

## **ROLE OF APPRENTICESHIP IN SKILL DEVELOPMENT: REVIEW OF LITERATURE**

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### **Abstract:**

In the past few years, the structure of the world economy has been changing, and it is moving as quickly into the world of digital transformation. Because the nature and speed of change are hard to predict, it will be important for people in groups, organisations, and societies to learn how to deal with all kinds of situations. This is especially true for skills and competencies. In this research work, we take a systematic look at the literature to find out what kinds of skills are most often taught, which techniques are most often used. The goal of this paper is to bring clarity to both research and practise in order to help and encourage more effective skill development programmes and new ways to train people in different areas.

**Key word:** Apprentice Training, Skill development, Competencies, Digital Transformation.

### **Introduction**

India has experienced double-digit economic development, but the country has been unable to create work opportunities, resulting in jobless growth. The nation can achieve a higher employment rate through increasing productivity and enhancing the capabilities of the labour force. According to the report by the World Bank Institute in India and Knowledge Economy, one of the four pillars of a knowledge economy is a skilled and educated workforce. There are various benefits of skill development, and one of the Millennium Development Goals is to improve the standard of living of the population. Eminent scholars have examined the significance of skill development in the Indian setting from a macro-level and meso-level viewpoint, but they have disregarded the value of micro-level research, particularly in the context of "individual skill development." The macro-level benefits described by the studies include poverty reduction, reaping the demographic dividend, socio-economic empowerment of vulnerable groups, economic growth in a knowledge-based economy, the prevention of social ills such as child labour through bargaining, and the generation of employment, rapid inclusiveness, and sustainable growth. At the meso-level, employees' skill development assists organisations in achieving growth, innovation, and entrepreneurial development role behaviour through improved self-efficacy, a turnaround strategy and a non-financial inducement for increasing job satisfaction.

In 1961, the Indian government enacted an Apprenticeship Policy, which has been updated throughout time to meet the evolving needs of business. Despite this, India's Apprenticeship Policy is subject to cumbersome bureaucratic procedures that impede the efficient operation of apprentice training. According to one estimate, only 0.1% of the formal labour force in India participates in apprenticeships, compared to 4% in other nations. In this context, a cursory examination of research on India's apprenticeship programme reveals that they have mostly focused on examining India's age-old apprenticeship policy while ignoring lessons that might be learned from the experiences of other nations. In the government's efforts to extend the apprenticeship programme in India, it is crucial to solve these obstacles. While it is acknowledged that such endeavours cannot be imported as-is into our system, it will undoubtedly aid in the construction of a programme that helps to expand the country's apprenticeship programme.

The National Apprenticeship Scheme was established voluntarily in 1959. The Apprentices Act, enacted in 1961, gave it statutory authority, and it was implemented beginning in 1962. There have been extensive revisions to the Act over the years, each time making it stronger. The Act requires establishments covered by the Act to hire apprentices and provide theoretical training as well as providing such trainees with actual instruction. Exhaustive apparatus, or a combination of the central government and the state government have been constituted with many subordinate

authorities guarantee effective implementation of the Act. The Ministry of Capability Growth and Entrepreneurship and the Ministry of Human Resource Development are the administrative ministries responsible for enforcing the Act.

The state governments accountable for the effective implementation of the Act and its policy systems within every state. In India, apprentices receive both on-the-job training and fundamental instruction. Basic Training is vital for those who have not received any form of formal education. The training occurs within the bounds of the employer's establishment. In India, training is provisions for four categories of apprentices, including trade apprentices, optional trade apprentices, non-trade apprentices, and non-trade apprentices. To present, the Act has covered 259 types of industries, out of which 28,500 have been categorised as hazardous establishments engage apprentices. The length of training for trade apprentices varies from six months to four years, depending upon the requirements of the stated profession. The respective trade prepares and finalises the syllabi for each trade committees comprised of industry specialists. Additionally, apprentices are given the National Certificate of Apprenticeship upon completion of apprenticeship programme.

In the meanwhile, the legislation and later amendments detail the stipend/allowance to be paid to trainees of different levels. Employers bear the cost of stipends for apprentices in a trade. Costs associated with stipends for graduate, technician, and technician positions (vocational). The cost of training an apprentice is split equally by the employer and the federal government. To make matters simpler apprentices now have access to a platform where employers can upload trade-specific information demand of apprentices. This is to facilitate the requirement to balance supply and demand requirements of apprentices. Apprentices are increasingly encouraged to apply online, and apprenticeships are available online contract approval would also be available. The primary goal of the National Apprenticeship Program Plan to expand the number of apprentices to 50 million by 2020. To reach this objective, the Changes mandated by the government require industrial enterprises to hire apprentices between 2.5% and 10% of the entire workforce. In addition, incarceration punishments have become more prevalent been replaced with a penalty consisting of an initial punishment of Rs 500 and, for repeated infraction, a fine of Rs 1,000.

Following increased tax of Rs 1,000 Despite this, the apprenticeship policy does not have widespread support industries or with skilled youth aspirants. Among its causes are a mismatch between demand and supply Too many parallel programmes and a lack of coordination; a lack of synergy on the availability of competent labour. between oversight and operational authority

### **Review of literature**

A review of the literature lets the researcher dig deeper into the problem at hand and see how it applies to a wider range of situations. This helps them come up with new ideas, explanations, and hypotheses. The last and most specific reason to look at related literature is to find out what suggestions for more research were made by previous researchers and listed in their studies. How long the review is will depend on how many relevant articles there are and what the research report is for. Reviewing the related literature helps the researcher get up to date on what is known in the field or area where the research will be done. By looking at the related literature, the researcher can figure out what the limits of his field are and, in turn, what his problem is. The current researchers have looked at the literature about skill development programmes in India. This will help them understand what research has been done in the field and where more research is needed.

### **Sharpe, A. & Gibson, J. (2015). The Apprenticeship System in Canada: Trends and Issues. Ottawa: Centre for the Study of Living Standards.**

This report explores the Canadian apprenticeship system in context of the dual 'school-to-work' and 'skills shortage' policy agendas. In particular, the report seeks to address the following questions:

- What factors affect employer demand for apprentices?
- What factors affect students' decisions to enter the apprenticeship system?
- What is the principal constraint on apprenticeship registration?

- What accounts for the low apprenticeship completion rates relative to other forms of postsecondary education?
- Given the constraints, what is the most appropriate role for the apprenticeship system within the postsecondary system as a whole, from both a school-to-work and a skills deficit perspective?
- What kinds of reform may achieve this role?

The paper contains a useful jurisdictional comparison of apprenticeship systems. France and Germany are recognized as having particularly successful systems. Both these nations utilize extensive third sector (labour unions, industry organizations) regulation combined with targeted government intervention. The US, UK and Canada use a more market-oriented method for regulating apprenticeship, leading to a general rather than vocational focus in their respective postsecondary education systems.

The paper highlights the following trends in apprenticeship education in Canada:

- Since 1977, apprenticeship has grown at a rate comparable with the overall higher education system, although it remains a small part of the postsecondary sector.
- Apprenticeship registration is cyclical and corresponds to the unemployment rate.
- Apprenticeship registration varies by trade group, province, and gender.
- The number of female apprentices grew throughout the 1990s. However, this growth was concentrated in particular fields (food and service trades). The share of female registration in 'traditional' trades (construction, electrical, heavy equipment) actually fell between 1991 and 2002.
- While apprenticeship registration has grown substantially, the number of completions has not grown proportionally. The paper also identifies employment instability and a negative societal perception of the trades as serious barriers to increased apprenticeship registration and completion rates. The paper concludes that the market for apprenticeships is principally constrained by employer demand rather than supply of potential apprentices. Therefore, reform of the apprenticeship system in Canada should focus on three main principles:
  - Improving the quality, rather than quantity, of apprenticeship candidates.
  - Financial incentives directed towards firms, rather than apprentices.
  - The creation of strong apprenticeship sectorial committees to improve apprenticeship and help employers make investments in training.

The paper also advocates 'laddering' apprenticeship into the postsecondary education system, and opting for a more modularized delivery format.

**Singh and Sanjeev (2016) "Need for Re-Skilling Training for the Make in India Initiative.** "The goal of this study was to find out what makes employees in an organisation feel differently about skill training. IT companies in Delhi and the National Capital Region take part in an empirical study (NCR). The goal of the research is to find out more. The top people in the organisation were given a structured questionnaire. The test was given to at least 10 employees in a company who worked in different functional areas. The employees of these companies were given a list of 18 statements that showed how much they agreed with the variable. On a 5-point Likert scale, where 1 means "strongly agree" and 5 means "strongly disagree," the items were graded. After pilot testing in two organisations and making changes based on the results, these statements were chosen. Employees agree that re-skilling is important for job growth and helps them learn new technology and skills. This is one of the study's findings. They think that re-skilling gives them better growth opportunities and improves the organization's overall performance. The study also found that giving employees the right skills is very important if they want better job opportunities. Companies should put more focus on re-skilling instead of hiring IT pros to save time and money. The research suggests that employee attitude towards re-skilling is influenced by factorlike Need oriented, Appropriate re skill training ,Soft skill training ,Value Addition, Updated knowledge and Advanced Growth. Further the managers involved in the planning of skill training and re-skilling programme must consider these factors.

**Shrivastav and Jatav (2017) in their work "An Analysis of the Pros and Cons of Skilling India."** The main goal of this paper was to look at India's chances and problems with skilling. The study's

specific goals were to look at and analyse the Indian experience with skill development and to look at the problems that skill development in India faces in terms of money. For the study, information has been taken from secondary sources. The data came mostly from the Ministry of Micro, Small, and Medium Enterprises (MSME), the websites of the different start-up companies, the websites of the different government agencies, and their annual reports. The study showed how the different types of programmes started by the Government of India can create jobs in India for people who have the new skills needed by the industry. The study looks at the overall status of the skills that are available, the skills that are needed, the skills gap, and the steps that the Indian government is taking to help with skill development. India's current policy for developing skills needs to be fixed right away. The institutional structure needs to be made easier to understand, with more money spent on training infrastructure and a focus on supporting a casual labour force. There should also be incentives for the private sector to get involved.

**"Skill Development, Employability, and Entrepreneurship through Make in India: A Study," which was done by Prasad and Purohit 2017.** The study's goals were to understand the current state of skill development in India through a review of the literature and the effect of the Make in India initiative on employability. The paper is based on exploratory research using secondary data and information found in libraries, relevant books, journals, magazines, articles, media reports, and government portals for Make in India, Skill India, etc. The type of research design used for the study is descriptive. This is because the needs of the study's goals were taken into account. The authors did this to make the research study more accurate and in-depth. A lot of secondary data that was already out there was used for the study. The study came to the conclusion that the overall status of skill capacity available, skill requirement, skill gap, and initiatives taken by the Government of India for Skill Development. To make the "Make in India" project work, the youth of the country should be given formal education, technical training, and vocational training so that they can meet the needs of the market and industry according to global standards. Even though there have been many efforts and investments to improve the skills of a large number of workers, the System has serious flaws. Even though the government has put a lot of money into training costs and infrastructure, it is still impossible to create a strong workforce for the industry. As a fast-growing economy, India needs more than just white-collar and blue-collar workers. It also needs grey-collar workers with ICT skills, problem-solving, analytical, and good communication skills, as well as rust-collar workers with skills at the ground level in currently unorganised and un-benchmarked sectors like construction, agriculture, and related trade. The training for jobs should begin in high school. The curriculum for professional courses like Engineering and MBA should be set up so that students get full on-the-job training. This would help students get ready for the job market. Training needs to be made better and to a higher standard. Training in both technical skills and soft skills will get you where you want to go

**West, J., & Chatani, K. (2018).**in their report **Tools for quality apprenticeships: a guide for enterprises** where they summarise the success factors of apprenticeship training. The authors state that - When replacing or expanding the trained personnel that serves as the foundation of their company, businesses turn to apprenticeships to meet their regular skill demands. Compared to recruiting skilled individuals from the labour market, this is frequently more affordable and produces production of a higher quality. Additionally, providing apprenticeships strengthens bonds with the community. In order to give apprentices the theoretical foundations for technical training, businesses must collaborate with vocational schools. In these schools, it's crucial to cultivate positive relationships with the employees. When businesses have the option to choose the colleges and programmes that their apprentices will enrol in, they negotiate the benefits that will be offered. In certain instances, new apprenticeship programmes have been created in collaboration between businesses and schools. Businesses either have contractual agreements with apprentices or with the middlemen who coordinate apprenticeship programmes among several businesses. The terms and conditions are typically comparable to those for ordinary employees, but they frequently include need the apprentice to provide and receive training and to understand the responsibilities of the different managers, supervisors,

teachers, and assessors that they will come into contact with. Businesses that offer apprenticeship training benefit from a defined separation of stakeholder roles and obligations as well as a national regulatory framework on quality apprenticeships. Sectoral frameworks or norms that have been established for the particular employment frequently impact the training plans for apprentices. Enterprises must still customise training to meet their unique needs and what they can actually deliver. Plans must be made for the apprentice's on-the-job experiences, which will take the form of the roles they will play and the departments of the company they will work in, as well as for their off-the-job training (a curriculum). As the apprentice advances, plans are evaluated. The workplace is made training-ready by businesses by ensuring proper health and safety, training or briefing supervisors and experienced workers who will instruct apprentices, making sure new apprentices are well-informed prior to beginning work and training, and creating exercises and projects that will add depth and challenge to the training. Apprentices with impairments or other special needs require extra consideration. Firms pay close attention to hiring, doing everything they can to increase the number of potential candidates. Selection criteria frequently place more weight on attitude and motivation than on exam performance. In addition to interviews, the hiring process frequently includes work trials, familiarisation visits, and aptitude testing. Some businesses actively seek out candidates with disabilities or from underrepresented groups. Businesses have established procedures for keeping track of their apprentices' development. They all understand that dropping out is expensive and should be prevented. Firms (or the intermediary organisations that support them) perform reviews at preset stages and have arrangements for informal discussion of progress and issues with their apprentices in addition to formal assessments to acknowledge success towards certifications.

**Singh and Kaur (2018) "A Study on How Painting Skills Grow and Change Paint Industry."** The goal of the study is to figure out why there is a lack of skills in the paint industry and what can be done about it. For the study, first-hand sources of information were used. A self-designed questionnaire was given to 130 painters who work in the Kurukshetra district to get information. The study's results showed that the main reasons why there aren't enough skilled painters are a lack of formal training and not enough training opportunities for painters. The results of the current study show that the paint industry needs more skilled workers. The quality of work is always a sign of skill. If there aren't enough skilled painters, works might not be very good. Poor paintings are made by painters who aren't skilled. Training has a big and positive effect on how well people do their jobs. This shows that painters don't have enough formal training. They haven't been trained in a formal way, so they don't have a certificate or diploma. Even young people who want to work in this field don't get any formal training. Painters don't know enough or have enough skills. They used to learn from their family and friends on the side. Because of these things, their performance is not good enough. Also, the level of knowledge and skills right now isn't enough to use the new equipment's and ways of painting that work. There is a lack of skills in the paint business. There are many problems that the painters have to deal with. It's hard for painters to find work. They don't get paid for their work on time. The painters work at heights, and there is nothing in place to keep them safe. Painters should have insurance to cut down on the risk.

**Ansari and Khan (2018), carried out a look at the "Role of Education and skill building to help people find jobs in India".** The goals of the study were to look at and highlight the current state of education in terms of skill development, as well as to make some suggestions based on the study's observations and analysis. The study is based on data that was already out there, like reports, surveys, books, websites, news articles, etc. Taking into account the needs of the study's goals, the descriptive type of research design is used for the study. In conclusion, developing skills in India is important from both a social and economic point of view and from a demographic point of view. It is an important tool for reducing poverty, making people more competitive and employable, and encouraging young people to start their own businesses. With this new approach, our economy will definitely reach its goals. In India, about 12 million young people enter the workforce every year. Most of them don't have much education or work experience, so if they can't find jobs because they don't have the right skills, it could cause a lot of social unrest. Now is the time to stop spending money on that flawed method

and fully adopt the training-based model that has been proven around the world. In particular, to move further into a knowledge-based economy, to promote industrial development, and to reach high economic growth, For a country to grow, it needs to put more money into education and training for young people. These two things need to be balanced.

**Gupta and Agarwal (2018) in their work "Training Prospects in India's Power Sector.** The study's goal was to find out what kinds of training are going on in the power sector. It also looks at the type and level of training offered, the type of organisation that gives such training, and how long the training lasts. The study will look at both public and private organisations that train people in the power sector. The study came to the conclusion that there are different kinds of training programmes for each level in the power sector, such as short-term, long-term, workshop, graduate, and post-graduate programmes. With the capacity of the sector growing, the need for manpower has already been figured out, and the power sector skill council is working to teach skills and increase the number of people who are directly employable for the industry. There are efforts to re-skill the current workforce and keep them up to date on the new opportunities and ways to get into the sector. Still, there's a difference between how many people are needed and how many are available. The Power Sector Skill Council and the National Skill Development Corporation have created new programmes, and to keep up with the standards, they have asked private companies to teach the youth of India new skills.

**Vidhyadhar T. Banajawad and Dr.Mukta S. Adi did a study called "A study on skill development programmes for rural youth in India" in (2020).** Their goal was to find out what the current situation is, what the problems are, and what the government is doing to help with skill development in India. The study concluded that skill development is currently gathering momentum and it is now evident that education and skills are fundamental in bettering employment opportunities, shrinking poverty,boosting productivity, and promoting environmentally sustainable rural development. The most important thing right now is to learn skills, policies, and plans for rural development. It is important for education to include skill-based training and a way to get a job in the industry. Skill development is needed now more than ever to help young people in rural India adapt to and meet current needs. Without this, rural development in the real sense will not happen. So, India and other developing countries with a large number of young people need to improve their education and skills right away.

**Anita Swain and Sunita Swain (2020) called "Skill Development in India: Challenges and Opportunities."** The goal of the study was to look at the information from the National Skill Development Corporation. It came to the conclusion that India, which is the second most populous country in the world and has a population of about 60% young people, has a "demographic dividend" that should be used to help the country's economy and the "Make in India" campaign by giving the country a skilled workforce. For the "Skill India" mission to help create more jobs in the country, there needs to be more focus on entrepreneurship skills. The government of India has started many programmes, such as PMKVY, DDU-GKY, and others, to help young Indians get skills and find jobs. Indian youth should know about these programmes, get the training they need, and improve their skills so they can get jobs. Dr.

**Chandra Sekhar Dash and Shilpa Dash did a study in (2020) called "Skill Development Mission and the Skill Landscape of India: An Empirical Study."** The goal of the study was to figure out how India's skill landscape was changing because of new technologies, globalisation, and the ability of people to work anywhere in the world. The study's results show that, despite the good things about the "Skill India Mission," there are still problems with gender inequality and sectoral imbalance in skilling, training, and job placements.

**Weimann (2021) in his research "German-style dual apprenticeship training in the Greater Shanghai Area- Spatial Agglomeration Dynamics"** states that the Greater Shanghai Area is home to a sizable number of German multinational companies (MNE). German MNEs in the industrial sector

have a propensity to transfer German technical training models—more especially, dual apprenticeship training in the German style—to their global affiliates. This is especially true of China's Greater Shanghai Area, which over the past 15 years has emerged as a "hotspot" for dual apprenticeship training. By concentrating on variables impacting the geographical agglomeration of dual apprenticeship training activities in this area, this article examines what makes the Greater Shanghai Area such a "hotspot" for dual apprenticeship training—in international comparison. The study identifies unequal institutional resource distribution with relation to luring German foreign direct investment as well as uneven resource distribution at the system level of skill building as significant influencing variables. Both variables exhibit "self-reinforcing" dynamics that reinforce the geographical cluster of dual apprenticeship training activities that already exists. This essay builds on pre-existing theories on how institutions might affect the development of dual apprenticeship training when seen as resources. By demonstrating how these institutional resources can be unequally distributed across a nation's territory, the paper contributes to scholarly discussions on the transfer of dual apprenticeship training. More significantly, this work advances the idea of "regional agglomeration self-reinforcement loops" for dual apprenticeship training activities based on empirical observations. This idea captures how a region's initial concentration of dual apprenticeship training leads to a higher regional concentration of this training practice. The regional scale has been significantly underexplored in research on the formation of dual apprenticeship training outside of Germany, as more fully discussed in the literature debate (as well as in studies on practise transfer and in vocational education studies. Opening up conceptual explanations for the empirical phenomenon of regional agglomeration in dual apprenticeship training is the idea of unevenly distributed institutional resources as well as the comprehension of regional agglomeration's self-reinforcing loops.

**Böhn, S., & Deutscher, V. (2022). Dropout from initial vocational training—A meta-synthesis of reasons from the apprentice's point of view.** Internationally, vocational education and training (VET) has to deal with some big problems, one of which is the number of contracts that are broken early. A lot of the research that has been done in this area in the past has focused on finding and analysing the reasons why apprentices quit from their point of view. Because previous studies focused on different things, it has been hard to get a full picture of why contracts are broken early. In this situation, the goal of this paper was to sum up the most important cross-study and cross-sector findings. So, the current state of research was looked at in a systematic way and synthesised: There were 70 studies that were taken out, and 666 possible dropout variables were put together based on 68 categories. Because of this, a group of empirically found factors were put together and put into a framework model of early contract termination. Results show that most of the research done in the past has been on the reasons why people drop out. At the same time, much less attention has been paid to the learning environment in the workplace. Also, the results are only the same for a small number of dropout categories. Quantitative studies show that the chance of dropping out goes up if the training wage is low, if the training occupation is not the apprentice's dream job, if the apprentice has a low level of education, if they don't do well in training, if they have a learning disability, if they are getting older, or if they are from a migrant background. Lastly, studies show that there are big differences between each training occupation.

**Suyitno S, Kamin Y, Jatmoko D, Nurtanto M and Sunjayanto E (2022) Industrial Apprenticeship Model Based on Work-Based Learning for Pre-service Teachers in Automotive Engineering** mention that over the past few decades, the lack of professional competence among vocational educators has become a crucial problem. This issue arises from the fact that few vocational teachers have had practical job experience in the field. The industrial apprenticeship programme is one of the suitable methods for improving vocational skills. Although there are many studies that cover apprenticeships, there are still few that look at successful apprenticeship programmes to raise the proficiency of pre-service instructors at vocational high schools for automotive engineering. Therefore, the purpose of this study is to evaluate the creation of an industrial apprenticeship model based on Work-Based Learning (WBL) and its efficacy in raising pre-service teachers' competency in the

subject of automotive engineering at Vocational High Schools. This project comprises two campuses in Central Java, Indonesia, and employs an Education Research and Development (R&D) methodology. The preliminary study included 20 pre-service vocational instructors and three industrial stakeholders. The purpose of the preliminary study is to learn more about the demands and issues with the apprenticeship programme. In a follow-up research to evaluate the efficacy of the apprenticeship programme, 12 industry parties and 60 pre-service vocational instructors participated. Purposive sampling is the method of sampling that is employed. According to the study's findings, the industrial apprenticeship model for pre-service vocational instructors in the field of automotive engineering based on WBL was deemed practical. A WBL-based industrial apprenticeship can also help pre-service instructors of automotive engineering become more competent in terms of their knowledge, attitudes, and abilities in the subject. The findings of this study have consequences for practitioners in vocational education, particularly higher education, which designs teacher education programmes, and encourages the use of this apprenticeship model in training future vocational educators. This is due to the WBL-based industrial apprenticeship model's critical contribution to pre-service vocational instructors' improvement of their vocational abilities.

### **Practical implications**

The outcomes of the study provide researchers and other relevant stakeholders with a concise report on the findings of previous studies. It also provides insight into strategies for improving the completion rates of apprenticeship training in the manufacturing sector. A systematic evaluation of the extant literature draws on theoretical evidence and highlights the factors that are more likely to influence the outcomes of apprentice training for skill development.

### **Conclusion**

Apprenticeship training programmes for Skill development is a topical issue within the industry. Its importance could be attributed to the number of resources committed to apprenticeship training programmes, and to the ageing workforce and labour shortages experienced in the manufacturing industry. A systemic review was conducted in the present study to gain insights into the factors responsible for the outcomes of apprenticeship training programmes for skill development in the manufacturing industry, as a better understanding of issues affecting apprenticeship training can help develop strategies for improving its outcomes and improving productivity in the manufacturing sector. The findings unearth the trends and gaps in the current knowledge relating to the outcomes of apprenticeship training for skill development in the manufacturing sector. Regarding frequency, the study found that monitoring and control is the most mentioned factor that supports the completion of apprenticeship training. In contrast, the time required for conducting training is the most common factor affecting the outcome of apprenticeship training. Concerning geographic distribution, studies have primarily focused on developed countries. The present study also reveals that interviews and questionnaires were the dominant research methods used for data collection in previous studies. Based on the review of relevant studies, three research gaps were identified: namely, the phase of knowledge development (previous studies have focused mainly on describing the problem), overreliance on specific research methods, and the fact that little or nothing is known about the outcomes of apprenticeship training programmes in developing countries. The primary scientific value of the current study for the field of manufacturing management lies in its contribution to the existing literature on craftspeople apprentice training programmes in the manufacturing sector. It also contributes to the on-going debate on the need to fill the skill shortage gap in the manufacturing industry. In this regard, first, the findings provide relevant stakeholders (private apprentice training providers, employers and government funding agencies, among others) with the information needed to improve the outcomes of apprentice craftspeople training. Second, the result of the study provides the background information required to inform future research efforts on this subject by management scholars.

## References

- Ansari, T. H., & Khan, M. A. (2018). Role of Education and Skill Development to Promote Employment in India. *Skill India Opportunities and Challenges*, 208-214.
- Banajawad and Adi (2020) A STUDY ON SKILL DEVELOPMENT PROGRAMMES FOR RURAL YOUTH IN INDIA. *International Journal of Education, Modern Management, Applied Science & Social Science (IJEMASSS)* 38 ISSN : 2581-9925, Volume 02, No. 04, October - December, 2020, pp.38-41
- Böhn, S., & Deutscher, V. (2022). Dropout from initial vocational training—A meta-synthesis of reasons from the apprentice's point of view. *Educational Research Review*, 35, 100414.
- Dash, C. S., & Dash, S. (2020) Skill Development Mission and the Skill Landscape of India:-An Empirical Study. *International Journal of Innovative Science and Research Technology*, ISSN No:-2456-2165, Volume 5, Issue 10, October – 2020.
- Garcia, I., Pacheco, C., Méndez, F., & Calvo-Manzano, J. A. (2020). The effects of game-based learning in the acquisition of “soft skills” on undergraduate software engineering courses: A systematic literature review. *Computer Applications in Engineering Education*, 28(5), 1327–1354. <https://doi.org/10.1002/cae.22304>
- Glazunova, O., Voloshina, T., & Korolchuk, V. (2020). Hybrid cloud-oriented learning environment for IT student project teamwork. *Information Technologies and Learning Tools*, 77(3), 114–129. <https://doi.org/10.33407/itlt.v77i3.3210>
- Golowko, N. (2018). The need for digital and soft skills in the romanian business service industry. *Management and Marketing*, 13(1), 831–847. <https://doi.org/10.2478/mmcks-2018-0008>
- Gupta, D., & Agarwal, S. (2018). Training Prospects in Power Sector in India. *International Journal of Research in Engineering IT and Social Sciences*, 8, 305-314.
- Holohan, A., & Holohan, A. (2019). Transformative Training in Soft Skills for Peacekeepers : Gaming for Peace Transformative Training in Soft Skills for Peacekeepers : Gaming for Peace. *International Peacekeeping*, 0(0), 1–23. <https://doi.org/10.1080/13533312.2019.1623677>
- Ibanez-Carrasco, F., Worthington, C., Rourke, S. & Hastings, C. (2020). Universities without Walls: A Blended Delivery Approach to Training the Next Generation of HIV Researchers in Canada. *International Journal of Environmental Research*, 17, 4265.
- Jonassen, D. (2011). Supporting Problem Solving in PBL. *Interdisciplinary Journal of Problem-Based Learning*, 5(2), 9–27. <https://doi.org/10.7771/1541-5015.1256>
- Laker, D., & Powell, J. (2011). The Differences Between Hard and Soft Skills and Their Relative Impact on Training Transfer. *Human Resource Development Quarterly*, 22(1), 111–122. <https://doi.org/10.1002/hrdq.20063> 111
- Lyons, P., & Bandura, R. P. (2020). Skills needs, integrative pedagogy and case-based instruction. *Journal of Workplace Learning*, 1–15. <https://doi.org/10.1108/JWL-12-2019-0140>
- Mahajan, R., Gupta, P., & Singh, T. (2019). Massive Open Online Courses : Concept and Implications. *Indian Pediatrics*, 56, 489–495. <https://link.springer.com/article/10.1007/s13312-019-1575-6>
- Marques, J. (2013). Understanding the Strength of Gentleness: Soft-Skilled Leadership on the Rise. *Journal of Business Ethics*, 116(1), 163–171. <https://doi.org/10.1007/s10551-012-1471-7>
- Martins, H., Rouco, C., Piedade, L., & Borba, F. (2020). Soft Skills for Hard Times: Developing a Framework of Preparedness for Overcoming Crises Events in Higher Education Students.
- Merilainen, M., Rikka, A., Kultima, A., & Stenros, J. (2020). Game Jams for Learning and Teaching: *International Journal Of Game-Based Learning*, 10(2), 54–71. <https://doi.org/10.4018/IJGBL.2020040104>
- Miller, A. (2018). Innovative management strategies for building and sustaining a digital initiatives department with limited resources *Digital Library Perspectives*, 34(2), 117-136.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Reprint- Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. 89(9), 873–880. <https://academic.oup.com/ptj/article/89/9/873/2737590>

- Prasad, J., & Purohit, D. G. M. (2017). Skill Development, Employability and Entrepreneurship through Make in India: A Study. *Journal of Engineering Research and Application*, 7(12), 18-28.
- Sanjeev, R., & Singh, A. (2016). Need for re-skilltraining towards make in India initiative. *Independent Journal of Management & Production*, 7(4), 1115-1125.
- Sharpe, A., & Gibson, J. (2015). The apprenticeship system in Canada: Trends and issues (No. 2015-04). Ottawa: Centre for the Study of Living Standards.
- Shrivastav, R. K., & Jatav, A. (2017). An Analysis of Benefits and Challenges of Skilling India. In 9th International conference on science, technology and management, Indian Federation of United Nations Association, New Delhi (India) ICSTM-17, 14th October.
- Singh, S., & Kaur, K. (2018). A Study on Skill Development of Paint and Coating Industry. *Kurukshetra University, Kurukshetra–Haryana*, 5, 2348-1269.
- Suyitno S, Kamin Y, Jatmoko D, Nurtanto M and Sunjayanto E (2022) Industrial Apprenticeship Model Based on Work-Based Learning for Pre-service Teachers in Automotive Engineering. *Front. Educ.* 7:865064. doi: 10.3389/educ.2022.865064
- Swain.A & Swain .S(2020),. **SKILL DEVELOPMENT IN INDIA: CHALLENGES AND OPPORTUNITIES** *International Journal of Scientific Research and Engineering Development—* Volume 3 Issue 6, Nov-Dec 2020
- West, J., & Chatani, K. (2018). Tools for quality apprenticeships: a guide for enterprises.
- Wiemann, J. (2021). German-style dual apprenticeship training in the Greater Shanghai Area-Spatial Agglomeration Dynamics. *International Journal of Training and Development*, 25(4), 383-401.

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