OF THE RESEARCH

Review of Research

Instructional gaming has been used extensively in several industries but the effectiveness of games in the educational environment is hotly debated among scholars. Klein, Freitag and Wolf, (1990) found that investigators were divided between positive and negative benefits of games as an educational methodology with positive arguments heavily outweighing negative arguments in the literature.

On the positive side, they found that games increased student interest, attendance, satisfaction and continuing motivation. They also reported that scholars found games an effective method of practice as the student became an active participant in the learning process, a major premise of adult education. As for effectiveness of methodology, a comparative study of ten types of instructional methods, Shoenfelt, Eastman and Mendel (1991) found that simulation-games ranked third in retention behind case-study and role playing respectively. Movies and television lecture ranked ninth and tenth.

On the reverse, arguments that games foster incorrect responses, are an inefficient use of instructional time and

the rate of practice cannot compare with other modalities exist (Klein, Freitag and Wolf, 1990). While there is considerable debate over the pros and cons of using games, there is a continued use in the instructional environment, particularly in business.

The use of games for inservice training of hospital personnel has been reported by Patton (1989), Felder (1992) and Leidy (1992). However, the purpose and method for using a game format were significantly different in each case.

Patton (1989) used a game format for teaching CPR as a way of increasing staff participation and as a way of increasing experiential learning. The process included using realistic situations and allowing the staff to participate in a non-threatening experientially based role. Although the process was game oriented, it did not represent a situation similar to Maryview's. It is important to consider, however, that the employees did find the process fun and participation was enhanced.

Leidy (1992) utilized games as a way of decreasing the stress of the training experience. Learning the material was an important goal of the process but Leidy was more concerned that the game format would result in increasing employee job retention by reducing work related stress. While no significant conclusion was reached, employees reported "This

was a lot of fun - I also learned a lot."

In the case that was most similar to Maryview's, Felder (1992) reported utilization of the game format for increasing compliance by employees in attending required training sessions. Similar to Maryview, the employees had reported that the training was boring and not much fun. The program was carried out in only the cardiac intensive care unit of a hospital approximately twice the size of Maryview by the unit's quality circle, a group of employees who meet regularly to identify problems and solutions. Games that they developed included a question and answer session, a treasure hunt and a chart audit. Results of the program included increased participation by employees in the training and an increase in policy awareness and utilization by patient care providers.

While the use of games appears to be minimally used in the health care setting, broad use of games occurs in the business community and descends from war game simulations (Hsu, 1989). Business games usually consist of artificial situations allowing the opportunity to experiment with different business solutions in a safe, relatively risk-free environment. These are usually not intended to be fun or playful experiences but only model situations in model environments.

Simulation games are reported as extensively in use by

business schools (Hsu, 1989) and in high level management decision making. Jacobs and Baum (1987) reported that the benefit of using games and simulations is high and their use by management is common. However, the utilization of games and simulations continues to be low in training supervisory and worker personnel. Several reasons were cited why games are not utilized to their fullest potential. These include the thought that trainers tend to instruct in those ways in which they have been taught, people are afraid to have fun in the serious work environment and trainers are not equipped to design and implement this type of training vehicle.

A rapidly increasing area of simulation gaming is the field of computer simulation. Because of declining computer costs, enhanced communication systems, artificial intelligence, semantic databases, hypertext and model management systems, computer simulation is currently used extensively and increasingly by business (Hsu, 1989). The most common use is to provide safe, risk-free environments to test alternative solutions before committing resources. This utilization of computers is just starting to affect on the health care environment with programs for personal computers that teach electrocardiography or advanced cardiac life support.

The utilization of gaming appears to be much more widely

used in the business setting than in the health care environment. However, the use of the type of games reported previously for the health care setting does not appear to be utilized significantly by business.

Limitations of the Study

There are several design limitations of the study. The first is the exclusively cognitive focus of the research. A second is limited number of items on the instrument and a third involved the design of the pretest and posttest.

While the psychomotor domain of learning is not particularly important to the problem, the affective domain is extremely significant. Most of the material presented in this program deals with the safety and well-being of the employee. An important concern of the employer is that the employee increases his or her safety practices as a result of the training. This study ignores this question.

Due to the limited alloted time, there are only ten items on the instrument, this increases the impact that only one incorrect answer will affect the scores. This limitation could have a progressively stronger impact as the sample size decreases. If the sample size is large, this variable will have limited affect but should be taken into account if the sample is smaller than the optimal size.

The fact that the pretest was the same as the posttest could cue participants to pay attention to specific information. This could have occurred although the participants did not know they were getting the same posttest as pretest by heightening the awareness of a topic prior to

instruction. The controlling factor here is that both groups received the same tests.

Finally, the overall impact of this study is limited to a very small set of circumstances. The study is limited to one hospital, one particular set of games and one particular set of video tapes. To study the same phenomenon in another hospital, the same circumstances and materials would have to be put into use in that facility. Regardless of these limitations, the question still remains for Maryview Medical Center and the study is applicable to their situation and needs.

ANALYSIS OF THE DATA

The evaluation of the raw data found in appendices A, B and C was processed in several stages. The proper sample size was first found to determine the minimum number of participants necessary for each presentation method. Next the pretests of each group were tested to determine if they represented the population of the hospital and essentially represented the same population. It was then determined if the pretests and posttests of both groups actually indicated a change in scores. Finally, the question of whether the game format was at least as effective as the video format was concluded. All tests were performed at a confidence level of 95%.

The determination of the proper sample size for a maximum sampling error of 1/2 above or below the mean found a minimum sample of 27 was required. Figure 1 illustrates this calculation. Both samples met this minimum.

Utilizing the t-distribution two-tail test for the difference between two sample means, it was determined that there is no difference between the means of the pretests of the video participants and the pretests of the game participants. This indicates that they are essentially from

the same population. Figure 2 illustrates the t-test formula used for comparing the data in this study.

PROPER SAMPLE SIZE

Maximum Sampling Error - ± 0.5 True Mean

Level of Confidence - 95% (z = 1.96)

Standard Deviation of the Population estimated at 1.32

$$n = \frac{z^2 \acute{o}^2}{E^2} \qquad n = \frac{3.84*1.74}{0.25} = 26.7$$

Figure 1

DIFFERENCE BETWEEN MEANS OF THE PRETESTS

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s_{(\bar{x}1 - \bar{x}2)}} \qquad s_{(\bar{x}1 - \bar{x}2)} = \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$$

Degrees of Freedom = 85

t = ± 1.99 by table z = ± 1.96

Standard Deviation of the population estimated at 1.32

Calculated t = -1.86

This is within ±1.99 therefore accept the hypothesis.

Figure 2

Again using a two-tail test, the hypothesis was rejected for a comparison of pretests and posttests for the video participants. It was determined that there is a difference between the scores. However, the hypothesis for the game participants indicated that there was no difference between the pretest and posttest scores.

The final question is split into two hypotheses. It was proven utilizing a one-tail test for the difference between the means of two samples that game participants did not perform better than video participants. The table value of t in this case was 1.665 as the test involved one-tail. Although video participants showed the only improvement in scores when the pretest and posttest scores were compared, when the means of the differences of each group were compared there was no significant indication of any advantage of one method over the other.

The game format may not have proven significantly better at immediate retention, however, it was the only method that received spontaneous compliments. After several classes, employees called the education department to compliment the program and say how much fun they had. They also frequently said how much better it was than the video presentation.

FINDINGS AND INTERPRETATIONS

The development of innovative and interesting programs for employees continues to be a major issue for trainers. In this case, the game format may not be better at providing immediate retention. However, the feedback received by the participants indicates that they may perceive it more favorably than videos as a training tool. Consequently, it may be advisable to continue with the game format for the benefit of employee moral and interest in continuing education. Humor has a place in training and should be taken advantage of when possible. There is nothing, however, in this study that indicates a game format is better than a video tape presentation for increasing immediate retention of information.

Several limitations were discovered in the process of completing the research. The most significant limitation of the study was the sample size. One fourth of the presentations for the year were presented but less than five percent of the employees participated. This may have accounted for the insignificance of some scores. A larger sample may have been obtained if the training was held closer to the evaluation time for the employees when their attendance

may be more of a priority.

Further study should be accomplished by increasing the sample size or taking the study to other hospitals. An individual item analysis could also be performed to investigate each format included in the games; quiz, word find, crossword puzzle and active use of manuals. Perhaps one format will produce better results than the others.

An interesting side issue brought up during the course of this program was the cost of having the employees sit for 1-1/2 hours outside their departments. The necessary amount of time has been increasing as legislation continues to increase mandatory training. For most department managers, keeping payroll within budget is extremely difficult with today's skilled labor and medical professional shortage. Managers are looking for any way to keep the employee in the unit as much as possible. One of the possible solutions to this issue is the broadcast of the video tapes over the hospital wide television system. The capabilities exist to show these programs three times a day without human intervention. This would allow employees to view the programs at their convenience and during slack regular hours as opposed to scheduling overtime to attend. A study of this type of presentation could also be conducted to determine its effectiveness.

The selection of material and media to meet the various needs of any business can be a challenge, in the hospital setting it can be just as demanding with all of the added problems of rotating shifts, part time employees and insufficient staffing. Creativity and effectiveness have to be matched to resources and patient care priorities in the hospital setting. Maryview Medical Center can use this gaming approach with equal effectiveness as video tape viewing. There is no cost savings but if the employees continue to enjoy the gaming format there is potential that it may assist with the moral of the employees and that may make it worth the cost.

APPENDICES

APPENDIX A

VIDEO VIEWING MATCHED TEST RESULTS

Matched Results of Pretests and Posttests for video presentation participants.

PRETEST	POSTTEST	DIFFERENCE
10	10	0
7	9	2
9	10	1
9	9	0
7	6	-1
6	7	1
8	8	0
6	7	1
8	8	0
7	8	1
7	7	0
8	7	-1
8	10	2
6	5	-1
10	9	-1
7	9	2
7	7	0
8	9	1
5	8	3
5	10	5
9	8	-1
9	9	0
9	10	1
10	10	0
9	9	0
8	10	2
9	10	1
8	10	2
9	9	0
7	8	1
6	6	0
7	8	1
5	8	3
9	9	0
7	7	0
8	9	1
7	9	2
6	7	1
9	9	0
9	9	0

APPENDIX A

(Continued)

VIDEO VIEWING MATCHED TEST RESULTS

Matched Results of Pretests and Posttests for video presentation participants.

PRETEST	POSTTEST	DIFFERENCE
7	9	2
7	9	2
8	8	0
7	7	0
8	10	2
9	9	0
8	8	0
7	9	2
AVERAGE		
7.69	8.46	0.77
VARIANCE		
1.67	1.50	1.47
STANDARD DEVIATION		
1.29	1.22	1.21
SUM		
369	406	37
COUNT		
48		

APPENDIX B

GAMING MATCHED TEST RESULTS

Matched Results of Pretests and Posttests for game presentation participants.

PRETEST	POSTTEST	DIFFERENCE
8	9	1
8	10	2
10	9	-1
7	10	3
8	7	-1
7	6	-1
8	9	1
6	7	1
7	9	2
6	7	1
8	7	-1
7	8	1
10	10	0
10	10	0
9	10	1
8	7	-1
8	9	1
10	10	0
9	10	1
6	6	0
7	8	1
6	7	1
9	10	1
6	8	2
10	10	0
8	9	1
10	10	0
8	10	2
10	10	0
8	9	1
8	7	-1
10	10	0
10	10	0
7	9	2
9	7	-2
9	10	1
7	9	2
9	9	0
9	9	0

APPENDIX B
(Continued)

GAMING MATCHED TEST RESULTS

Matched Results of Pretests and Posttests for game presentation participants.

	PRETEST	POSTTEST	DIFFERENCE
AVERAGE			
	8.21	8.74	0.54
VARIANCE			
	1.75	1.68	1.17
STANDARD DEVIATION			
	1.32	1.30	1.08
SUM			
	320	341	21
COUNT			
	39		

APPENDIX C

SUMMARY OF SCORES

Video Presentation
Pretest

Number Correct	Incidence	Graph
5	3	***
6	5	*****
7	14	**********
8	11	**********
9	12	**********
10	3	***

Posttest

Number Correct	Incidence	Graph
5	1	*
6	2	**
7	8	********
8	10	**********
9	17	**********
10	10	**********

Game Presentation
Pretest

Number Correct	Incidence	Graph
6	5	*****
7	7	*******
8	11	**********
9	7	*******
10	9	*********

Posttest

Number Correct	Incidence	Graph
6	2	**
7	8	********
8	3	***
9	11	**********
10	15	**********

Difference - Posttest minus Pretest

Video Presentation

Difference	Incidence	Graph
-2	0	
-1	5	*****
0	19	*******************
1	11	**********
2	10	**********
3	2	**
4	0	
5	1	*

Game Presentation

Difference	Incidence	Graph
-2	1	*
-1	6	******
0	11	**********
1	14	**************
2	6	******
3	1	*

APPENDIX D

CURRICULUM OBJECTIVES

Maryview Medical Center

Annual Inservice Training

At the end of the this program, the participants will be able to:

Advance Directives

1 - Explain the purpose for Advance Directives.
2 - List two types of Advance Directives.
3 - Demonstrate that he/she knows that a patient has the right to accept or refuse medical treatment.
4 - Demonstrate that he/she knows that the patient has the right to make informed decisions about his/her medical treatment.
5 - Explain what the terms "Do Not Resuscitate", "No Cardio-Pulmonary Resuscitation (CPR)", "No hydration" and "No nutrition" mean. (Maryview Administrative Policy and Procedure Manual, Page 950-07, January 3, 1992)

Bloodborne Pathogens Exposure Control Plan

1 - Explain the bloodborne pathogens standard.
2 - Give a general explanation of the epidemiology, modes of transmission and symptoms of bloodborne diseases.
3 - Explain the exposure control plan and how it will be implemented including their classification as an employee.
4 - Describe procedures which may expose employees to blood or other potentially infectious materials.
5 - Describe control methods that will be used at this facility to prevent/reduce the risk of exposure to blood or other potentially infectious materials.
6 - Explain the basis for selection of personal protective equipment.
7 - List the benefits and safety of hepatitis B vaccination.
8 - Have made a decision about their personal participation in the hepatitis B vaccination program.
9 - Appropriately respond to an emergency involving blood or other potentially infectious material.
10 - Effectively participate in post-exposure evaluation

and follow-up.
11 - Recognize bio-hazard labels and color coding. (Maryview Administrative Policy and Procedure Manual, Page 952-04, June 1, 1992)

Safe Medical Device Act

1 - Explain what "Serious Illness or Injury" means.
2 - Identify medical devices.
3 - Identify Mandated Reporters.
4 - Identify incidents which must be reported.
5 - Identify when a report for a SMDA incident must be filed.
(Maryview Administrative Policy and Procedure Manual, Page 815-10, Dec. 18, 1991)

Hazard Communications

1 - Detect the presence or release of a hazardous chemical in the work area.
2 - Identify the physical and health hazards of the chemicals in the work area.
3 - Demonstrate the measures employees can take to protect themselves from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used, and
4 - Explain the hazard communication program developed by the employer, including an explanation of the labeling system used and the material safety data sheet, and how employees can obtain and use the appropriate hazard information. (Maryview Administrative Policy and Procedure Manual, Page 950-53, Nov. 17, 1990)

Radiation Safety

1 - Identify sources of radiation found in the hospital.
2 - Demonstrate appropriate personal protection methods when potential exposure
to radiation is encountered.
3 - Explain how distance, shielding and time affect exposure to radiation.

APPENDIX E

PRESENTATION PLAN

Maryview Medical Center

Annual Inservice Training

Introduction

- Each participant is given a playing card. There should be as close to an equal number of each suite as possible. The participants can be asked to break into groups according to the suite or make to best possible poker hand. The resulting groups will compete for the entire program.
- The groups should have a few minutes to introduce themselves to the other members of their group and the facilitator will introduce themselves to the participants. Each group will be provided a workbook to use in answering the questions presented during the inservice.

Advance Directives

- Each group will be provided the Advance Directives Quiz. The questions can be answered by looking at the policy provided in workbook. The quiz should be answered by the group as a whole. Approximately 5 minutes should be allowed for this activity.
- The correct answers will be given to the groups and they will score their own quiz. The correct number of answers will be recorded on the group score sheet. The members of each group getting all of the questions correct will be given a bitesize candy bar or another prize.

Bloodborne Pathogens

- Each group is given the word find puzzle and asked to circle all of the body fluids which do NOT present a risk of transmission. The workbook can be used to assist in determining the correct answers.
- Each participant in a group with all of the correct answers and no incorrect answers receives a prize similar to the previous prize. The number of correct answers is scored for each group on the score sheet.

Safe Medical Device Act

- Each group is given the SMDA Crossword Puzzle to solve using the workbook as a source.
- Each participant in a group with all of the correct answers will receive a prize. The number of correct answers will be recorded on the score sheet.

Radiation Safety

- The radiation safety film will be shown.
- Each group will answer the radiation safety quiz.
- Each participant in a group with all of the correct answers will receive a prize. The number of correct answers will be recorded on the score sheet.

Hazardy

- A participant from each group will blindly choose a name card for the group. This will be the group's name for Hazardy, the game. The name cards will be displayed in front of each group.
- The facilitator will introduce the section of Material Safety Data Sheets in the workbooks and allow a moment for each group to find the section.

The Rules of the Game

- The Facilitator asks one of the Hazardy questions. The groups look the answer up and when the answer is found all members of the group raises his/her hand. The first group with all correct answers gets to answer the question. If the answer is correct, the group gets a point. If the answer is incorrect all of the other groups get to answer the question. Each member of groups with the correct answer get a prize. Each group with the correct answer gets a point if the first group misses the answer.

Final Hazardy

- The Facilitator introduces the prize that the group with the most points after Final Hazardy will receive. Final Hazardy is worth 3 points added to the score. The question is read and each group writes down their answer. When time is called, each group is allowed to answer in turn. Points are awarded to each group with the correct answer. The participants in the group with the most

points wins the grand prize. In case of ties, each participant in a winning group wins a prize. Consolation prizes in the form of the remaining candy is awarded to the other groups.

APPENDIX E

PRETEST AND POSTTEST

Circle the Best Answer

T F Advance Directives allows a patient to choose the best physician for his/her medical situation.

T F The hospital must explain Advance Directives to the patient upon admission.

T F Saliva is considered a route of transmission for AIDS and Hepatitis B.

T F Gloves are worn only for the patient who is known to have a contagious disease.

T F An injury to a patient caused by a faulty bed must be reported to the manufacturer of the bed under the Safe Medical Device Act.

T F You are required by law to report injuries caused by medical equipment to your supervisor.

T F Material Safety Data Sheets contain different information but look exactly alike.

T F The hospital is required by law to provide you with the Material Safety Data Sheet of any chemical found in your work environment.

T F The patient is radioactive after having an X-ray taken.

T F The three factors that protect you from exposure to radiation are: shielding, time and distance.

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ABSTRACT

EFFICACY OF GAMING VERSES VIDEO VIEWING
IN HOSPITAL ANNUAL MANDATORY TRAINING

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Two instructional methodologies were compared to determine the more effective at providing the employees of an urban hospital annual mandatory training. The methods included video tape viewing and interactive gaming. Video tape viewing was the traditional method for presenting the material required by federal regulations and the Joint Commission on Accreditation of Health Care Organizations. Due to increasing content requirements and comments by employees that the video tapes were getting old and were boring, the Education Department of the hospital decided to investigate the use of games to provide this training. The objectives for each of the parts of the training were developed from the policies and procedures for the hospital and interviews with management personnel. A series of games that could be presented in one to one and one-half hours was developed from the objectives. Eighteen presentations with a total of 87 employees participating were made as part of the study. Nine of the presentations were video tape viewing and nine were interactive gaming. Pretest and posttest scores were obtained and evaluated to determine the difference between the methodologies. The video tape presentation showed a significant increase in test scores while the test scores for gaming showed no significant increase. Despite this finding, there was no significant difference between presenting the information by video tape or an interactive game format when the difference in scores were compared.