

## Recent Advances in Knowledge Management

### Chapter 10

## Conceptualizing The Pros and Cons of Virtual Training and Development in Organisations

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### Introduction

The advent of Covid-19 pandemic has forced various organizations to embrace different technologies in a way that there is a remarkable shift from the traditional methods of training and development. The traditional methods of training and development have been revolutionised by virtual means through the aid of various technologies. Overtime state-owned institutions have embraced virtual training and development which is one of the Human Resource Management practices and academia in an attempt to catch up with the trends have also embarked on divers academic exercises through virtual processes. The basic notion of the term training and development is to improve the knowledge, ability, skills, and competencies amongst employees which eventually leads to better-quality of job performance and achievement of organisational goals. It is also known as computer-based training, and development, remote learning, and e-learning, an instruction that takes place entirely on the internet. The virtual or online platform contains many multimedia components, including images, audio, video, and web links. People do online training courses, particularly those given by international institutions, making online training more popular and widely used. Virtual learning, often known as remote learning or online education, provides students/employees with the opportunity to learn at their own pace while also allowing companies to encourage employee growth. These technological advances have triggered a substantial shift in the business sector in current ages. However, this modification did not just disrupt the tools and processes adopted by businesses, nevertheless the method employees learn and make use of new data was also affected. In the traditional methods of training and development there is frequently deficit of the rate of change and the fluctuating desires amongst members of the workforce. To tackle this challenge, virtual training provides employees with the opportunity to discover real-life locations, work into different scenarios, bring their skills, abilities to bear and by so doing bridging the gap between practical application and theory. Virtual training and development have guaranteed the collaboration and interconnectivity of the workforce irrespective of their geographical locations. Golden (2021), in a study showed that approximately 85% of learning and development functions at PepsiCo had moved to virtual training platforms as at July 2020 and had remain in the training of workforce. Meaning that Virtual training and development has come to stay in organisations and all humanities.

### Concept of virtual training and development?

The concept is also known as computer-based training, and development, remote learning, and e-learning, these are type of instructions that takes place entirely on the internet. (Leroy, Schmidt & Madjar, (2020).

*Alina*, et al (2024), observed that virtual or online platform encompasses many multimedia components, including images, audio, video, and web links. Individuals embark on online training courses, mostly the ones organised by global institutions thereby placing virtual training further

## Recent Advances in Knowledge Management

prevalent and broadly used by various organisations. It provides opportunities for employees and diverse users to learn at their own pace, by so doing employees are inspired to grow in their career.

### The pros of virtual training and development include:

- i. **Flexibility:** This gives the employees and employers opportunities to undergo training and development programmes at their own pace and based on plan, as well as not attending the meeting in-person. The users can access the learning/training materials from anywhere, which is the major benefit for busy professionals, as well as diverse students' populations. Virtual training and development permit all employees and bosses to take courses at their own pace and within their own schedule, without having to attend sessions in person. In a self-paced instructional programme, an employee may evaluation the exact topics in which he/she needs explanation. Hence, if they are acquainted with the topic, the employee might speedily complete the sequence and progress at a quicker degree. (Alina, et al., (2024).
- ii. **Accessibility:** Virtual training programmes are available to people from any location, eliminating the need to travel to a specific institution or location. "Training can be taken by most employees on a twenty-four-hour basis without leaving the work site. Further, it is accessible almost anywhere computers are situated. (Alina, et al., (2024)
- iii. **Addresses all skill levels:** Traditional in-person training often proceeds at a pace tailored to accommodate the individual with the least amount of expertise in the group. Consequently, if a highly skilled worker is learning alongside someone with less skill, the former may not acquire the desired level of knowledge. On the other hand, online training offers the advantage of swiftly and efficiently meeting the specific learning needs of employees across all levels within the organization
- iv. **Virtual learning reduces time for employees:** One of the most substantial barricades of virtual training is time that employee have to participate in learning programs. A study from Brandon-Hall Group, affirms that online training is capable of saving an employee's learning time by 60%. Though, virtual training takes fewer time, employees essentially would have to make out time for them to embark on the training. Leroy et al (2020). There are distractions in online training, so it allows to break up hour-long sessions into shorter learning parts, which is also known as microlearning, so as to billet disruptions.
- v. **Low costs:** Virtual training and development are frequently done at a reduced amount as against attending an in-person training or training provider's locations and it usually frequently more inexpensive as it eliminates the costs associated with travel, accommodation and printed materials since can be accessed online. The employees can be trained on-site circumventing the need to travel to training amenities, this results in savings in costs on travel and accommodation costs. (Blankenhorn, 1999 as cited in Alina et al., 2024).
- vi. **Scalable for any number of employees.** Virtual training and development have revealed a great advantageous impact on any commercial activity. This is premise in the sense employees will be more prepared for the trials that they will encounter in future in course of performing their duties. Training and development enabled the employees to be more equipped in handling work-related challenges. Alina, et al., (2024). Virtual training courses improves individuals' capacity to learn and use the newly acquired knowledge in their operations.
- vii. **Monitoring and evaluation:** Online/virtual platforms allow continuous monitoring and evaluation of participants' performance and progress through tests and exercises, making it easy to quickly identify areas where improvement is needed in virtual training and development. Measurability can be accomplished using self-check questions, pre-tests and post-tests

## Recent Advances in Knowledge Management

- viii. **Collaboration between stakeholders:** Virtual/online training and development platforms enable collaboration and communication between contestants and presenters, as well as between colleagues, thus contributing to the sharing of knowledge and the development of an organizational culture focused on employees' capacity building.
- ix. **Customization:** Virtual training and development permits content and materials to be personalized to the exact needs of various organizations and employee groups, by making sure that the exercise is as relevant and result oriented as plausible (Clarke & Flitcroft, 2013, as cited in Alina et al., 2024).

Aurobindo and Balu (2023), noted that customizing virtual training content to align with an organization's exact objectives and skill development needs is a critical issue.

## The Cons of Virtual Training and Development

Despite the numerous advantages of virtual training and development, a lot of disadvantages has also been identified. These include:

- i. **Difficult assessment of practical skills:** In most cases, the assessment of practical skills, such as Occupational Health and Safety skills may be difficult in an online environment because the application of knowledge in a real-life context cannot be directly observed. If you let your employees pick their courses, you'll need a measure to assess the instructors' quality. Teaching and learning practical or hands-on skills can be difficult in a virtual environment, more especially when it comes to tasks that require specific physical equipment or in-person demonstration.
- ii. **Lack of face-to-face interaction:** Virtual training and development reduces the chances for direct interaction amongst the participants and presenters, as well as amongst co-workers, which can affect the development of professional relationships. Every healthy communication process is built on social interaction. When you think of a typical training room, you may see group discussions, active participation, brainstorming, and the trainer answering questions. One of the most substantial disadvantages of virtual training sessions is the lack of face-to-face interaction. Regrettably, there will not be enough time to meet with other trainees and discuss important matters. These face-to-face interactions are vital for certain individuals to bring the message to be well understood (Alina, et al 2024).
- iii. **Need for technical skills:** Virtual training and development participants basically ought to have suitable technical skills to navigate connected platforms to access training resources, which may be a barricade for some members of the workforces or superiors. (Alina, et al 2024).
- iv. **Poor quality training can result in poor quality work:** This can happen when the Trainers does not comprehend how to employ digital modes of learning to impart knowledge online. It may also happen that the instructors may have a feeble knowledge of technology and lack the necessary resources and technologies to offer virtual lessons. It is also very obvious that generating first-class training resources and engaging qualified trainers a lot of time and effort are involved. So, all of these tends towards sacrificing high quality in favour of accessibility. However, if the exercise instils unwanted forms and wrong data in your employees, it can quickly fail. (Alina, et al 2024).
- v. **Technical issues:** In virtual training and development, technical difficulties, such as sluggish internet connections or equipment problems may disrupt the training process and generate interruption among participants. Additional substantial problem of online training is technological boundaries like internet access. years, a constant connection with suitable swiftness would always constitute a challenge in smaller towns and interior

## Recent Advances in Knowledge Management

villages. Technical proficiency is very crucial for trainee to enable them access to unswerving technology, while platform maintenance and software updates can be a burden.

- vi. **Self-discipline and motivation:** Virtual training and development requires a high level of self-discipline and drive on the part of the training participants, for example, there are no organized framework and secure schedule as it is in an in-person training.
- vii. **Difficult assessment of practical skills:** In some cases, the assessment of practical skills, such as Occupational Health & Safety skills can be difficult in an online environment because the application of knowledge in a real-life context cannot be directly observed. If you let your employees pick their courses, you'll need a measure to assess the instructors' quality. Teaching and learning practical or hands-on skills can be difficult in a virtual environment, more especially when it comes to tasks that require specific physical equipment or in-person demonstration.
- viii. **Potential Security and Privacy Issues:** Online/virtual training and development involves the transmission and storage of personal and professional data on digital platforms, which may raise security and privacy issues, if appropriate measures to safeguards are not implemented.

### Empirical Review

Lugrin et al. (2016), Mouw et al. (2020), and Ferguson and Sutphin (2022) conducted a study their findings underscore the imperative need to enhance realism and presence in VR simulations. Specifically, the shortcomings identified include the lack of interaction between agents and participants, the need for more intricate interaction patterns, and the call for simulations to reflect real-life situations. Notably, participants in these studies expressed concerns about the time-consuming nature of learning and deploying VR technology.

(2020), conducted a study on the advantages and disadvantages of virtual learning. The survey was carried out with all 256 English-majored students from the first year to the fourth-year cohort of the Department of English Language. 205 online questionnaires were collected and used for the analysis of data. In addition, the researcher interviewed 79 students and 22 lecturers on their online learning and teaching experiences, the advantages and disadvantages they faced while taking online courses. These interviews were done via Microsoft Teams and face-to-face on campus.

Ganiyu, et al., (2023) conducted a study on an evolution of virtual training: implications for talent development in the post-pandemic period. The study aimed at examining the effectiveness of virtual training programs in a South African public institution. This study adopted a cross-sectional survey research design following a quantitative approach for data collection and analysis procedure. Quantitative data was collected using a self-developed questionnaire to assess the impact of information technology, virtual training platform, and online library on the effectiveness of virtual training programs during the pandemic. The scale contains 17 items designed on a 5-point Likert-type rating scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Structured questionnaire was designed and administered to 119 respondents in the participating public institution. The data was analyzed using a variance-based structural equation modeling via SmartPLS, version 3.3.3 for path analysis. Based on the results, this study concludes that virtual platform plays a prominent role in the effectiveness of virtual training programs during the pandemic. Consequently, the virtual training platform adopted for virtual training programs and competencies of the facilitators in modes of online training made significant contributions to the effectiveness of virtual training programs. It recommended that future investigation should consider exploring representative of public sector institutions in South Africa to provide robust statistical analysis and generalize the key results.

Getuli et al., (2022). Conducted research to explores the use of Building Information Modelling (BIM) VR for virtual site layout, visualization, and safety training, utilizing Autodesk Revit and Google

## Recent Advances in Knowledge Management

Cardboard for HMD. Findings revealed that a lack of comprehensive assets hinders the adoption of VR, but a site object library offers a standardized content production tool, including 168 VR safety training scenarios.

Garcia (2019). Examined the impact of VR training on improving equipment operation skills and job performance among heavy machinery operators. Utilizing simulated equipment operation scenarios and performance evaluations, the study quantitative changes in operators' skills and job performance. The results revealed that better equipment handling, reduced downtime due to errors, and increased operational efficiency among operators trained with VR simulations. This indicates the positive impact of VR training on enhancing equipment operation skills and overall job performance in technical roles within industries reliant on heavy machinery. The study suggests implementing VR-based training modules for heavy machinery operators to optimize equipment operations and job performance. Additionally, the study highlighted the role of constant feedback and performance assessment within VR training programmes to recognize areas for development and to ensure continued enhancements in equipment operation skills and job performance of organizations.

Coelo. (2024) investigated the impact of virtual reality (VR) training on job performance in Technical Fields in Chad. The objective of the study was to evaluate the impact of virtual reality (VR) training on job performance in technical fields in Chad This study espoused a desk methodology. A desk study research design which used for data collection. The study looked into already published studies and reports as the data was easily accessed through online journals and libraries. The findings of the study indicated that VR training enhances the acquisition of practical skills and knowledge retention, offering a highly immersive and interactive learning environment. This technology permits for realistic simulations of complex technical tasks, enabling trainees to practice and refine their skills in a risk-free setting. VR training has been predominantly effective in fields such as engineering, healthcare, and aviation, where hands-on experience is crucial. The study highlights that VR training improves spatial awareness, problem-solving abilities, and technical accuracy. It also provides instant feedback, which is vital for learning and modifying errors in real time.

Jones (2019) assessed the impact of VR training on welding skills and job performance in the manufacturing sector. The study used pre-test and post-test assessments, and measured vagaries in welding accuracy, efficiency, and safety compliance after VR training. The results showed a significant upsurge in welding accuracy and a reduction in mistakes among members who received the VR training. This reveals the likely of VR training to enhance job performance metrics in technical fields like welding, leading to enhanced quality and safety results. The study proposes prevalent adoption of VR training programmes to supplement job performance and safety in manufacturing locations. Also, the study recommended constant intensive care and feedback instruments within VR training programmes to detect areas for enhancement and ensure ongoing effectiveness in enhancing job performance. It also highlighted the need to incorporate real-world simulations and situations into VR training to improve skills transfer and knowledge about real job responsibilities.

Enttegro (2022), examined the impact of virtual training on teachers sense of efficacy in key areas focusing on student engagement, instructional strategies, and classroom management. The study adopted mixed methods embedded design research. The teachers sense of efficacy scale, a structured interview of 59 Filipino secondary school teachers in virtual training. Wilcoxon Signed-rank test was used, the study found that there was a 0.000 asymptotic significance level of 0.05 when self-esteem data during face-to-face training and virtual training were analyzed. The results of the study revealed a low sense of efficacy after a virtual training ( $\mu$ -3.50), when compared to self-efficacy after a face-to-face training at ( $\mu$ -4.28). Based on the above results, it then means that self-efficacy is achieved when the school embarked on face-to-face training.

## Summary

## Recent Advances in Knowledge Management

Virtual Training and Development stems from the need to engender high level of skills and competencies amongst organizational workforce both at the employees and managerial cadre, hence, it must not be carried out by accidental basis. Despite the numerous pros and cons of the virtual training and development, there must be entirely an assessment of requirements and this can regularly involve a training needs analysis (TNA). The TNA has to do with systematic collection of data to ascertain where there are breaches in the existing skills, knowledge and proficiencies of employees as well as at the organizational level. It also enabled the analysis of deficiencies in attitudes, perceptions and other human factors significant to the overall performance of employees in the workplace. Training Needs Analysis is generally must be based on pragmatic approaches of three distinct perspectives, such as the individual, job and organizational levels. However, virtual training and development has its own benefits such as, convenience, safety, personal technological development, flexibility, accessibility, creativity and the trainees are focused. On the other hand, its costs also affect training instruction and assessment of learning outcomes, there are technical issues, absence of interaction, online distractions, well-being and psychological apprehensions.

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## Recent Advances in Knowledge Management

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