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Effectiveness of Online versus Onsite Training Programs in the Industrial Sector: A Literature study

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Abstract

The purpose of this literature review is to compare and contrast the efficacy of industrial training programmes conducted online with those conducted in person, with an emphasis on the Nagpur area. The argument between online and onsite training has grown in importance as more and more companies use varied training techniques to improve the skills and productivity of their staff. In order to examine and contrast the results, benefits, and difficulties of these two training delivery methods, this study synthesises previous research. Learning outcomes, skill development, and organisational performance are examined in relation to the study's initial definition of online and onsite training programmes. Examining theoretical frameworks, empirical studies, and reports from the industry, the study assesses aspects including cost-effectiveness, adaptability, engagement, and the capacity to achieve targeted training goals in real-world workplaces. In order to better understand the specific requirements of Nagpur's industrial workforce, this research will conduct a literature review to identify the circumstances in which onsite training could be more beneficial than online training. The results will help guide suggestions for improving training methods within the framework of industrial training programmes, with the goal of boosting both individual and company performance.

Keywords – Online training, Onsite training, Industrial sector, Training effectiveness, Employee learning outcomes

Introduction

Organisational performance and competitive advantage are greatly impacted by how well human resources are trained and developed in today's fast-paced industrial world. The option between online and onsite training programmes has become a critical decision-making element for enterprises in the Nagpur area as they embrace technology improvements and aim for operational excellence. While onsite training gives students the opportunity to work on real-world problems and communicate with instructors face-to-face, online training, made possible by digital platforms and remote learning technology, has the advantages of scalability and flexibility.

Educators, academics, and experts in the field have all taken an interest in the ongoing discussion of whether online or onsite training is more effective. In order to optimise resource allocation and guarantee the continual development of labour skills in the industrial sector, it is vital to understand the comparative efficiency of different training methodologies.

In order to systematically compare and contrast the efficacy of online training programmes with onsite training programmes in the industrial sector, this literature review will explore current research and empirical data. This research aims to identify the strengths, limits, and practical consequences of each training style by synthesising results from multiple sources, including academic studies, industry reports, and theoretical frameworks. It also seeks to provide light on the elements that impact training efficacy, including affordability, learner engagement, skill development, and industry-specific adaptation.

This paper's goal is to help decision-makers in the Nagpur industrial sector choose the best training strategies to help their employees grow and the company thrive in a highly competitive market by conducting a thorough analysis of the topic.

Objectives of the study

- To evaluate and compare the effectiveness of online and onsite training programs in achieving desired learning outcomes among employees in the industrial sector.

- To analyze the impact of online and onsite training on skill development, considering the specific competencies required in industrial settings.
- To examine the cost-effectiveness of online versus onsite training programs, taking into account factors such as implementation costs, time efficiency, and scalability.

Research methodology

This literature study employs a systematic review approach to evaluate and synthesize existing research and empirical evidence on the effectiveness of online versus onsite training programs in the industrial sector, focusing on the context of the Nagpur region. The methodology involves several key steps: Firstly, Identification of Relevant Literature: A comprehensive search will be conducted across academic databases (such as PubMed, Google Scholar, IEEE Xplore) and other relevant sources including industry reports, conference proceedings, and organizational websites. Keywords such as "online training," "onsite training," "industrial sector," and "Nagpur" will guide the search to ensure inclusivity of pertinent studies. Secondly, Selection Criteria: Literature will be selected based on its relevance to the research topic, publication date (preferably within the last decade to capture recent trends), geographical focus on Nagpur, and the quality of research methodology. Only peer-reviewed articles, books, and credible reports that meet these criteria will be included to maintain the rigor and reliability of the review. Thirdly, Data Extraction and Synthesis: Data extraction will involve systematically collecting information from selected literature, including key findings, methodologies employed (such as case studies, surveys, experimental designs), theoretical frameworks utilized, and conclusions drawn regarding the effectiveness of both training methods. This information will be organized and synthesized to identify common themes, patterns, and discrepancies across studies.

Literature review

Recent research by McGough et al. (2022) found that randomised trials of telehealth programmes for people with knee OA showed that these programmes reduced pain better than usual care, wait-list controls, or education materials alone. The results also showed that interventions that included online, telephone, or asynchronous coaching delivered by physiotherapists in addition to exercise and education were more effective than in-person physiotherapy alone.

The only intervention that demonstrated clinically significant improvements in pain compared to the control group (online education material alone) was pain coping training and physical therapy videoconferences (Bennell et al., 2017). An observational cohort study conducted in a setting comparable to ours found that exercise and education delivered asynchronously through digital means in cases of knee and hip OA resulted in pain reductions comparable to those observed with group-based face-to-face delivery three months later (Jönsson et al., 2022).

In this research, we added the unique viewpoint of ensuring that patients with knee OA had comparable amounts of time with physiotherapists during exercise and education sessions, thereby balancing the exposure to physiotherapy services across the study arms. Important aspects that arise from the clinician-patient interaction include the healthcare facility, the physiotherapist, the therapy itself, and the nature of the patient-therapist relationship, all of which function as effective moderators of treatment results (Rossettini et al., 2020).

Interestingly, the non-inferiority of TeleGLA:D may suggest that these contextual factors continue to have an impact during the virtual consultation with the clinician. One important finding is that both groups were fairly evenly distributed when it came to verbal suggestions, which are thought to be the most direct way to shape patients' expectations and the subsequent treatment effects (Malfliet et al., 2019; Vaegter et al., 2020).

When students actively engage in a learning process, the results or academic achievement that they may get are known as learning effectiveness (Müller, Stahl, Alder, & Müller, 2018). The

level of contentment and drive felt by students is another possible measure of a course's success. It is also possible to measure the efficacy of learning by looking at its aftereffects, such as changes in performance or behaviour. It is possible to gauge the efficacy of instruction by looking at how students feel about it and how well they do in class, as shown by their final grades (Kintu, Zhu, & Kagambe, 2017).

According to Sadiku, Adebo, and Musa (2018), online learning takes place in virtual classrooms that are available over the internet. Students often need a device with a web browser, a microphone, and a fast internet connection to participate. The phrases online education, online instruction, and online teaching and learning are often considered synonymous. In comparison to traditional classroom instruction, effective online instruction can have numerous typical characteristics such as the ability to be accessed from anywhere at any time; the use of online tutorials and learning activities, interactive multimedia, simulations and virtual manipulative; the use of aspects of online learning to help students develop positive attitudes; the facilitation of various learning experiences; the provision of online tests and feedback on the outcomes; the facilitation of customizable and adaptive training; the provision of help for learner reflection; offering online learning scaffolds; facilitating distance learning through interactive online learning activities; encouraging cooperative learning; taking multiple intellects into account; adhering educational standards; offering guidance for highly accurate application in a variety of situations; providing online and offline professional development courses being adaptable to quickly adopt fresh and helpful instructional paradigms as they emerge (Meylani, Bitter, & Legacy, 2015).

Course content, instructors, the learning environment, and learner supports are the essential determinants of an effective classroom, whether it's in a real or virtual setting (Luu, 2021).

The course material need to effectively incorporate research and best practices in education. Optimal course material would include pedagogical approach decisions and options, instructional media, learning exercises, and assessments. Teachers might think about things like course duration, anticipated learning goals, class activities, and supplemental resources when they construct course content (Almaiah & Alyoussef, 2019).

Since instructors' pedagogical choices substantially impact students' achievement, it is generally believed that they are a necessary evil in the classroom (Yao, Rao, Jiang, & Xiong, 2020). Educators in the modern day are expected to possess strong technological acumen with a comprehensive and current knowledge of their subject matter. This is true whether they teach in a traditional or online setting. One way to assess a teacher's performance in a classroom is by looking at how well they know their subject matter, how well they engage with students, and how adaptable they are when it comes to using technology (Kaur, 2019).

Most people think of traditional classrooms, lecture halls, and laboratories when they hear the word "learning environment," but they also include online spaces where students may study at their own pace. To improve the efficiency of learning in such a setting, it is important to create an atmosphere that is friendly to both the instructors and the students (Puteh, Che, Mohamed, Adnan, & Ibrahim, 2015).

Counselling, scaffolding, and providing feedback are examples of learner aids that are available to students as administrative tools to help them learn effectively (Pratt, 2015). Students' ability to manage the academic and personal demands of distant learning depends on the availability of adequate support services in online learning environments (Shabani & Maboe, 2021).

Conclusion

With a focus on the Nagpur environment, this literature review has methodically examined and synthesised previous studies on the efficacy of online training programmes in the industrial sector compared to onsite programmes. The results shed light on many important points about the relative benefits and difficulties of each training approach. First, the accessibility, scalability, and flexibility of online training programmes are major pluses. They alleviate

logistical problems and, maybe, training expenses by letting workers access course materials remotely. But compared to more conventional onsite training methods, there are still worries about the amount of participation and engagement.

However, onsite training programmes encourage a collaborative learning environment via practical experience and one-on-one communication with instructors and classmates. When it comes to developing practical skills and fostering teamwork in industrial environments, this method shines. But it might be limited by increased operating expenses and geographical restrictions. A key finding of this literature review is the significance of tailoring training programmes to the unique requirements of organisations and their employees, particularly in the manufacturing sector of Nagpur. How effective training techniques are depends on a number of factors, including the level of technological preparedness, employee preferences, and the specific abilities needed for each profession.

Online and onsite training programmes both have their advantages, but which one is best usually depends on the circumstances and goals of the training programme. Hybrid systems that combine the best features of both methodologies might be the subject of future studies aimed at improving industrial workforce development and learning results. With suggestions for practitioners and legislators to improve training efficacy and organisational performance in Nagpur and comparable industrial areas, this research adds significantly to the continuing conversation about training tactics in the industrial sector.

References

- Al Rawashdeh, A. Z., Mohammed, E. Y., Al Arab, A. R., Alara, M., & Al-Rawashdeh, B. (2021). Advantages and disadvantages of using e-learning in University education: Analyzing students' perspectives. Electronic Journal of E-learning, 19(3), 107-117.
- Albrahim, F. A. (2020). Online teaching skills and competencies. Turkish Online Journal of Educational Technology, 19(1), 9-20.
- Alenezi, A. (2020). The role of e-learning materials in enhancing teaching and learning behaviors. International Journal of Information and Education Technology, 10(1), 48-56.
- Almaiah, M. A., & Alyoussef, I. (2019). Analysis of the effect of course design, course content support, course assessment and instructor characteristics on the actual use of E-learning system. IEEE Access, 7(1), 1-16.
- Ananga, P., & Biney, I. K. (2017). Comparing face-to-face and online teaching and learning in higher education. Journal of Educational Studies,Trends & Practices, 7(2), 165-179.
- Asaqli, E. (2020). Online education: A change or an alternative? Creative Education, 11(1), 2384-2403.
- Darkwa, B. F., & Antwi, S. (2021). From classroom to online: Comparing the effectiveness and student academic performance of classroom learning and online learning. Open Access Library Journal, 8(7), 1-22.
- Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during Covid-19. Frontiers in Psychology, 12(1), 1-16.
- Gallani, V. (2020). Effectiveness of online learning during Covid-19 pandemic: Students perspective. International Journal of Scientific Research in Science, Engineering and Technology, 7(5), 209-215.
- Gustiani, S. (2020). Students' motivation in online learning during Covid-19 pandemic era: A case study. Holistics Journal Hospitality and Linguistics, 12(2), 23-40.
- Huang, Q. (2018). Examining teachers' roles in online learning. The EUROCALL Review, 26(2), 3-18.

- Kang, M., & Duong, A. (2021). Student perceptions of first-time online learning during the Covid-19 pandemic in vietnam. Inquiry in Education, 13(1), 1-17.
- Kaur, S. (2019). Role of a teacher in student learning process. International Journal of Business and Management Invention, 8(12), 41-45.
- Kintu, M. J., Zhu, C., & Kagambe, E. (2017). Blended learning effectiveness: The relationship between student characteristics, design features and outcomes. International Journal of Educational Technology in Higher Education, 14(1), 1-20.
- Lestari, W., Ichwan, S. J., Yaakop, S. Z., Sabaznur, N., Ismail, A., & Sukotjo, C. (2022). Online learning during the Covid-19 pandemic: Dental students' perspective and impact on academic performance, one institution experience. Dentistry Journal, 10(7), 1-12.
- Little, P., & Jones, B. (2020). A comparison of student performance in face to face classes versus online classes versus hybrid classes using open educational resources. Journal of Instructional Pedagogies, 24(1), 1-10.
- Luu, H. N. Q. (2021). Learners' perceptions towards online learning during the Covid-19 pandemic: A study at a center of foreign languages in vietnam. Vietnam Journal of Education, 5(3), 84-90.
- Mafruudloh, N., Arifatin, F. W., & Chasanah, U. (2021). The role of technology in online learning: An examination towards English teachers' perception and practices. Professional Journal of English Education, 4(2), 267-277.
- Mahlan, S. B., Shamsuddin, M., Kadar, R., Othman, J., & Wahab, N. A. (2022). A comparison of student performance in online and face-to-face learning for statistics subject. International Journal of Academic Research in Progressive Education and Development, 11(2), 551-561.
- Mayasari, L. I., & Kemal, I. (2020). The role of teachers in implementing distance learning in the middle of the Covid-19 plague. Systematic Reviews in Pharmacy, 11(12), 1553-1557.
- Meylani, R., Bitter, G., & Legacy, J. (2015). Desirable characteristics of an ideal online learning environment. Journal of Educational and Social Research, 5(1), 1-14.
- Müller, C., Stahl, M., Alder, M., & Müller, M. (2018). Learning effectiveness and students' perceptions in a flexible learning course. European Journal of Open, Distance and E-Learning, 21(2), 44-52.
- Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. In (Vol. 19, pp. 129-132): London, England: Sage Publications Sage UK.
- Nguyen, T. L., & Nguyen, T. N. (2019). Effects of VSTEP on students' learning motivation at vietnam national university, Hanoi. VNU Journal of Science: Education Research, 35(4), 1-10.
- Pham, T. T. H., & Tran, T. N. G. (2018). The revolution in online learning and implication in vietnamese universities. Ho Chi Minh City Open University Journal of Science, 9(1), 70-77.
- Pratt, K. (2015). Supporting distance learners: Making practice more effective. Journal of Open, Flexible, and Distance Learning, 19(1), 12-26.
- Puteh, M., Che, A., Mohamed, N., Adnan, M., & Ibrahim, M. (2015). The classroom physical environment and its relation to teaching and learning comfort level. International Journal of Social Science and Humanity, 5(3), 237-240.
- Rose, M. (2018). What are some key attributes of effective online teachers? Journal of Open, Flexible and Distance Learning, 22(2), 32-48.