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FOR RESEARCH IN ACADEMICS  
(SRI-VIPRA)**



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**Report**

**SVP-2352**

**“Skill Enhancement & Development in India  
A Comparison with China”**

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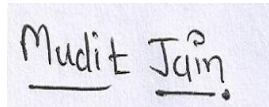
## SRIVIPRA PROJECT 2023







**Title**  
**Skill Enhancement & Development in India**  
**A Comparison with China**

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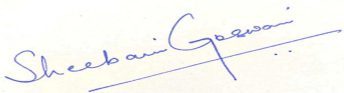
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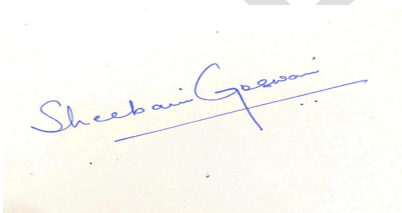
**Signature of Mentor**



### **Certificate of Originality**

This is to certify that the aforementioned students from Sri Venkateswara College have participated in the summer project SVP-2352 titled “ **Skill Enhancement & Development in India - A Comparison with China** ”. The participants have carried out the research project work under my guidance and supervision from 15 June, 2023 to 15<sup>th</sup> September 2023. The work carried out is original and carried out in an online/offline/hybrid mode.

**Signature of Mentor**

A rectangular box containing a handwritten signature in blue ink. The signature reads "Sheebani Goswami" and is underlined.

## **Acknowledgements**

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## TABLE OF CONTENTS

<b>S.No</b>	<b>Topic</b>	<b>Page No.</b>
1.	Introduction	13–25
2.	Literature Review	25-37
3.	Demand and Supply Side Story: Has Equilibrium Been Achieved?	37-51
4.	Conclusion	51-54
5.	Bibliography	54-56

# THE INTRODUCTION

## 1.1 Skill Development In India: A Backdrop

In recent years, skill development has emerged as a critical aspect of economic growth and social development in countries around the world. With globalization and the increasing demand for a highly skilled workforce, nations across the globe have recognised the significance of a skilled population as the driving force in meeting the challenges of this rapidly evolving global economy. The importance of skill development cannot be overstated, and India stands at the forefront of this transformative journey.

Being the world's second-most populous country, with a population exceeding 1.4 billion people, India possesses a vast reservoir of human capital. However, it also grapples with high levels of unemployment, low education levels, and a significant skills gap that hinder its ability to fully leverage this demographic dividend that comes once in the life of any nation.

The proportion of working-age individuals (typically aged 15-59) in a nation's population is a key driver of its GDP growth. This ratio measures the benefits gained from an increase in the number of working-age individuals in comparison to the dependent or non-working population (usually those under 15 or over 60 years old). When the share of the population above 60 years exceeds 10% of the total population, the United Nations (UN) defines that society as aging. China's demographic dividend will be over by 2015; India's is expected to continue till about 2040 (World Bank 2012).

Only 4.7% of the total workforce in India had received formal skill training, compared to 52% in the US, 80% in Japan, and 96% in South Korea, further highlighting the challenges ahead in the Indian government's ambition to make India the "Skill Capital of the World."

***What are skills ?***



Skill is generally constructed as one's ability to successfully carry out a given work. The need for skill development is to bridge the skill gap and be ready for the future. One may possess it naturally or develop it step by step over time. It may be soft skills which highlight someone's characteristics like communication skills, leadership skills, creativity etc or hard skills which are enhanced through education and experience. With globalization, there has been an increased demand for a highly skilled workforce or a high demand for skill development.

### ***History of skill development in India***

Skill development has appeared as an essential feature for Economic Growth and development, and India has made substantial efforts to address these challenges. The government of India has launched various skill development programs and initiatives, aiming to bridge the gap between the demand and supply of skilled workforce. These initiatives range from formal education reforms to vocational training programs, apprenticeships and entrepreneurship development schemes.

In the 1990s, the IT industry and Service sector began to grow, but there was a slowdown in the manufacturing sector. Today the pursuit of skill is emerging on a larger scale; the success of digital India has made access to resources an efficient process. The government is also holistically understanding the growing demand for skills in India. Atul Kumar Tiwari, secretary of the Ministry of skills development and Entrepreneurship (MSDE), stated, "There is an increasing realization that skilling is an important career pathway"

The National Skill Development Corporation (NSDC) and its associated sector skill councils have played a vital role in coordinating and implementing skill development initiatives in India. The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and the Skill India Mission 2015, which aims to train over 400 million people by 2022, encouraged positive changes in India's vocational training system. Indian youth across diverse sectors are to be skilled, promoting entrepreneurship and creating a culture of lifelong learning.

It is vital to escalate these initiatives, as India is in a position today where it understands the value of its 65% working-age population, and the idea should be to use it efficiently to maximize outcomes.

Thus, our analysis aims to contribute to the understanding of how India can effectively nurture and harness its human capital to drive sustainable economic growth, promote social development, and create a workforce ready for the challenges of the 21st century. However, harnessing this potential requires a focused and strategic approach to skill development, bridging the gap between education and employability, and fostering an ecosystem conducive to innovation and economic advancement.

## 1.2 Policy Initiatives On Skill Development

With its large population and expanding economy, India recognises the critical role of skill development in achieving long-term growth and inclusive development. In recent years, the government has placed a considerable emphasis on policy efforts targeted at improving the skill sets of its people, providing them with the knowledge and talents required to prosper in a fast changing employment market. The establishment of the first **Industrial Training Institute in 1969** marked the beginning of the period of vocational education and skill training. **The All India Council of Technical Education Act of 1987** became the official college regulator in 1987.

**The National Skill Development Corporation (NSDC)**, which was established to finance vocational training and assist skill development systems, was founded in response to the need to include more private sector organizations in the system. The NSDC carried out a number of policy initiatives with a focus on short-term training and placement programmes, including the **State Skill Development Mission** and the **Aajeevika Programme**. The economic expansion after 1991 did not lead to an increase in employment, which led to a skills gap in the labor market. These difficulties demonstrated the urgent necessity for a skill development programme in the nation. By introducing the skill development strategy in 2009, a wide policy framework was put into place in accordance with the recommendations of the five-year plan. In 2013, **The National Skills Qualifications Framework (NSQF)**, a quality assurance framework that arranges qualifications according to a variety of levels of knowledge, skills, and aptitude, was authorized by the Cabinet Committee on Skill Development. This framework was essential to maintaining diversity, development structure, and skill set.

In 2014, **The Ministry of Skill Development & Entrepreneurship** was formulated which is in charge of coordinating all Skill Development efforts across the country, bridging the gap between

demand and supply of skilled labor, developing the vocational and technical training framework, skill up-gradation, the development of new skills, and innovative thinking not only for existing jobs but also for jobs that will be created. In 2014, the **Apprentices (Amendment) Act** was introduced according to which, trade apprentices who have not had any prior institutional training must receive basic training before being admitted to the workshop for practical training. Such training may be provided by any institute with adequate facilities. **The Skill India Mission** was launched in 2015 under which **Pradhan Mantri Kaushal Vigyan Yojana** was introduced which encouraged the standardization of the certification process and laid down the groundwork for creation of skills registration. Over 10 million youths have benefited from this policy in a four year time period, 2016-2020, by enabling and mobilizing a significant number of young people to participate in industry designed quality skill training, become employed and earn a living. In 2016, **Pradhan Mantri YUVA Yojana** was introduced which is a centrally sponsored Scheme on entrepreneurship education and training under the Ministry of Skill Development and Entrepreneurship, Government of India. The Scheme aims at creating an enabling ecosystem for Entrepreneurship development through Entrepreneurship education and training; Advocacy and easy access to entrepreneurship support network and Promoting social enterprises for inclusive growth. In order to strengthen institutional mechanisms for skill development and increase access to quality and market-relevant training for youth across the country, **Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP)** was launched on 19th January, 2018 with an implementation period till March, 2023. SANKALP is a World Bank loan assisted scheme with the present agreement between Government of India and the World Bank for \$250 million (Rs. 1650 Crore) In 2019, **National Entrepreneurship Awards 2019** were introduced by MSDE which conferred NEA 2019 to 30 Young Entrepreneurs and 6 Organizations / Individuals, building Entrepreneurship ecosystem in the country. The awards were presented to honor outstanding contributions in entrepreneurship development.

### **1.3 Comparing Skill Policies**

As seen so far, India has implemented a number of policy initiatives aimed at enhancing the country's well-being where different programmes covered a broad range of topics, including health, education and economic development. Of these, many projects have resulted in considerable improvements and hence have benefitted millions of lives. But, despite these achievements, considerable work has to be done to address the country's remaining social and economic difficulties.

To put India's policies in relation with other countries' policies is important as the market is highly globalized in the present context. Skill development policies play an important role in the workforce development, bridging the skill gap and pushing economic growth in countries across the world. With this context, a comparative analysis of skill policies of different nations provides valuable insights into different policies and initiatives adopted by them with relation to India. This part aims to compare the skill development policies of India, China, and Germany, shedding light on their policies for skill training, industry collaboration, and the focus on emerging new technologies.

## ***China and India***

China has recorded a double digit growth rate in the last two decades and one of the major reason behind this milestone achievement is China's comprehensive planning according to global trends. Also China shares stages with India across various regional and global groupings like BRICS, G-20 etc. Some of the key initiative which contributed in China's impressive growth when compared to India's are as follows :-

**Policies :** In China one of the key policy initiative was enactment of The Vocational Education Law of 1996, which provides legal backing to ensure the participation of private enterprises in vocational training. According to law it is mandatory for all enterprises to spend 1.5 percent of their total payroll towards vocational training and it also defines the roles and responsibilities of the Ministry of Education and Ministry of Human Resources & Social Security. Thus it provides a concrete framework for the Chinese vocational education and training system. Whereas in India there is no law for legal backing. Only NSDC is there which acts as a standard body for skill development initiatives in India. It collaborates with various industries, training partners, and some other stakeholders to facilitate skill training programs, promote entrepreneurship, and develop a skilled workforce.

**Participation of local government :** After the introduction of reforms in the year 1978, China has ensured the participation of local government in education system through fiscal decentralization and autonomy. The participation of local government in curriculum design made China's education system more flexible according to the requirements of local industries. On the other hand, in India Central government plays a key role in the education system. Also, NCERT act as a standard body for the design and structure of curriculum all over India. So, in India the participation of local government is almost negligible.

**Teacher training system :** Another important aspect of China's vocational education is the implementation of strict training and qualification for teachers and instructors. Teachers hired to teach at the senior secondary level and undergraduate colleges are required to hold undergraduate and postgraduate degree in that specific field respectively. In addition, teachers are required to undergo practical training in industry for appropriate duration so that they can remain at par with modern technologies. In India no such requirement is there for ITI instructors. Also there is no provision for mandatory practical training. So in India there is a need to align training programs with industry requirements, upgrade training infrastructure, and enhance the capacity of trainers to deliver high-quality training.

**Subsidies :** The Chinese government has recognized the fact that poor students face a financial cost if they undertake vocational education and to ensure the participation of poor students in VET schools, a national scheme was introduced to offer a subsidy of 1500 Yuan per year per student, for their first two years at secondary vocational schools. Also, since 2009, government has introduced an initiative to make tuition fees for senior secondary vocational schools free of cost for all students. In India though there is need for financial assistance but yet the government has not introduced any national level financial assistance programme specifically in the field of vocational education.

**Mobility and flexibility :** In China there is a greater flexibility and mobility for students after vocational education due to the system of national level college entrance examination. While in India there is no such streamlined system which results in lack of flexibility.

## ***Germany and India***

Germany is a leading manufacturing and innovation country, focusing on high-end products and sustainable workforce development. Its dual education system, combining classroom learning with practical training, ensures a skilled and adaptable workforce. Germany's strong emphasis on research and development has led to breakthroughs in various industries, cementing its reputation as a global leader in innovation. We will discuss below the causes that contributed to its growth and India's stand in reference to Germany:

**Policies :** Germany's skill development policy emphasizes dual education, apprenticeships, and strong industry involvement. The dual education system combines classroom learning with practical training, fostering a skilled workforce. Germany's industries actively shape vocational

education programs, ensuring they align with industry needs through close collaboration between educational institutions and businesses.

Skill development policies in India often lack a targeted approach that addresses the specific regional and sectoral requirements. Different regions and sectors have distinct skill gaps and demands, and a one-size-fits-all approach may not be effective. Policies should prioritize identifying and addressing the specific needs of different regions and sectors to maximize the impact of skill development efforts.

**Subsidies :** India's skill development sector faces challenges due to a lack of subsidy structure, making it difficult to provide adequate training and resources. The disparity between Germany and India highlights the need for a robust subsidy system to incentivize skill development and bridge the gap. While Germany emphasizes financial support, India may rely on public-private partnerships or government-funded training programs.

**Focus on future technology :** Germany's Industrie 4.0 strategy focuses on digital transformation in the industrial sector, integrating automation and automation. The country's dual education system incorporates emerging technologies, Technological Competence Centers, and fostering collaboration between industry and academia. India acknowledges the significance of future technologies and their job market impact. Skill development programs are integrated across AI, data science, IoT, and cybersecurity domains. The government establishes Centers of Excellence and Technology Innovation Hubs, bridging skill gaps through public-private partnerships, online learning platforms, and government initiatives.

**Teacher Training :** Germany's teacher education programs emphasize pedagogical skills and methodologies through coursework, curriculum development, instructional design, assessment techniques, and classroom management. Collaboration with industry partners ensures hands-on experience and strong bonds. Continuous professional development (CPD) is essential for teachers, offering training opportunities, workshops, seminars, and emerging technologies. Germany maintains high-quality standards through evaluation and accreditation processes, enhancing the effectiveness of teacher education and skill development.

India offers various teacher training programs to enhance educators' skills and knowledge, ensuring quality education. These include DIET, D.El.Ed., B.Ed., CTET, TET, NCERT Teacher Training Programs, and online platforms. Aspiring teachers should research and identify programs that align with their educational goals and requirements to ensure effective and quality education.

## 1.4 Need For The Study

The need for a study on the topic 'Skill Development and Enhancement and Development Comparisons with China' is important to clearly explain the problems and for developing new policies, schemes and solutions to all the problems. Skill development plays a crucial role in pushing economic growth and reducing unemployment. As technology gets advanced, it is important to stay connected to decision-making skills required for future job opportunities. By conducting a study on this topic, we can understand the current state of the workforce, identify areas for improvement and develop strategies to bridge the skill gap. It provides insights that can complement decision making. It also provides information on the effectiveness of existing skill development schemes and programs. To bridge the skills gap, it is important to focus not only on technical skills but also on soft skills such as communication, leadership and problem-solving. By addressing both technical and soft skills development, individuals will be equipped with a well-rounded set that is sufficient for the changing demands of the workforce. It provides data on the outcomes of various policies and initiatives which help policymakers to understand what works and what doesn't. This can help them to use the findings from the research paper to implement effective policies and programs for skill development. It displays innovative approaches, successful models, and strategies to have positive results. The study provides valuable information involved in skill development including government agencies, job seekers, and employers. Research papers on skill development in India often include comparative studies with other countries which allows policymakers to learn from best policies and successful models. Therefore it will help to address the need for skilled workers in various sectors of our country. This includes understanding the limitations to skill development such as lack of proper education and training, and identifying solutions and opportunities for improvement.

Moreover, Development Comparison with countries like China, which till the 1970s followed the same growth path as India, will help us know about the different initiatives taken thereafter to boost Skill Development in their country that were lacking or not been given consideration to in India. Analyzing skill development in both countries can reveal the effectiveness of their policies. By sharing their achievements and failures, policymakers can improve future policy implementation by making more informed decisions. Efforts to compare skillset in both the countries will assist in identifying the areas where collaboration and cooperation can be improved, resulting in mutually beneficial stances and enhanced regional stability. Also, comparing the educational and training systems of these 2 nations would thereby showcase their strengths and weaknesses, on which they can work on. Furthermore, initiatives on skill development are vital in fostering social and economic inclusion by giving underrepresented groups the chance to access better work possibilities.

Finally, it can be said that research on "Skill Enhancement and Development in India and Comparison with China" is of utmost importance for figuring out the future course of these two economic giants. Their capacity to improve and expand their skills has a direct impact on their economic growth, competitiveness, and job market stability as populous nations with abundant human resources. This analysis offers insightful information on how policies are created, allowing decision-makers to improve upon weak points and emulate effective tactics. Furthermore, by analyzing their educational and training systems, we can spot potential areas of cooperation as well as areas that need improvement. In conclusion, this research encourages a deeper understanding of the potential of the two nations, assisting them in utilizing their demographic dividends and promoting technological growth and innovation. By encouraging global cooperation and social and economic inclusion, both India and China can take use of their competent workforces by increasing social and economic inclusion and international cooperation, which will result in advantages for both countries and long-term regional stability in the global economy.

## **1.5 Objectives Of The Study**

This research paper has the objective to fulfill the following:

- 1) To determine the key elements impacting skill development initiatives in both countries- India & China.
- 2) To analyze the current state of skill upgrading and development programmes in India and China.
- 3) To understand the structural reform of India and identify reasons for the mismatch of supply & demand for labor.
- 4) To investigate the role of government policies, educational institutions, and industry collaborations in driving skill development and upgrade activities in India and China.
- 5) To make recommendations based on a comparative analysis, about best practices for improving skill development initiatives in India.

## **1.6 Hypothesis**

By examining the theme of the paper, the following hypothesis emerges:



- 1) The availability and accessibility of vocational training and apprenticeship programs vary between India and China, affecting the effectiveness of skill enhancement efforts.
- 2) Despite India's population advantage, China has achieved better outcomes in skill enhancement and development.

## **1.7 Methodology**

The research is mainly descriptive as well as analytical in nature. The data and information are derived from the relevant sources as per the need of research. The research depends on data that has been collected from various reputable sources like outlets, articles, scholarly journals and reliable websites. Articles and journals are used to improve awareness and understanding of the subject matter. Inputs from the Government and other reputable websites are used for current data, updates and policy initiatives in the field of skill development in India and China.

## **1.8 Scope of the study**

China has been a manufacturing leader for the past three decades, while India is on the way to becoming one of the largest economies by 2030. India has a large working-age population, but there is a need to use it to its maximum potential. China has a compulsory education system that has led to a high literacy rate and high employment rate for vocational school graduates. India is still in the early stages of developing its skill sector, but the government has set a target of 500 million skilled workers by 2022. The Indian education system has traditionally focused on book knowledge, but there is a growing shift towards competency-based learning and training. The government is working with private organizations to develop curricula, apprenticeships, and entrepreneurship programs to improve the skills of the workforce. The launch of the National Education Policy 2020 was a bold move that revolutionized the education industry in India. Both schools and colleges are expected to improve the educational standards of their students. The shift in the market from learning-based approaches to skill-based models is blamed on politics.

In short, China has a more developed skill sector than India, but India is making progress. The government of India is working to improve the skills of the workforce and to make the education system more competency-based.

## 1.9 Limitations Of The Study

**Data Reliability:** The study's dependence on big data, research reports, and other indirect sources may possess issues regarding the availability and reliability of the data collected. The accuracy and reliability of the data and information obtained from these sources can vary at large which can potentially impact the validity of the study's findings. It might also result in focus on some specific cases or contexts of the countries, which might limit the reliability of the findings to a broader population given the vast and diverse system in both the nations.

**Bias and Subjectivity:** Qualitative studies of this kind are largely subject to the researcher's interpretation of the data and findings collected by the indirect sources. From the selection of data sources to the analysis process the subjective judgment of the researcher is involved in almost every process of the study which while drawing conclusions can result in introduction of inherent biases that may affect the objectivity.

**Limited Scope of Analysis:** Due to the selected nature of the study, it might result in various constraints in the analysis and reaching the objectives. It may not be possible to explore all the dimensions of the skill development system comprehensively due to lack of time and resources. Some relevant factors that could significantly impact the study and further its objective may receive less attention or go unnoticed in the study. Conducting the study from the existing sources might be time-consuming but it can also result in the study's findings that are captured may not contain the most up-to-date developments in the skill development system of both the nations and due to the dynamic nature of the policies and ever changing socio-economic conditions of both the countries may limit the study's ability to provide real-time insights.

## 1.10 Plan Of The Study

The global landscape of economic development is interwoven with the abilities and competencies of its workforce, and cultivating a skilled workforce has become imperative as nations strive to position themselves as key players in the economy. This research study dives into the realm of skill enhancement and development, focusing on India and drawing insightful parallels with China. By dissecting India's economy through the lenses of demand and supply, we seek to understand the intricacies of skill development and ascertain whether equilibrium has been achieved between the demand and supply of skills within the nation.

Organized into three chapters, this study navigates through the landscape of skill development, with each chapter shedding light on its essential components. The paper commences with an insight into the rationale behind skill development, what it essentially means, and why it has become a must for any nation in this fast-paced world, along with the need and objectives of our study, the hypothesis, and the methodology used.

The next chapter commences with a comprehensive literature review that illuminates past research that has paved the way for our own research. The literature available on this subject is extensive, providing studies on present and anticipated demand for skilled labor, rates of literacy, projections for the availability of human resources (both skilled and unskilled) in the near future, as well as successful policy initiatives implemented in China that India can draw valuable lessons from.

To simplify the literature review, we have divided it into three parts: the demand side, the supply side, and the lessons drawn from China. The papers depict the inadequacy of our country's basic education system in meeting the needs of emerging sectors where the demand for skilled labor will overcome that of semi-skilled labor in the forthcoming years. They also highlight the low literacy levels in the nation, with a percentage of the population having received even below primary-level education. Most people are not qualified enough to get into the ITIs and thus remain stuck in the informal sector, which hinders their development and opportunities to rise. India needs to revamp its education system to teach practical, industry-relevant skills to meet the demands of technology-driven enterprises. Following China's approach of the TVET system, and the collaboration between universities, industry, and government can help bridge the prevalent skill gap and create a culture of lifelong learning and adaptability in the workforce.

The last chapter examines the demand and supply sides of skilled labor in India, and whether an equilibrium has been attained between the two, that is, if there is any mismatch between them or if the supply of skills and skilled labor is sufficient to meet its demand. The demand side portrays

labor market trends, tracing the trajectory of demand and supply of skilled labor over time. We also explore the specific skills in high demand, the structural and transformational shifts occurring within the industry and the job market with the evolving economy, and the challenges that structural development, though needed, poses to countries on their path to sustainable development.

On the other hand, the supply side examines the quality grading of Industrial Training Institutes (ITIs) in India's northern and central zones, assessing their efficacy as centers of skill development. This investigation enables us to gauge the supply side's readiness to meet the labor market's demands, along with recommendations and challenges. Through these lenses, we unravel whether the equilibrium between the supply of skills and the demand for labor has been achieved.