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Training Methods in Industry 4.0: A Review-Based Assessment

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Abstract

There is a growing requirement for continuous skill and knowledge development among the workforce, as it significantly contributes to excellent performance and ultimately impacts an organisation's success. To address this need, various training techniques have been identified in this study, including case studies, job rotation, job shadowing, instructor-led training, mentoring, role-playing, simulations, gamified learning, hands-on training, e-learning, blended learning, and social learning. These techniques are evaluated based on several criteria, such as the learning style they cater to, the instructional setting, the presence of a facilitator, location, level of communication required, budget considerations, and time scheduling. In view of the analysis, it is suggested that learners in the digital age prefer training methods that offer immersive and experiential learning opportunities integrated seamlessly into their work processes.

Major Findings: Effective training in the age of Industry 4.0 does not rely on an optimal approach but rather relies heavily on compatibility between the learner and the organisation. In the everchanging landscape of the modern workforce, proactive and inclusive approaches to training are imperative for organisations to foster an agile and future-ready talent pool, capable of navigating the rapidly changing technological landscape.

Keywords: Blended Learning, Employee Performance, eLearning, Learning Preferences, Training Techniques

1. Introduction

Globalisation has caused the world to get smaller, resulting in a highly volatile and dynamic business environment. In this aspect, businesses need to be competitive to meet the encounters of globalisation. According to Drucker (1999), the competitive edge of a company is contingent upon the expertise and capabilities held by its workforce. The knowledge and skills of employees can be enriched through training that can lead to improved performance, as there exists a positive association between employee training and development and their overall performance (Ahmad *et al.*, 2014). However, with time, employee skills tend to dwindle and must be replaced (Langer and Mehra, 2010). Due to organisational, technical, and social changes, it is therefore necessary for continual learning to update skills and knowledge (Muhammad & Fard, 2013).

The changing workplace environment requires updating the existing skills of the employees with new expertise to meet the job demands and remain relevant over time, ensuring rewarding and successful careers. Therefore, organisations must foster a culture that naturally promotes ongoing learning (Phadnis, 2023). Organisations that provide avenues for professional development hold greater appeal for prospective employees and are better positioned to retain their existing workforce. This will ensure agility, sustainability, and success for the organisation in the highly competitive business landscape characterised by widespread automation, digitisation, artificial intelligence, virtual reality,

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and big data. The evolving workforce. Significant endeavours should be made to ensure that learning opportunities are accessible, readily available, and affordable for employees (Li, 2022) for effective outcomes.

Training and development have become indispensable in the operations of numerous organisations due to their ability to drive high performance. Employee training helps them to become productive and ensures swift adjustment to the fluctuating business needs (Jehanzeb & Bashir, 2013). Trainers frequently look for the ideal way to offer focused information to trainees because there is no single strategy for delivering training (Martin *et al.*, 2013). Given the constant advancements in technology and ongoing evolution of learning theories, there are now greater opportunities than ever to explore various instructional approaches for individuals (Torraco, 2005; Callahan, 2010). The pronouncements from an integrated review of existing literature on training approaches have been presented in this work.

Understanding the idea of training and the rationale behind it is crucial before attempting to explain a specific training technique. Training is a structured approach to assisting staff members in developing their professional and personal skills, knowledge, attitudes, and behaviours, thereby improving their ability to perform specific duties within the company. (Karim *et al.*, 2019). Better teaching methods can keep learners interested in the material, promote effective learning, and enhance organisational results. Martin *et al.* (2013) defined a training method as a set of systematic procedures, activities, or techniques designed to impart KASA (Knowledge, ability, skill, attitude) to participants that contribute to improving their functioning on the job. Due to evolving learner requirements, technical advancements, and training methodologies have evolved over the past few years (Jevana, 2017). Choosing appropriate methods and techniques for delivering the content, deciding on instructional paraphernalia and tactics, and determining instructional objectives and sequencing are all essential steps in the design of any training program (Salas & Cannon-Bowers, 1997).

Different training methods [case-study, job-rotation, job shadowing, instructor-led training, mentoring, role-play, simulation, gamified learning, hands-on training, e-learning, blended learning, social learning] were identified and explored in detail in terms of their potency and shortcomings. Any training techniques that are not on the list are assumed to be merely extensions or subcategories of the methods or techniques considered for the study. To support professionals in choosing training techniques considered, the study agreed upon a set of standards. The seven criterions were determined to be style of learning, the instructional setting, facilitator existence, vicinity, degree of communication, budget, and schedule of time. These standards were chosen based on their relevance to all training methods and their importance in the design of training programs. Each of these standards indicates a dimension that can be used to categorise training techniques.

2. Literature Review

As the business environment and market conditions are rapidly evolving, business organisations have recognised the importance of training and dedicated substantial efforts to enhance the quality of their training to maintain their competitiveness (Jacobs, 2003; Jacobs & Washington, 2003). There exists a notable positive correlation between employee training and development and their overall functioning (Ahmad *et al.*, 2014). The impact of training on employee behaviour and work skills leads to notable improvements in their performance, as well as fostering positive changes that contribute to ongoing enhancements in employee performance (Satterfield & Hughes, 2007; Kraiger, 2002).

Employee training facilitates productivity and enables quick adaptation to changing business demands (Drucker, 1999). The intellectual capital of an organisation sets it apart from its contemporaries, which includes intangible characteristics such as knowledge sharing, skills, and drive required to compete in today's fierce and vibrant global environment (Shivani & Bindu, 2021). Training is a widely employed process that effectively enhances individual productivity and serves as a means of effectively conveying

organisational objectives to employees. (Galanou & Priporas, 2009). The effectiveness of a training program primarily relies on the identification of key training parameters and the systematic implementation of well-designed programs to support them (Singh & Malhotra, 2018), which encompasses a diverse range of instructional approaches, schedules, and conducive learning environments, all aimed at facilitating skill enhancement among employees and subsequent application of acquired skills in their job roles (Arulsamy *et al*., 2023). Utilising effective training methods which include both theoretical and practical components can capture the interest of trainees (Jevana, 2017), facilitate effective learning, and yield improved outcomes for organisations. However, it is vital that training needs are identified for setting appropriate goals and establishing effective performance measurement mechanisms (Aguinis & Kraiger, 2008).

It has been observed that there is limited training-related literature that evaluates a wide variety of training methods. The study intends to search for key training methods and compare them so that readers may decide which method is best under certain circumstances. To ensure a comprehensive approach, the literature on both training methods and learning methods has been reviewed. To establish a comprehensive and practical structure for comparing different training methods, an extensive review has been done of the available literature on systems designed to classify various approaches to training. It is crucial to provide an explanation of the underlying concepts, connections, and logical reasoning behind a framework when introducing it (Torraco, 2005). Hence, a systematic comparison of the training methods and the rationale for describing each training approach within the framework has been provided in Table 1 that summarises the findings in further detail.

3. Research Methodology

The primary aim of the study is to analyse basic training methods and assess them, enabling readers to determine the most suitable approach for a particular situation. To achieve the study's objective, the training literature was comprehensively studied, examined, and summarised. The literature made use of a variety of electronic sources like ProQuest, ERIC, PsycInfo, and ABI/Inform. The Scholars Portal, Interscience/ Wiley, JSTOR, and ScienceDirect were used to access electronic journals. Articles published after 1979 were chosen to narrow down the search.

The initial search generated over 3,000 sources. These were then narrowed down progressively:

- Unreferenced or non-scholarly publications were removed first.
- Papers that either did not specify a training method or described duplicate techniques were then eliminated, reducing the pool to under 500.
- A final quality assessment focused on precision, depth, and novelty produced the final working set of 100 sources.

The 100 sources selected for the study offered precise, in-depth, and current information on training procedures, which formed the basis for evaluation and analysis.

4. Research Gap

Numerous study papers have evaluated the various training methods based on their traits and the ideal circumstances in which to apply them. But as contemporary training techniques have developed further because of technological advancements, it is not yet known what makes them effective and under what conditions they should be used. The present research is a continuation of the work done by earlier researchers in the area because new training methods or techniques have been developed.

5. Results and Discussions

Three major components impact training effectiveness: instructional design and methods, trainee characteristics, and organisational conditions or work environment (Baldwin & Ford, 1988). While the first two factors are external, the second factor is intrinsic to the learner and influenced by their perception of previous training experiences. Therefore, managers play a crucial role in optimising training outcomes (Khalid, 2015).

Table 1. Outline of training methods

Techniques of training	Description	Potency	Shortcoming	Circumstance of usage	Sources
Case study	A methodical inquiry for a thorough understanding of an issue or event	This technique is a riskless and affordable method that can teach any number of learners simultaneously	But the shortcoming of the approach is the time it could take because practical situations are uncommon and challenging to write.	This method is suitable when the learners possess certain prior awareness about the event yet can still gain advantages from the hands-on nature of the instruction.	Shivakumar, 2012; Martin *et al.*, 2013
Job-rotation	Lateral work switching among employees to inspire and develop new competencies	It offers opportunities for associates' growth and development and can enhance their job satisfaction, enthusiasm, and departmental cooperation	The prospect of failing in front of coworkers, which could harm one's reputation at work, is a worry that comes with this technique, along with disrupting the work of other associates	This approach may be recommended in scenarios where the learner already possesses the necessary skills and aptitude to successfully accomplish the task	Geet & Deshpande, 2008; Saiyadain, 2009
Job shadowing	It entails a learner intently observing someone perform a particular job in the real work setting	It enables a learner to understand how a job functions by spending the entire workday with a working professional to learn everything in a similar area of interest	However, a concern with this method is the observer must invest a significant amount of time learning about the professional's knowledge, behaviour, and working style	This technique is advised whenever a company prepares a current employee for a new role or granting a current employee a "try-on" a novel role without the risk and expense of failure	Tyler, 2008; Chopra & Menon, 2021
Instructor-led Training (ILT-physical/ virtual)	Formal disclosure of knowledge being presented orally to learners in a physical setting like a classroom or in a virtual setting	The ability of the facilitator to engage the audience and encourage them to share their experiences is one of the most important aspects of this approach	Physical instructor-led training is location-dependent and entails costs for peripherals. VILT depends on technology and is unlikely to foster relationships between learners	This strategy can be used when standardised learning is desired	Puteh *et al*., 2015; Jones, 2022
Mentoring	Involves a senior employee working one-on-one with a junior employee to assist and mentor the latter	Mentorship training approach can result in long-term benefits like mentee's wellbeing, psychological empowerment and career facilitation through talent development and skills transfer	This method could also lead to interpersonal conflict between the mentor and the mentee	When a company wants to get its staff members ready for internal promotions, this strategy works best	Spreitzer *et al*., 1997; Noe, 1988; Martin *et al*., 2013
Role-play	Learners take on a persona and perform the part in a fictional scenario or series of events	This approach gives learners the chance to practice without the risk of making a mistake in real life	Since the learners are not accountable for the consequences related to the situation given in this method, they may fail to understand the essence of the case	Role play is especially suitable for sensitivity training and other situations that involve attitudinal training	Sheets, 1998; Barone *et al*., 2005

Table 1. Continued...

Simulation	A technique for practicing and learning in an interactive replicated environment that evokes significant aspects of the real world	This approach offers practice opportunities that are safe, structured, interesting, and effective	One drawback of this approach is that it can be expensive and also may lead to loss of time due to equipment malfunctions	This method can be used in situations which require repeated practice, and the limits can be pushed safely without any risk	Kulkarni *et. al*, 2022; Noe, 2010; Rosen *et al*., 2012
Gamified learning	Integration of game design aspects into learning settings	It leads to learner engagement, user retention, knowledge, and cooperation	The difficulties experienced by the facilitator in properly communicating all crucial learning ideas using this method and the complexity of determining which game aspects contribute to the training	This approach is suggested when learners are required to make choices in real-world scenarios because it helps them retain the skills they have learned	Dichev & Dicheva, 2017; Wilson *et al*., 2008
Hands-on Training	A method of instruction that uses project based and case-based learning to help learners enhance their competencies and capabilities	Experiential learning allows the learner to self-correct any mistakes through trial and error, while always having access to expert assistance	Demonstrations frequently provide learners with the gist of how something works without paying as much attention to detail	This approach is advised when there is little time to think through options and take action in an emergency circumstance	Popoola *et al*., 2021; Curriculum Management Solutions, Inc., 2020.
Online training	Delivering educational materials to students who are geographically distant from their instructors utilising multimedia technologies	A major advantage of this technique is that is not constrained by location	In cases where the learner lacks motivation for learning, the absence of direct contact with the facilitator may lead to distractions	This method is useful when there are geographically dispersed learners who need to receive the same material	Luaran *et al*., 2014
Blended training	Include a variety of distribution methods, media types, instructional philosophies, or all of the above.	To make the desired impact, this method combines a variety of instructional strategies and learning preferences with control over training pace, place, and timing	Lack of understanding about the various training methods and the proper ratio for conveying the material is vital; else, the method could fail	This technique can be used in situations when the same content has to be delivered to geographically dispersed learners while still engaging them through the right mix of the modes of delivery to maximise the learning opportunities	Gainsight, 2023
Social learning	Learning occurs in a social environment through observation in a social context.	This method is not restricted to geographical location, and it is a very cost-effective medium	This learning method requires internet connectivity and careful content selection	This technique enables information sharing and communication through internet-connected devices like mobile phones, laptops, PCs, and tablets	Horsburgh & Ippolito, 2018

To support professionals in choosing training techniques, the study agreed upon a set of standards. The seven criterions were determined to be the style of learning, the instructional setting, facilitator existence, vicinity, degree of communication, budget, and schedule of time. These standards were chosen based on their relevance to all training methods and their importance in the design of training programs. Each of these standards indicates a dimension that can be used to categorise training techniques.

The method of transmission used to deliver learning material to the learners is referred to as the learning style. Effective learning can be achieved if the learners' preferred learning style is recognised (Cabual, 2021). Although customising training for each learner is an arduous task and outside the scope of most training programs due to financial and other resource constraints, Carter (2002) suggested that aligning training techniques with the preferred learning styles of learners is beneficial in providing support and facilitating the learning process. The study has considered the sensory character of each training technique when attempting to construct a meaningful grouping system and discovered a trend of learning through sensory modalities of witnessing, listening, and execution as suggested in a study by Lujan and DiCarlo (2006). Upon deciding on the method of transmission, the next factor of consideration is the setting in which the training is to be conducted. The term standard environment refers to the actual workplace, while a fabricated environment is artificially built with the goal of simulating a natural work setting, as opposed to a contrived environment, which is an environment created expressly for training and does not resemble the workplace. While it is ideal to engage in learning within a conventional environment, it is advisable to carry out high-stakes training in a controlled setting where potential risks can be minimised, while still providing a simulated practice environment to some extent (Martin *et al.*, 2013). The next criteria is facilitator existence, which describes whether the method requires administration from a facilitator or from another source. This idea is supported by Klein *et al.* (2006), who state that "the 'trainer or facilitator' may be a person, or instruction may be delivered via other instructional medium without any human connection." Vicinity of the facilitator with the learner is the next criteria for consideration. Unlike in the past, when social interaction was limited to in-person interactions, technology now makes it possible for a sizable number of participants while eliminating geographical restrictions. Whether the presence of the facilitator is physical or online, interaction with the learner is of utmost importance in training that involves complex material (Martin *et al.*, 2013). In the study, three facets of interaction have been considered: no interaction and no interaction. The possibility of interaction between the learner and the facilitator as well as the prospect of communication between the learners are both considered in this evaluation. In other words, interactive refers to potential interactions between a facilitator and a trainee as well as potential interactions between trainees; somewhat interactive denotes a likelihood of such interactions; and not interactive denotes an unlikelihood of such interactions. All techniques of training have cost involved with them, be it the cost of the facilitator or the equipment or the facility used. Regardless of how the money is spent, if the technique provides an optimum return on investment, then it is preferred over other methods or techniques. Cost variables are divided into low, moderate, and high based on the different variables associated with their execution. The training strategy becomes less appealing if the time commitment increases. However, when the stakes are great, there is an exception to this rule, just as there is with cost. In this circumstance, using a training approach with a larger time demand might be useful and desirable. The time commitment expected of the trainees is referred to as "time demands." Because the duration may affect learner and organisational buy-in, it is crucial to take this into account. This criterion covers topics like whether the training technique necessitates continuous participation and whether the length of time needed to complete the training is variable or set. Time needs have been categorised into three levels, low, moderate, and high, for the purposes of our analysis.

The criteria that are provided in the study are factors that a trainer might consider when deciding on training techniques. By employing these criteria, it is possible

to establish a unique profile for each training approach, with specific emphasis on these factors. By comparing the methods based on these criteria, a practical guide for choosing the appropriate training methods is generated in Table 2. The responsibility lies with the reader to utilise this guide and, considering their individual circumstances, determine which method(s) are most appropriate for their situation. The training techniques can be compared to one another based on these factors, producing a selection guide for training methods or techniques using a nominal scale.

Based on the above-mentioned criteria, the training methods are evaluated. This provides each training strategy with a profile. The analysis reveals several trends in training techniques. 75% of training is off-the-job. When compared to learning through witnessing or listening, 67% of training approaches use the learning style of execution. Though the presence of a facilitator existence has a remarkable impact on the content to be grasped and transferred to work without error, the majority of training techniques can be facilitated remotely, with due credit to technological improvements, except for only 8% of the training approaches that require the physical presence of the facilitator. "Not interactive" was the most common response, and 25% when it came to the point of communication. Only two training approaches have higher cost implications; the bulk of training techniques (75%) lie in the low to moderate range. The expense of obtaining, maintaining, and upgrading the specialist equipment needed for the simulation training is the cause of these increased cost issues. Only two training techniques receive a high ranking in terms of time needs, placing the bulk (75%) in the low and moderate category.

From a theoretical point of view, it is useful to understand the seven criteria of the paper as a training ecology, rather than a checklist. In this perspective, learning style, setting, facilitation, proximity, communication, cost and time are not independent variables but an interacting system that determines whether knowledge can be acquired, practised, transferred and retained. This helps to shift the paper from a descriptive taxonomy to a systems theory of training in Industry 4.0.

The theory behind organisational training and development from an economic perspective is provided by Gary Becker (1964), who formulated the theory of human capital. Becker regarded employees' knowledge and skills as forms of capital which, when invested in, produce definite dividends in terms of productivity, flexibility and competitiveness. This theoretical perspective directly supports the premise of the study as articulated by Drucker (1999), that the competitive advantage of a company is based on the knowledge and skills of its employees. The seven criteria approach for this study, which encompasses instructional setting, facilitation, proximity, communication, finance, and time, operationalises strategic human resource development by allowing companies to consider their contextual factors when selecting training methods.

Behaviourism theories which are based on the theories of B. F. Skinner, Ivan Pavlov, Edward Thorndike and John B. Watson, perceives learning as modification in the observed behaviour due to the stimuli in the environment and reinforcement (McLeod, 2025). For Industry 4.0 learning processes, behavioural techniques are integrated into adaptive e-learning systems that utilise real-time feedback, automated grading, and gradual unlocking of the course modules upon successful completion based on competency, simulating the classical stimulus-response paradigm through technology. Cognitivism, proposed by Piaget (1952) and Ausubel (1968), is concerned with internal mental processes, which defines learning as the formation, organisation and acquisition of cognitive schemas. This concept serves as the basis of the methods used for case-study and blended learning, which entails a need for the learner to analyse a situation, synthesise information acquired from prior experiences and develop hierarchical knowledge. Constructivism, based on Vygotsky's (1978) Zone of Proximal Development and Dewey's (1938) philosophy of experience, claims that learners do not passively receive knowledge, but they actively create knowledge through interaction with the environment and others. This theory gives the strongest theoretical basis for experiential training, job rotation, role-play and simulation. The application of the constructivist perspective within the Industry 4.0 era entails utilising virtual reality and augmented

Table 2. Training methods illustrated on the seven criteria

Training method	Style of learning	Instructional setting	Facilitator existence	Vicinity	Degree of communication	Budget	Schedule of time
Case study	Executing	Fabricated	Required	Direct contact or remote	Fairly interactional	Low	Moderate
Job-rotation	Executing	Standard	Not applicable	Not applicable	Not interactional	Not applicable	Not applicable
Job shadowing	Witnessing	Standard	Required	Direct contact	Not interactional	Low	Low
Instructor-led Training	Listening	Contrived	Required	Direct contact	Interactional	Moderate	High
Mentoring	Executing	Standard	Required	Direct contact	Interactional	Low	Moderate
Role-play	Executing	Fabricated	Required	Direct contact	Fairly interactional	Low	Low
Simulation	Executing	Fabricated	Not applicable	Not applicable	Not interactional	High	Moderate
Gamified learning	Executing	Contrived	Optional	Direct contact or remote	Not interactional	Moderate	Low
Hands-on Training	Witnessing	Standard	Not applicable	Not applicable	Not interactional	High	High
eLearning	Listening	Contrived	Optional	Remote	Not interactional	Low	Moderate
Blended learning	Listening and executing	Contrived	Optional	Direct contact or remote	Interactional	Moderate	Moderate
Social learning	Witnessing and executing	Contrived	Not required	Direct contact or remote	Not interactional	Low	Low

reality training environments in which the individual constructs knowledge through interaction with simulated environments. According to Bandura's (1977) Social Learning Theory, people learn through observing others, internalising their actions and then repeating those same actions when properly motivated. This theory forms the theoretical basis behind job shadowing, mentoring and social learning.

In case study, job rotation, job shadowing, role-play, hands-on training, simulation, and mentoring, the individual is fully immersed in the experience. These learning techniques all involve adherence to the idea of experiential or observational learning. Yet, there is a significant difference between the two sets of strategies in terms of risk and their implications for learning retention. While job rotation and mentoring involve the individual taking risks and having potential consequences for failure, in simulation and role-play, failure carries no risk.

The technology-mediated methods (online training, gamified learning, social learning, and blended training) require digital infrastructure. The common benefit is the freedom of geographical location and scalability. But at the same time, there is a common vulnerability. They assume that learners will be self-disciplined and will have internet access. While experiential learning approaches depend on the facilitator's ability to keep learners engaged, these approaches leave it to learners themselves. Instructor-Led Training (ILT) is very efficient when used to deliver standardised information; the major drawback of this approach is that the learner is made to be passive in acquiring knowledge.

Most techniques, including case study, job shadowing, ILT, mentoring and role play, involve the presence of facilitators. The very fact implies a basic assumption regarding the need for the mediation of an expert in order to improve the quality of learning. However, some techniques such as social learning, simulation and online training can work without facilitators. This may indicate that with the development of learner maturity and literacy, facilitation might become optional, not necessarily a mandatory technique. Remarkably, training methods like

case study, job shadowing, mentoring, role play, social learning, and online training are all considered low-budget options. This alignment suggests that efficiency is something that does not belong to any specific approach to education; neither traditional approaches such as mentoring nor modern approaches such as social learning need expensive resources to work. The only exceptions are simulation and hands-on training, which are rated as high-budget for replicating the real environment safely. Also, case study, role play, simulation, gamified learning, ILT, e-learning, blended learning, and social learning all take place in fabricated or artificial learning environments. This is indicative of the fact that training theory believes artificial learning environments to be adequate, maybe even better, than real-life training environments. However, the critical implication is determining whether the transfer of learning can effectively take place between these environments.

A clear distinction lies between interactive approaches to training and development (ILT, mentoring, blended learning) and those which are not interactive (simulation, gamification, hands-on training, online training, social learning). Interactivity allows instant feedback, emotional connection, and bonding, which have been proven by research to enhance the learning experience. What is most concerning about the current predominance of non-interactive training methods is that organisations might be focusing more on scale and budget than on achieving deep levels of learning. Gamification of the learning process poses an intriguing dilemma. It is highly engaging yet non-interactive. The approaches also differ radically in terms of the necessity of physical proximity among the learners. Job rotation and mentoring entail the need for proximity, while online learning and social learning are completely done at a distance, with blended learning being somewhere in between. The distinction has important repercussions in the post-pandemic era. With the hybrid workforce becoming increasingly common, organisations that depend too much on learning approaches requiring proximity (mentoring, job shadowing, job rotation) may find themselves disadvantaged structurally. ILT and hands-on training require heavy time investments. Job shadowing, role play, gamification, and social learning have low scores in terms of time allocation. This difference is strategic and essential. Techniques requiring substantial time allocations often indicate greater risks involved or complicated skill development, such as preparing an employee for a management position through ILT and hands-on techniques, whereas the former category can be applied to reinforcement or gradual skill development. Philosophically, the most significant distinction that one can draw is that of high-stakes methods, wherein failure has actual repercussions for the learners, such as job rotation and mentoring on actual projects, and low-stakes methods, wherein there are no repercussions at all for failure, such as simulation, role play, and game-based learning. In both cases, the former facilitates rapid learning through pressure while the latter provides security, both to the learner and the organisation.

Although there are several similarities and differences between the training methods, there are also several structural gaps in implementing them. Blended learning indeed sounds like an ideal solution because of the ability to blend the training methods required for incorporating the learning, yet the lack of proper planning or poor understanding of the right mix of training methods may make it the hardest strategic solution. Without careful design, it can become a disjointed collection of modalities rather than a cohesive learning experience. Social Learning ranks well when it comes to being cost-efficient and convenient in terms of scheduling. Nevertheless, it is essential to pay attention to the disadvantages of social learning, which include high dependence on the internet connection and the need for curating materials carefully, among other things. Social learning could be dangerous because learners can come across misleading information in case moderation is not involved. Mentoring emerges as the sole technique that is specifically highlighted as having the potential to cause interpersonal problems. It is essential to note that this technique is most likely to be employed when an organisation is faced with succession planning and development of leadership positions. The organisations need to understand that the success of mentoring is highly dependent on the relationship, hence making proper matching of the mentor and mentee essential.

The above discussion indicates that there is no one-size-fits-all solution for learning processes. An effective organisational learning process will involve an integrated use of the different learning methods according to how well prepared the learners are, the nature of the task at hand, the financial resources available, the geographical location, and the level of risk the organisation is willing to take. This paper contends that effective training in the age of Industry 4.0 does not rely on an optimal approach but rather relies heavily on compatibility between the learner and the organisation. The contribution made by the paper lies in its classification based on seven criteria, which enables the researcher to transform a very diverse and dynamic literature into a decision-making tool. This aspect is important since it moves away from discussing digital training as such towards choosing the appropriate type depending on specific circumstances.

6. Conclusion and Future Scope

In the study paper, suggestions for training techniques and the settings in which those techniques are suitable have been made based on a comparison of the various training methods that have been identified and compared based on seven criteria. However, a formal assessment of training requirements should be conducted to identify the gaps in training and to identify the most effective approaches to filling those gaps. The recommendations could be used in addition, considering the circumstances and conditions in one's area of business, to create a learning culture for increased employee engagement and to further the retention of the workforce.

As technology is ever-evolving, training and development professionals should periodically assess the best strategy for training. Additionally, organisations need to have access to post-training evaluations because they are essential for determining the overall program's success based on the criteria that were chosen for the study. Thus, in the everchanging landscape of the modern workforce, proactive and inclusive approaches to training are imperative for organisations to foster an agile and future-ready talent pool, capable of navigating the rapidly changing technological landscape.

The growing intrusion of artificial intelligence in diverse domains will make it possible to design individualised learning journeys that combine diverse instructional approaches with game-based elements, thereby boosting employee engagement and nurturing an organisational culture that values continuous learning. Furthermore, emerging technological advancements such as virtual reality, augmented reality, and learning analytics will contribute to the development of adaptive learning platforms that deliver more targeted and personalised educational experiences.

This study may be able to provide some directions to organisations in creating training frameworks that support their missions, values, and operational contexts, fostering a competitive advantage. By leveraging the study's recommendations, organisations shall be able to implement comprehensive learning ecosystems that empower employees to continually upskill and reskill, positioning themselves and their organisations for sustained success in an ever-evolving business landscape.

The conclusions that the article makes are future-oriented and primarily additive, mentioning technologies like artificial intelligence, virtual reality, augmented reality, and learning analytics as further additions to the existing methods toolkit.

To acquire a more thorough approach to studies on the impact of training methods, future studies may also include more variables or mediating factors. To gain a thorough knowledge of the topic, it is also suggested that future research look into analysing the relationship and impact between training needs and training methods that can create an ecosystem that can reward learners with interesting work, opportunities and career growth for the workforce.

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