

The Impact of Vocational Education on Economic Growth and Development across the G20 Countries

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Abstract

This paper explores the impact of vocational education on economic growth and development. Vocational education refers to the education and training that prepares individuals for jobs that require specific skills or knowledge. The paper examines the economic benefits of vocational education, including job creation, increase in skilled labour, improved productivity, reduction of poverty, and contribution to GDP. The role of vocational education in technology advancement is also explored, as well as case studies of countries that have successfully implemented vocational education programs. Additionally, the paper discusses the challenges and opportunities for vocational education and provides recommendations for policymakers and stakeholders. The findings suggest that investing in vocational education can have significant positive effects on economic growth and development. Therefore, it is recommended that policymakers and stakeholders prioritize vocational education in their economic development plans and strategies. This paper explores the skills and innovation landscape in G20 countries. The aim is to understand the current state and trends in research and innovation within the G20 context. The paper concludes by providing policy implications for enhancing skills development and fostering innovation in these countries.

Keyword: Vocational education; Economic growth; Skilled labour; Technology advancement; Job creation; Policy recommendations

Introduction

Overview of the significance of vocational education in economic growth and development

Vocational education has emerged as a critical tool for promoting economic growth and development in many countries around the world. It equips individuals with the necessary skills and knowledge to enter the workforce and contribute to their local economies. In today's rapidly changing job market, where technological advancements are disrupting traditional employment patterns, vocational education is more important than ever. This paper explores the impact of vocational education on economic growth and development, with a focus on its potential to create jobs, increase productivity, and drive innovation.

Brief on the purpose of the paper

The purpose of this paper is to examine the various economic benefits of vocational education and highlight its role in promoting technological progress with reference to G20 countries.

We will review case studies of countries that have successfully implemented vocational education programs, as well as identify the challenges and opportunities that exist for vocational education in the 21st century. Finally, we will offer recommendations for policymakers and stakeholders on how to strengthen and expand vocational education programs to promote inclusive economic growth and development.

Understanding Vocational Education and G20

Definition and Explanation of Vocational Education

Vocational education refers to the training and education provided to individuals to acquire the necessary skills and knowledge for a specific occupation or trade. It is designed to prepare students for a wide range of careers and professions, with a focus on practical, hands-on training that helps them develop specific technical skills (Kaushik, 2014). Vocational education can be defined as educational training which incorporates knowledge, skills, structural activities, abilities, capabilities and all other structural experiences acquired through formal, on-the-job or off-the job training, that enhances the recipient's opportunity of securing jobs in various sectors of economy or even enabling the person to be self-employed (Venkataiah, 2000).

Group of Twenty (G20)

The G20, also known as the Group of Twenty, is an influential forum comprising the world's major economies. The G20 consists of 19 countries, including Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, the Russian Federation, Saudi Arabia, South Africa, Republic of Korea, Turkey, the United Kingdom, and the United States, along with the European Union. The Group of Twenty (G-20), recognizes the importance of vocational education in addressing global economic challenges and acknowledges that VET play a significant role in preparing individuals for the workforce, fostering economic growth, and reducing unemployment rates. India has assumed the role of the G20 Presidency for the period from December 1, 2022, to November 30, 2023. As part of its commitment to education and skill development, India, under the G20 framework, has successfully organized three meetings of the Education Working Group. These meetings have placed a strong emphasis on improving the skilling, upskilling, and reskilling opportunities for learners. By prioritizing these areas, India aims to ensure that individuals are equipped with the necessary skills to adapt and thrive in an evolving global economy.

The G20 India Presidency recognizes the significance of fostering a skilled workforce that can meet the challenges of technological advancements and economic transformations. Through its initiatives and discussions, the Education Working Group aims to address the needs of learners, particularly in the context of skill development and enhancing employability. By focusing on skilling, upskilling, and reskilling, the G20 India Presidency aims to empower individuals with the tools and knowledge required to succeed in the workforce. By leveraging the platform provided by the G20, India seeks to promote collaboration and collective action among member countries to create an inclusive and resilient future for learners across the globe.

Types of Vocational Education

Technical and Vocational Education plays a vital role in human resource development of the

country by creating skilled manpower, enhancing industrial productivity and improving the quality of life (Goel, 2017). There are many different types of vocational education programs, ranging from traditional trade schools to apprenticeships, certificate programs, and associate degree programs, regulated, occupational, continuing and work-based trainings running across the world (Alonso, 2000). In India, vocational education is offered through various channels and institutions. Here are some common types of vocational education in India:

Industrial Training Institutes (ITIs): ITIs are government-funded institutions that provide vocational training in various trades and crafts. They offer programs ranging from a few months to two years, and students receive a National Trade Certificate (NTC) upon completion. Trades offered in ITIs include electrician, fitter, mechanic, plumber, welder, and computer operator. Currently, there are around 14,955 DGT-affiliated government and private ITIs are functioning across the country (NITI AAYOG, 2023).

Polytechnic Institutes: Polytechnic institutes offer diploma programs in technical and vocational fields. These institutes provide education in disciplines such as engineering (civil, mechanical, electrical, etc.), architecture, computer science, textile technology, and chemical technology. The duration of diploma programs varies from three to four years. Currently, the AICTE recognises 3,239 polytechnic colleges (MHRD, 2018), more than 70% of which are private or mainly private with some government-aid (MHRD, 2018).

National Skill Development Corporation (NSDC): NSDC is a public-private partnership organization that aims to promote skill development across various sectors in India. It partners with training providers to offer skill-based vocational training programs and certifications in sectors such as healthcare, hospitality, retail, beauty and wellness, automotive, and construction.

State Skill Development Missions: State Skill Development Missions are government initiatives at the state level that focus on skill development and vocational training. They collaborate with training providers and industries to offer skill development programs aligned with the specific needs of the state's workforce. These programs cover a wide range of sectors and trades.

Sector Skill Councils (SSCs): SSCs are industry-led bodies that work under the NSDC framework. They are responsible for identifying skill requirements and developing competency-based training programs in specific sectors such as automotive, construction, healthcare, IT, tourism, and banking. SSCs collaborate with training providers to offer industry-relevant vocational courses and certifications.

Distance Learning: Distance learning institutions in India, such as Indira Gandhi National Open University (IGNOU), National Institute of Open Schooling (NIOS) offer vocational programs through correspondence or online modes. These programs cater to various fields like computer applications, tourism studies, fashion design, healthcare, food preservation and management. Vocational education in India is constantly evolving, and new initiatives and programs may emerge over time. The availability and specifics of vocational education programs can vary across states and regions within India.

Economic Benefits of Vocational Education

Job Creation and Employment Opportunities: Vocational education is acknowledged for its role in creating employment opportunities by equipping individuals with specific in-demand skills (Fuller, 2015).

It serves as a pathway to stable employment for those who do not pursue higher education, acting as a transition system for a segment of the population (Raffe, 2008). Moreover, in certain countries, vocational education is seen as a means to reintegrate disengaged youth into education and promote social inclusion (Preston and Green, 2008; EU, 2010). Graduates of vocational education programs are more likely to secure employment in their chosen field, contributing to a skilled and productive workforce.

Increase in Skilled Labor: Vocational education programs provide individuals with practical skills that are required in specific industries, such as construction, healthcare, and manufacturing. This leads to a more skilled workforce and helps to fill the skills gap in the labor market. With more skilled labor, businesses can increase their efficiency and productivity, which can drive economic growth.

Improved Productivity: Vocational education programs provide individuals with the knowledge and skills necessary to perform their jobs efficiently and effectively. This leads to improved productivity, which can help businesses to compete more effectively in the global marketplace. Increased productivity can also lead to higher profits, which can drive economic growth.

Reduction of Poverty: Vocational education can help to reduce poverty by providing individuals with the skills necessary to find stable employment and earn a living wage. By reducing poverty, vocational education programs can improve the overall economic well-being of a society.

Contribution to GDP: Vocational education plays a vital role in a country's economic development by enhancing business productivity, generating employment, and alleviating poverty. It also attracts foreign investment and contributes to overall economic growth. Countries with well-established and efficient vocational education and training systems are more likely to excel in global economic competition. Germany is often cited as a prime example in this regard (Fuller, 2015). India is also progressing towards to achieve achieving the set target of \$5 trillion in the next few years. The GDP estimated by the GoI was 7 %, however the real data for the fiscal year 2022-23 has come out to be 7.2 %. However, the GDP for the last year was 9.1 %.

G-20 member countries have emphasized the need for policies and initiatives that promote vocational education and training as a means to enhance employability, productivity, and competitiveness. They recognize that investing in vocational education can lead to better outcomes in terms of economic development and social well-being. Vocational education can have a significant impact on economic growth and development by providing individuals with the skills and knowledge necessary to succeed in the job market and contribute to the economy.

Case Studies: The impact of Vocational Education on Economic Growth and Development

Success stories of countries with a strong vocational education system

Germany, Switzerland, South Korea and Singapore are some of the countries that are often cited as examples of how strong vocational education systems can contribute to economic growth and development. These countries have a long history of vocational education, and their education systems place a strong emphasis on practical skills and apprenticeships.

In Germany, for example, the vocational education system is highly regarded and offers a wide range of apprenticeships in industries such as engineering, healthcare, and hospitality. The system is well-resourced and provides students with practical skills that are highly valued by employers. As a result, Germany has a low youth unemployment rate and a highly skilled workforce that contributes to its strong economy. In the year 2017, the dual system witnessed an enrollment of 490,267 students, while an additional 225,590 students opted for full-time vocational schools to pursue their studies. (Ehlert, 2017).

Switzerland is widely recognized as a global frontrunner in vocational training, on-the-job training, and employability. Its vocational education and training (VET) model is highly regarded as a benchmark of excellence, surpassing other systems in the field. The country has a dual-track system that combines classroom-based learning with practical training in the workplace. This approach has helped Switzerland to develop a highly skilled workforce that is in demand in industries such as banking, healthcare, and manufacturing. Switzerland boasts an impressive statistic in the realm of vocational education, with 90% of upper secondary vocational students enrolled in combined school- and work-based programs. This figure surpasses the average of 34% seen across OECD countries. Such a high participation rate in vocational training contributes significantly to Switzerland's economic success and low unemployment rates, positioning it as one of Europe's most resilient and diversified economies.

The educational system in South Korea consists of a six-year elementary education phase, followed by six years of secondary education, which is further divided into three years of middle school and three years of high school. Over time, the high school system has evolved from vocational high schools to technical high schools, and is now recognized as specialized schools.

One distinctive aspect of the South Korean education system is the emphasis on employment as a priority, with university education considered as a subsequent pursuit. Meister schools have been established to address this approach, offering industry-tailored curricula in fields such as banking, social services, dental hygiene, maritime industries, and semiconductor development. These curricula are developed in close collaboration with local companies, ensuring alignment with industry needs, and incorporate opportunities for students to gain practical experience through industrial internships. Additionally, the teaching faculty in Meister schools may include industry experts, further enhancing the relevance and quality of the education provided. The South Korean education system has undergone significant transformations, with specialized schools and Meister schools catering to the specific needs of industries, fostering a practical and industry-oriented approach to education.

Singapore's education system has undergone different phases, namely the 'survival-driven,' 'efficiency-driven,' and 'ability-driven' phases. One of the guiding principles in Singapore's education approach is encapsulated by the motto "Thinking Schools, Learning Nation" and the goal to "Teach Less, Learn More." In line with Singapore's vision to train its workforce to meet state-of-the-art standards, the concept of a "Factory school" has been implemented. This approach involves close collaboration with industry partners to provide students with a training environment that closely resembles real workplaces while presenting them with relevant challenges. By engaging industry as a key partner in training, Singapore aims to equip students with the skills and knowledge necessary for the modern workforce. Vocational education in Singapore has been rebranded as a valued and respected option, characterized by the principles of "hands-on, minds-on, hearts-on" learning. Students are placed in industry settings where they acquire practical skills and can earn attractive salaries.

This shift has led to vocational education through the Institute of Technical Education (ITE) being viewed by students as a legitimate pathway to a promising and successful future. Singapore takes pride in its world-class technical education institutions, which offer high-quality training and education opportunities to students. These institutions play a crucial role in providing Singapore with a skilled workforce and contributing to the country's overall economic development. Singapore's education system has focus on practical skills development, industry collaboration, and the recognition of vocational education as a viable and esteemed career pathway.

Lessons learned from countries that have successfully implemented vocational education programs

One key lesson that can be learned from countries with successful vocational education programs is the importance of partnerships between industry and education. These partnerships can help to ensure that vocational education programs are relevant to the needs of employers and provide students with the skills that are in demand in the labor market.

The integration of apprenticeships and work-based learning is another vital lesson from successful vocational education systems. Combines classroom instruction with on-the-job training, for the students opting for apprenticeships. This system will create a skilled workforce and contribute to India's reputation for precision manufacturing and high-quality vocational training. Countries such as Germany and Switzerland have found that combining classroom-based learning with practical training in the workplace enhances students' employability and prepares them for the real-world challenges they will face in their careers. These work-based experiences allow students to apply theoretical knowledge, develop practical skills, and build professional networks.

Successful vocational education programs emphasize the importance of continuous improvement and innovation. Recognizing the dynamic nature of industries, these countries invest in research and development to ensure their vocational education systems remain relevant and responsive to changing labor market needs. Regular updates to curriculum, teaching methods, and infrastructure help equip students with cutting-edge skills and enhance their competitiveness in the global job market.

Industry chambers, educational institutions, and companies must collaborate closely to develop curriculum standards, provide apprenticeship opportunities, and align vocational education with labor market demands. This collaboration will ensure a seamless transition from education to employment and will contribute to India's growing manufacturing and engineering sectors. Ensuring employment opportunities for VET students is essential. Collaboration between vocational education institutions and industries can lead to job guarantees or internship-to-employment programs, providing students with a smooth transition into the workforce. These initiatives not only boost student motivation but also address labor market demands and contribute to economic development.

Investing in human capital and building a world-class education system is vital for economic development. By focusing on well-funded schools, raising awareness of vocational high schools, fostering government and corporate partnerships, guaranteeing employment for VET students, ensuring quality assurance, and promoting community engagement, countries can develop effective vocational education programs that align with labor market demands and contribute to overall economic growth. By learning from these examples, policymakers and educators can develop and implement effective vocational education programs that benefit both students and the economy as a whole.

Case Studies from India: The Impact of Vocational Education on Economic Growth and Development

India is a country that has experienced significant economic growth and development in recent years. Vocational education has played a crucial role in this growth, particularly in providing skills training to millions of people across the country. In this section, we will look at two case studies from India that demonstrate the impact of vocational education on economic growth and development.

Case Study 1: Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is a flagship scheme launched by the Indian government in 2015 to provide skills training to youth across the country. The program aims to train over 10 million people by 2020 and is being implemented through a network of training providers, including both government and private institutions.

The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) encompasses several key components aimed at providing skill training and employment opportunities in India. Short-term training (STT) is provided at PMKVY Training Centers (TCs) to benefit unemployed individuals and school/college dropouts. The training covers National Skills Qualification Framework (NSQF), as well as soft skills, entrepreneurship, financial literacy, and digital literacy. Successful candidates receive placement assistance, and the training and assessment fees are covered by the government. Recognition of Prior Learning (RPL) allows individuals with existing skills to be assessed and certified, aligning their competencies with NSQF. Social and community mobilization is crucial for PMKVY's success, with the involvement of target beneficiaries through mobilization processes and regular Kaushal and Rozgar Melas. Monitoring is conducted through self-audits, call validations, surprise visits, and the Skills Development Management System (SDMS) to ensure quality standards are upheld.

As of December 31, 2021, the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) has benefitted approximately 13.4 million candidates nationwide. Within the PMKVY-Short Term Training (STT) component, 5.389 million candidates have received certification. Out of these certified candidates, 2.37 million individuals have been successfully placed in various sectors across the country, including 295,000 candidates who have become self-employed (PIB, 2022). Several studies have demonstrated the positive impact of this national programme on economic growth and development (Pravina & Anamika, 2021; Kumari, 2023; Nehru, 2022; Malik, 2023).

Case Study 2: National Skill Development Corporation (NSDC)

The National Skill Development Corporation (NSDC) is a public-private partnership that was established in 2009 to promote skill development in India. NSDC works closely with various industries to identify skill gaps and develop training programs to address them. NSDC has been successful in creating a skilled workforce in various sectors, including automobile, construction, healthcare, and IT. The program has also provided training to people from rural areas and has helped to bridge the rural-urban divide. One of the key successes of NSDC has been the creation of the Pradhan Mantri Kaushal Kendras (PMKKs) – training centers that provide skills training to youth across the country. The PMKKs have been instrumental in providing training to millions of people and have contributed to the growth of various sectors of the economy. NSDC has also played a crucial role in promoting entrepreneurship in India. The program has provided training and financial assistance to aspiring entrepreneurs, particularly in the MSME sector. This has had a positive impact on the economy by creating jobs and contributing to the growth of the MSME sector.

As of 2019, the National Skill Development Corporation (NSDC) had a network of 443 training partners operating 8,503 training centers across India. Through fee-based courses, NSDC trained 9.95 million individuals, with 4.91 million of them successfully securing employment, resulting in a placement rate of 49.3% (NSDC, 2019). By 2022, NSDC expanded its network to include 538 training partners and 10,373 training centers across India. During this time, 20.45 lakh individuals underwent training facilitated by NSDC, and 1.86 lakhs of them secured employment (NSDC, 2023).

These case studies demonstrate the significant impact that vocational education can have on economic growth and development. By providing skills training to people across various sectors, vocational education can create a skilled workforce that can contribute to the growth of the economy. The Indian government's efforts through schemes like PMKVY and NSDC have been instrumental in providing skills training to millions of people and have contributed to the growth of the economy.

Challenges for Vocational Education

Perception: One of the biggest challenges facing vocational education is the perception that it is a less-prestigious career choice than academic education. Many people still view vocational education as a second-rate option, which hinders its growth. With reference to India, currently, there are 9,583 schools offering vocational courses with more than one million students (Wessels & Pilz, 2018), a marginal number compared to the number of students focusing on general education. While vocational education as part of higher and tertiary education may be viewed as 'the poor cousin' of academic education standing of vocational training in Indian society is even worse (Kumar, 2016).

Funding: Vocational education programs require significant investments in infrastructure, equipment, and highly skilled teachers. However, many countries do not allocate enough funding for vocational education, making it difficult to develop and maintain quality programs.

Curriculum Design: Vocational education programs need to be designed in such a way that they are relevant to the current job market. Inflexible and outdated curriculums can discourage students from enrolling and limit their job prospects after graduation (International Labour Organization [ILO], 2013). The use of outdated curricula can result in a discrepancy between the skills employers demand and what students possess, which is a significant factor contributing to low employability and challenges in students' transition to the job market (Pilz, 2016).

Industry Linkage: Vocational education programs need to be closely linked to the industries they serve. This helps to ensure that the skills and knowledge taught are in line with industry needs. However, many vocational education programs lack these links, making it difficult for graduates to find employment (Kaushik, K. (2014).

Quality teachers and trainers: Another crisis in delivering quality vocational education is the shortage of quality trainers, qualified teachers, training providers. (International Labour Organization [ILO], 2013). The recruitment of teachers in the vocational education and training (VET) sector predominantly consists of graduates without pedagogic experience. This perpetuates outdated teaching methods that fail to meet quality standards (Pilz, 2016). Additionally, there is a shortage of qualified trainers, with only 55% to 60% of positions being filled (Pilz & Gengaiah, 2019). Trainers often lack the necessary skills and are hired on part-time or fixed-term contracts (Tara et al., 2016).

These unfavorable conditions discourage experienced and qualified individuals from pursuing careers as trainers.

Strategies for Improving and Expanding Vocational Education Programs

Collaboration among stakeholders: Collaboration between vocational education providers, employers, and industry experts plays a vital role in designing curriculums that align with the demands of the job market (European Training Foundation, 2014). This collaborative approach not only helps in identifying skill gaps but also creates opportunities for training and upskilling. Active involvement of industries is crucial across multiple areas, including governance, curriculum design, placements, funding, and outcome monitoring, to enhance the overall effectiveness of Vocational Education and Training (VET) globally (CEDEFOP, 2019). Furthermore, industries' contributions to the establishment of research and innovation labs with a focus on practical applications are essential (World Bank Group, 2020). To facilitate and strengthen this collaboration, a Public-Private Partnership (PPP) model can be established. This model enables the government and industry to join forces, investing in infrastructure and providing training to students in cutting-edge skills (World Economic Forum, 2020). Policymakers and stakeholders should encourage industry partnerships with vocational education institutions to enhance the quality of training and provide students with real-world experiences.

Technology Integration: Vocational education programs can benefit from the integration of technology. Technology can enhance the learning experience by providing interactive and engaging resources. Additionally, it can be used to deliver training to remote and underserved areas. Vocational education and training (VET) has prioritized the advancement of future-oriented skills in various areas, including Drone technology, Internet of Things (IoT), Robotics, Electric Vehicles (EV), Artificial Intelligence and Machine Learning (AI & ML), 5G technologies, Mechatronics, Cloud Computing, Blockchain, Extended reality (XR) encompassing Augmented and Virtual reality, Cyber Security, 3D Printing, VLSI design, and many more. These emerging technologies are expected to propel the economy as key drivers in both manufacturing and service sectors.

Government Support: The government across the world has recognized the significance of vocational education and has already implemented several notable initiatives in this domain. Governments can support vocational education programs by providing funding, policies that encourage industry partnerships, and incentives for companies that hire vocational education graduates. India is now called the 'startup hub', ranking third with 90,000 'Start-Ups' and 107 unicorn companies worth \$30 billion. The government has promoted the Startup India Initiative to help aspiring entrepreneurs through various schemes namely Multiplier Grant Scheme, Dairy Entrepreneurship Development Scheme, Credit Guarantee Fund Trust for Micro and Small Enterprise, Single Point Registration Scheme, High Risk and High Reward Research, Zero Defect Zero Effect Scheme. To ensure the effectiveness of Vocational Education and Training (VET) in the evolving global landscape and enable countries like India and other G20 countries to reap the benefits of technical fields, it is crucial to redefine the essential components of delivering vocational education. This redefining is already taking place and reflecting in various policies with a focus on making VET flexible, up-to-date, pertinent, inclusive, and innovative. Policymakers and stakeholders should prioritize the allocation of adequate funding for vocational education programs. This will enable institutions to provide students with the necessary skills and training required for them to excel in their respective fields.

Promote apprenticeship and work-based learning: All the stakeholders including policymakers should create incentives for employers to provide work-based learning

opportunities and apprenticeships to vocational education students. This hands-on experience allows them to develop practical skills, adapt to real work environments, and understand industry-specific practices and expectations. Apprenticeships generally lead to employment opportunities, as students build relationships with employers and demonstrate their competence and commitment.

Flexible Learning Options: Flexible learning options, such as online courses or part-time programs, can help to increase access to vocational education. This is especially important for those who may not be able to commit to a full-time program due to work or family obligations. Online courses provide remote access to educational resources, while part-time programs offer classes during flexible time slots. By incorporating flexible learning, vocational education becomes more inclusive, enabling a wider range of individuals to acquire valuable skills and knowledge. These options provide convenience, overcome geographical barriers, and allow learners to balance their education with work and family responsibilities. By embracing flexible learning approaches, vocational education can reach a broader audience and contribute to the development of a skilled and diverse workforce.

Develop a comprehensive and standardized curriculum: Policymakers and stakeholders should establish a standardized curriculum that reflects the needs of the job market and is updated regularly to ensure that the students are equipped with the most relevant and sought-after skills. By providing a clear framework for vocational education programs, a standardized curriculum enhances the quality and relevance of vocational training, ultimately benefiting both students and employers. With reference to the G-20, the summit has placed a greater emphasis on vocational education and training through various initiatives and commitments. For example, the G-20 Skills Strategy was launched to promote skills development, including vocational education, as a driver of economic growth and social inclusion. This strategy aims to improve the quality and relevance of vocational education and training programs, enhance the recognition and transferability of skills, and strengthen the collaboration between governments, employers, and education providers. Addressing challenges and capitalizing on opportunities in vocational education and training can drive economic benefits, fostering growth and development.

Call to Action for Increased Investment in Vocational Education

Encourage public-private partnerships: The public and private sector can work together to support vocational education by investing in infrastructure, providing financial support, and offering job placement opportunities.

Promote awareness and advocacy: Policymakers, stakeholders, and education providers should increase public awareness about the importance of vocational education and advocate for increased investment in these programs.

Foster collaboration between institutions: Institutions offering vocational education should collaborate to promote best practices, share resources, and expand program offerings.

Develop innovative funding models: Policymakers and stakeholders should explore innovative funding models, such as income share agreements, to help students finance their vocational education. Increased investment in vocational education is necessary for economic growth and development. Policymakers and stakeholders must recognize the value of vocational education and prioritize investment in these programs to ensure that students have access to the skills and training required for the workforce of the future.

Conclusion

Vocational education is essential for economic growth and development as it equips individuals with the skills and knowledge necessary for productivity and economic contribution. By providing technical skills, vocational education promotes job creation, poverty reduction, and increased productivity, all of which foster economic growth. It also plays a vital role in driving technological advancements, further benefitting economic development. Sharing and implementing best practices from around the world is crucial to maximize the economic potential of vocational education. Despite its importance, vocational education faces challenges such as insufficient funding, limited public awareness, and restricted access to training facilities. To overcome these obstacles, policymakers and stakeholders must prioritize investment in vocational education programs, raise public awareness about its benefits, and improve access to training facilities. The G-20 recognizes the significance of vocational education and encourages member countries to invest in comprehensive and effective vocational education systems. These efforts aim to stimulate economic growth, reduce unemployment, and enhance the skills of the global workforce. Investing in vocational education is crucial for achieving sustainable economic growth, creating a competitive workforce, driving innovation, and benefiting society as a whole.

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