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A Study on Impact of Virtual Training Implementation in Christy Friedgram Industry at Tiruchengode

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ABSTRACT
A study on impact of virtual training on employee performance analyses actual situation of currently utilized virtual training methods in selected organization and describes implementation of virtual reality into employee training in the company, the ongoing virtual training process and the problems faced in virtual training process by the employees. Virtual training environments are appropriate to train complex tasks that require collaboration and interaction among the members of a team, especially if training in reality is not possible, too expensive or too dangerous. The field study reported in this paper compared three training conditions (virtual condition, standard condition, and control condition). The participants were police officers who were being trained in the communication between ground forces and a helicopter crew during an operation. This task (like many other tasks of the police, fire brigade and emergency services) is of high complexity and has no single "correct" solution, is based on specialization of tasks within a team, requires intensive communication among team members, and consists of situations in which human beings are in danger. Learning outcomes and knowledge transfer were measured as dependent variables. The results validate that virtual training was as efficient as standard training with regard to knowledge acquisition, and it was even more efficient with regard to knowledge transfer. With regard to the perceived value of the training, the participants judged standard training to be better than virtual training (except for training satisfaction, where no difference was found between standard and virtual training). These results indicate that virtual training is an effective tool for training in complex tasks that require collaboration and cannot fully be trained for in reality.

I. Introduction

Virtual training implementation has a significant positive impact, enhancing engagement, improving knowledge retention, and fostering more effective learning environments. It allows for personalized learning, accessible training, and cost-effective solutions, ultimately boosting employee performance and job satisfaction.

Virtual training is a process where employees can complete job training activities online rather than in-person in a physical location. This training can take place synchronously, meaning that all participants complete it at the same time. One way to do this is with a web-based video chatting software or program. Virtual training can also be asynchronous. In this case, employees can complete a virtual training activity or program individually. While there may be a time limit imposed, employees can often complete these training programs at their convenience.

Pros of virtual training

- Convenience
- Geographical flexibility
- Recording capability
- Technological benefits
- Cost
- Accessibility
- Time use

Cons of virtual training

- Engagement
- Learning curve for technology
- Time zones
- Distractions
- Relationship development

1.1 STATEMENT OF THE PROBLEM

A common problem in virtual training is maintaining engagement and motivation, as participants may struggle with focus and distractions in their home environments. Another challenge is ensuring effective communication and interaction between participants and instructors,

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especially in asynchronous learning environments. Additionally, technical difficulties, such as inadequate internet access or device issues, can impede the learning process.

1.2 OBJECTIVES OF THE STUDY

- To find out if virtual training helps employees that are appropriate for learning
- To know the information presented in the virtual training was clear and understandable to the employee
- To know the satisfaction level with the impact of the virtual training on your job performance
- To find out the satisfaction level about the following benefits of virtual training
- Understand the impact of virtual reality on employment training and development.

1.3 SCOPE OF THE STUDY

The scope of a study on virtual training generally focuses on understanding its effectiveness, impact, and future potential. This includes examining how it affects learning outcomes, engagement, and overall organizational performance, as well as exploring its advantages, challenges, and how it can be better implemented and adapted for various learning contexts and industries. This involves measuring how well virtual training programs achieve their intended learning objectives and contribute to improved skills, knowledge, and performance

1.4 LIMITATIONS OF THE STUDY

- One of the limitations of this study was that an adequate infrastructure for virtual learning was not available.
- This includes slow internet speed, lack of free educational internet for employees, and limited familiarity with this method of learning.

II. Review of Literature

(Yuhan Liu et al., 2023) They propose the development of a virtual training system that creates a realistic virtual environment for workers. This system incorporates features like real environment replication, multi-dimensional data input, and interactive feedback, aiming to enhance the efficiency, safety, and quality of industrial training. Their work demonstrates the potential of virtual reality to revolutionize how workers are trained in the manufacturing sector, offering a cost-effective and immersive solution to address critical training needs in industrial settings

Narciso et al (2023) Advancements in VR technology and its availability, along with the realization of the opportunities that VR technology presents are among several factors that have contributed to the rapid increase in research related to the use of VR technology for safety-relevant training. Despite this increase, research focusing on how effectiveness evaluations for VR training are conducted remains limited. When evaluations are performed, the evidence supporting the effectiveness is either limited or inferior in quality, such as limited sample size or questionable research design

(Ricci et al. 2023) Besides safety training, these limitations can also be commonly generalized to other types of skills training that have indirect safety outcomes such as surgical, equipment assembly, operations, or maintenance training (i.e., safety-relevant training). With the majority of workplace accidents being considered preventable, continual improvements in safety and safety-relevant training are required to improve safety outcomes and reduce the number of workplace accidents. Virtual reality (VR) technology presents an important opportunity to improve the effectiveness of safety and safety-relevant training due to its increased level of presence, ability to fail safely, and capability in presenting several scenarios that are difficult to replicate in the real world due to financial constraints or safety concerns.

III. Research Methodology

The research methodology is scientific and systematic for pertinent information on specific topic. It is a careful investigation or inquiry especially through search for new facts in any branch of knowledge. Research is a systematized effort to gain knowledge and hence, it helps to practical knowledge in study various steps that are generated adopted by a research in studying his research problem along with the logic behind them.

3.1 RESEARCH DESIGN

Research is a process in which the researcher wishes to find out the end result for a given problem and thus the solution helps in future course action. The research has been defined as “A careful investigation or enquire especially through search for new facts in any branch of knowledge”. The type of research is descriptive in nature; since an attempt was made to find out inter relationship between variables

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3.2 SAMPLE DESIGN

A sample is a subset from the total population. A sample is a subset from the total population. It refers to the techniques or the procedure to the research would adopt in selecting items for the sample (i.e) the size of the sample

3.3 SAMPLE SIZE

Sample size means the number of sampling units selected from the organization for investigation. The total sample size that is taken for this study is 120.

SAMPLING TECHNIQUE

A simple random sampling technique has been used in sampling. It provides information about parts of the all the area of Tiruchengode.

3.4 DATA DESIGN

Date is collected from both primary and secondary sources.

Primary Data

Primary data are collected through a structured questionnaire. A well-structured questionnaire has been prepared given to the respondents by the researcher.

Secondary Data

Secondary data are collected from the published data available within the company and also from the Internet and Intranet. Data was collected from web sites, going through the records of the organization, etc. It is the data which has been collected by individual or someone else for the purpose of other than those of our particular research study.

3.5 TOOLS FOR ANALYSING DATA

In order to come out with the findings of the study the following statistical tools are used by the researcher

- Simple Percentage analysis
- Chi-Square test
- Correlation
- Anova

IV. Data Analysis and Interpretation

4.1 CHI SQUARE TEST

NULL HYPOTHESIS

H_O: There is no significance relationship between Age of the respondents and Virtual training helps employee that appropriate for learning.

ALTERNATIVE HYPOTHESIS

H_1: There is a significance relationship between Age of the respondents and Virtual training helps employee that appropriate for learning.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.728[a]	16	.121
Likelihood Ratio	21.511	16	.160
Linear-by-Linear Association	3.810	1	.051
N of Valid Cases	120		

a. 16 cells (64.0%) have expected count less than 5. The minimum expected count is 1.88.

RESULT

The significant value (1.88) is> greater than the P value (0.000). Hence null hypothesis in accepted so there in no significant relationship Age of the respondents and Virtual training helps employee that appropriate for learning

4.2 CORRELATION

The table shows that the relationship between Qualification and Interaction level and engagement during the virtual training.

Correlations

		Qualification	Interaction level and engagement during the virtual training
Qualification	Pearson Correlation	1	-.012

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	Sig. (2-tailed)		.899
	N	120	120
Interaction level and engagement during the virtual training	Pearson Correlation	-.012	1
	Sig. (2-tailed)	.899	
	N	120	120

RESULT

This is a positive correlation. There are relationships between Qualification and Interaction level and engagement during the virtual training.

4.3 ANOVA

NULL HYPOTHESIS

Ho: There is no significant relationship between Experience and Opinion about technical aspects of virtual training

ALTERNATIVE HYPOTHESIS

H_1: There is a significant relationship between Experience and Opinion about technical aspects of virtual training

ANOVA

Experience	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16.704	4	4.176	2.202	.073
Within Groups	218.087	115	1.896		
Total	234.792	119			

RESULT

From the above analysis, we find that calculated value of the F-value is a positive 22.336value. There is a significant relationship betweenExperience and Opinion about technical aspects of virtual training

V. Findings, Suggestions and Conclusion

5.1 FINDINGS

1. Majority 64.2% of the respondents are Male person.
2. Majority 28.3% of the respondents age group between 26 – 30 years.
3. Majority 37.5% of the respondents are Qualified in under graduate.
4. Majority 22.5% of the respondent Between 2-3 years' experience.
5. Majority 34.2% of the respondents are earn Monthly income between Rs. 16000-20000.
6. Majority 35% of the respondent Agree that virtual training easy to access to and navigate by employee.
7. Majority 32.5% of the respondent Agree that content of virtual training relevant to employee job responsibility.
8. Majority 24.2% of the respondent are Highly satisfied the interaction level and engagement during the virtual training.
9. Majority 26.7% of the respondent Agree that information presented in the virtual training was clear and understandable.
10. Majority 27.5% of the respondent Agree that virtual training helps employee that appropriate for learning.
11. Majority 25.8% of the respondent are Highly satisfied and satisfied the impact of virtual training on our job performance.
12. Majority 31.7% of the respondent are Agree that provide training
13. Majority 28.3% of the respondent are Technical aspect of virtual training is Good.
14. Majority 31.7% of the respondent are training provide practical skills and knowledge to employee is often.
15. Majority 30% of the respondent are does has increased employee efficiency is Often.
16. Majority 30.8% of the respondent are Agree that training has saved time and travel costs compared to traditional training.
17. Majority 30.8% of the respondent are Highly satisfied the technical delivery of the virtual training platform.
18. Majority 38.3% of the respondent are Agree that virtual training has positive impact for overall job satisfaction.

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19. Majority 35% of the respondent are Satisfied the overall quality of virtual training.
20. Majority 28.3% of the respondent are Satisfied the overall learning experience provide by virtual training.
21. Majority 29.2% of the respondent are Time zone challenges faced by the employee in virtual training.
22. Majority 32.5% of the respondents arehighly satisfied with interactive learning tools

5.2 SUGGESTIONS

- A standard measures before and after each training program on level of knowledge, skills, attitudes and behavior will help to measure its effectiveness more accurately.
- The company has to ask its employees to suggest types of trainings which they think is more helpful in achieving organizational goals.
- Train the employees in all areas like personality development, technical training, and standard operating procedures with that they can handle multi tasks and balance their pressures.
- Employees performance level should be considered for selecting employees for training programs.

5.3 CONCLUSION

The virtual training and development program adopted in the company mainly concentrated on areas like quality aspects, job oriented trainings, technical skills and knowledge. Most of the respondents rated as good and excellent towards the overall quality and effectiveness of the virtual training and development programs and satisfied with the present virtual training methods. The company also has to concentrate on small percentage of respondents who are not satisfied with virtual training and development programs and satisfied with the present virtual training methods.

The adoption of VR in training can lead to a more competent and engaged workforce, thereby contributing to organizational success. While the potential benefits of VR are significant, there are challenges such as financial constraints, technological requirements, and user comfort that organizations must address. One of the pressing issues is the effective transfer of skills and knowledge gained in VR-based training to real-world scenarios. It remains a challenge that requires further attention. Immersive experiences in VR training impact employee perceptions of training quality, commitment, and job satisfaction.

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