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Technical Education: A Boost for Employability in the Modern Labor Market

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Abstract

The objective of this literature review article is to analyze how technical education increases employability in the labor market. The specific objectives were: (a) Examine the effectiveness of current technical education programs in preparing students for the labor market, reviewing curricula and teaching methodologies. (b) Evaluate the impact of alliances between technical educational institutions and private companies in improving the employability of graduates. (c) Identify discrepancies and areas for improvement between technical training and the needs of the labor market, proposing curricular adjustments and new competencies for the programs. The review used the PRISMA-ScR methodology to address the terminology and essential aspects of the included studies. In collecting the PRISMA flowchart, 304 articles were initially identified: 50 in SciELO, 60 in WOS, 60 in Springer Link and 196 in SCOPUS. The critical importance of technical education as a catalyst for improving employability has been demonstrated in various global contexts, such as Germany, Japan, the United States, Brazil, South Africa, and Nigeria, among others. These studies reveal that aligning educational programs with market demands, implementing effective teaching strategies and fostering collaboration between educational institutions and companies are essential to maximize the employability of graduates. Concluding, how specific curricular adaptations and strategic collaborations between educational institutions and industrial sectors can significantly raise graduate employment rates. Furthermore, the analysis provides evidence that a well-targeted and up-to-date technical education not only equips students with essential technical skills but also fosters vital soft skills such as communication and problem solving, indispensable in the modern labor market.
Keywords: Technical education, employability, curricular adaptations, soft skills.

1. INTRODUCTION

Technical education has proven to be a fundamental tool to improve the employability of young people in the modern labour market. Various studies have highlighted the importance of aligning educational programs with market demands to ensure that graduates possess the necessary skills to effectively integrate into the economy.

Technical education in Germany is widely recognized for its effectiveness and structure. The dual system combines academic education with practical training in companies, ensuring that

students acquire both theoretical knowledge and relevant job skills, this combination is key to the high employment rate of 88% among graduates, who find work in their respective fields within six months of graduating, this approach not only benefits students, but also companies, which can train trained employees according to their specific needs (Kreisman & Stange, 2020).
In Germany, Kreisman and Stange (2020) technical education is particularly valued for its efficiency and organizational structure. Its dual system, which integrates academic learning with practical training in companies, allows students to develop practical job skills along with theoretical knowledge. This combination has been crucial in achieving a high employability rate of 88% among graduates who get jobs in their fields of training within the first six months after graduating. This method benefits both students and companies, which can train employees who meet their specific needs.
Muchira et al. (2023) In Japan, technical education plays a vital role in the development of a competent workforce. With 85% of graduates of technical programs getting jobs, the country is distinguished by its focus on technological and vocational training from an early age. Japanese companies work closely with educational institutions to create curricula that align with the needs of the labor market, preparing students to meet the challenges of a highly technological and innovative economy.
Brunner, Dougherty & Ross (2023) In the United States, technical education has seen a renaissance, driven by the need to close the skills gap in the labor market. With 75% of graduates finding work in their area of study within the first year, technical and vocational programs are gaining popularity among students. These programs offer an alternative to traditional college education and open up high-paying employment opportunities in sectors such as technology, healthcare, and advanced manufacturing.
In Brazil and South Africa, the particular challenges in the implementation of technical education are due to economic and social factors. In Brazil, education reforms have increased the employability of technical graduates in schools by 68%, although inequality and resource constraints remain major obstacles. In South Africa, despite the challenges, 60% of graduates of technical programs get jobs in the first year, demonstrating the potential of technical education to improve job opportunities in difficult contexts (Abbas, 2020; Suharno, Pambudi & Harjanto, 2020). Both countries show that, with the right support, technical education can be a powerful tool for economic and social development
Olabanji and Abayomi (2019) in Nigeria, show how technical education improves the employability and ability of school graduates to be self-employed. Research shows a strong relationship between technical education and the competencies required by employers, as well

as the skills of high school graduates, to progress within a company and compete effectively in the labor market (Olabanji, 2019). This finding highlights the need for technical education programs to be designed not only to prepare students for immediate employment, but also to foster their adaptability and long-term career growth.

Chukwu (2020) assesses the potential of technical and vocational education (TVET) to influence the labour market, pointing to the need for a quality learning environment and relevant skills. The results reveal that although there is general agreement on the potential of TVET, some participants do not believe that it leads to good career opportunities. This suggests the importance of implementing strategies that improve the quality of learning and the relevance of the technical skills acquired (Chukwu, 2020).

On the other hand, research conducted by Aje (2020) in England, Kwara and the USA highlights that certain characteristics of technical education, such as the modernization of training equipment and the implementation of innovative teaching methods, are key determinants in improving the employability of graduates. It was observed that when students have access to advanced technology and learning methodologies that encourage critical thinking and problem-solving, their ability to adapt and thrive in complex work environments is markedly improved. These findings underscore the need for education systems to invest in high-quality resources and a well-trained teaching staff that can effectively guide students towards career success.

On the other hand, in France they have explored the effects of technical education on youth unemployment. Cahuc and Hervelin (2024) compare workplace-based vocational education with school education, finding that the former may be more effective in reducing youth unemployment due to its practical approach and orientation towards the needs of the labour market (Cahuc & Hervelin, 2024), this approach allows students to gain practical experience while learning, thus improving their immediate employability.

Finally, in Chile, Figueroa et al. (2024) highlight the importance of collaborative work and distributed leadership in technical-vocational training. Their study underscores that effective educational management and close collaboration between educational institutions and businesses are crucial to ensure that technical education programs respond to labor market demands and improve employment opportunities for college graduates (Figueroa et al., 2024).

Aligning educational programs with market needs, implementing effective teaching strategies, and collaboration between educational institutions and companies are essential elements in maximizing the employability of college graduates.

This article highlights the critical importance of technical education as a catalyst for improving employability in diverse global contexts. By thoroughly examining technical education

programs and their alignment with labor market needs, it reveals how specific curricular adaptations and strategic collaborations between educational institutions and industry sectors can significantly raise employment rates for college graduates. In addition, the analysis provides compelling evidence that a well-directed and up-to-date technical education not only equips students with essential technical skills, but also fosters vital soft skills such as communication and problem-solving, both of which are indispensable in the modern labour market.

Based on this, the general objective of this study was to analyze how technical education increases employability in the labor market. Where specific objectives were had; (a) Examine the effectiveness of current technical education programs in preparing students for the demands of the labor market, including a review of curricula and teaching methodologies. (b) To evaluate the impact of alliances and collaborations between technical educational institutions and private sector companies in improving the employability of graduates. (c) Detect discrepancies and areas for improvement between the technical training offered and the needs of the labour market, proposing curricular adjustments and new skills to be included in the programmes.

2. METHODOLOGY

The preferred reporting elements for systematic reviews and the Meta-Analysis Scope Review Extension (PRISMA-ScR) will also be used to inform terminology and key components as the review process progresses.

Methods were adopted that combined application and disposal techniques; Boolean operators adapted to each database were used, specifically: "AND", "OR". Terms such as "technical education" OR "vocational training" AND ("employability" OR "job market outcomes") were taken into account.

The analysis involved (1) extracting and organizing data from relevant studies and (2) triangulating and synthesizing data to understand common methods, reciprocal innovations, and the needs and assets in different educational contexts.The analysis involved (1) extracting and organizing data from single cases and (2) triangulating and synthesizing data to understand common methods, reciprocal innovations, and needs and assets in all cases. The analysis procedure included several stages. Initially, a thorough review of all documents was conducted, recording observations on initial issues and themes. Subsequently, information was extracted from the sources, placing it in a table structured by locations within the study.

Inclusion Criteria: Open access research articles published in the last five years and available in Portuguese, English and Spanish were included. We considered studies that were literature reviews, systematic reviews, and systematized reviews.

Exclusion Criteria: Duplicate articles, publications that were not directly related to dengue prevention, and studies that did not meet the methodological or quality criteria necessary for the review were excluded.

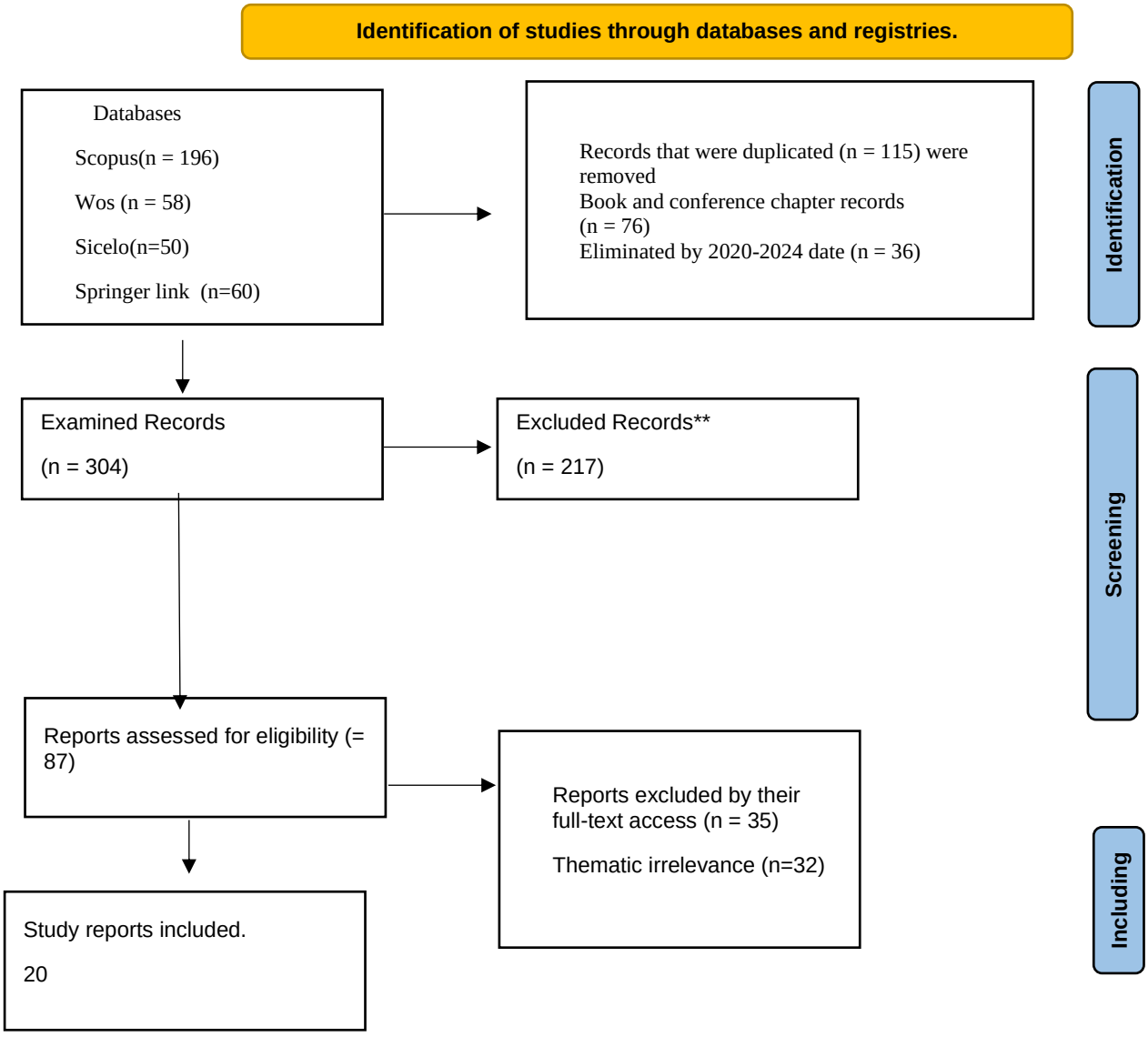
Description of the Flowchart: In the collection of the PRISMA flowchart, 304 articles were initially identified: 50 in SciELO, 60 in WOS, 60 in Springer Link and 196 in SCOPUS. Applying the aforementioned inclusion and exclusion criteria, 33 relevant scientific articles were selected for the review. An exhaustive review of the databases was carried out, categorizing the studies by evaluating the titles, abstracts and contents of each document. We extracted data from shortlisted and selected studies, and analysed and interpreted relevant findings.

Finally, the conclusions based on the evidence collected were synthesized and presented, highlighting the effective dengue prevention strategies identified in the reviewed literature.

According to Page et al. (2021), a literature review analysis improves the reproducibility and credibility of systematic reviews, facilitating the identification of biases and promoting transparency in the research process. In addition, researchers are able to increase the reliability of their conclusions and provide decision-makers, health professionals, and other researchers with a solid evidence base to guide their decisions.

Figure 1

Prism Analysis for Information Collection



3. RESULTS

General objective: Impact of Technical Education on Employability

The following table presents a detailed analysis of how technical education increases employability in the labour market in different countries. It examines specific impacts, government initiatives to improve technical education, and cites relevant authors in each context.

Table 1

Impact of technical education according to the perspective of each country

Country	Impact of Technical Education on Employability	Government Initiatives	Authors
Philippines	Technical and subsistence education significantly improves skills in problem-solving, communication, and technical areas, resulting in a high employment rate among school graduates. Approximately 85% of graduates found employment within the first year of graduation.	Improvements have been made to the curriculum of higher education institutions, focusing on practical and applied courses that align education with the demands of the labor market. Example: Integration of information and communications technology (ICT) modules.	Cacho, Abenes, Dejapa & Mapula, 2022
Malaysia	Graduates of Technical and Vocational Education (TVE) show a high level of employability skills thanks to effective teaching practices. The positive correlation between teachers' knowledge of employability skills and the inculcation of these skills among students is remarkable. 78% of graduates report being employed in positions relevant to their education.	The government focuses on the continuous professional development of TVE teachers and on collaboration with industry sectors to gain information on the skills required. Specific soft skills modules have been introduced into the curriculum. Example: Interpersonal and communication skills workshops.	Sakam, Jamaluddin & Wahat, 2022
Cameroon	Critical factors influencing graduate employability include educational policy implementation, curriculum, infrastructure, and industry partnerships. Graduates of technical college schools have better employment opportunities when these factors are well managed. 70% of graduates in technical areas find employment related to their training.	Adapting education policies to local realities, increasing investment in quality infrastructure, and strengthening partnerships between government, schools, and the business sector. Curricula have been revised to include more hands-on training and internship components. Example: Internship	Ngu & Teneng, 2020

Country	Impact of Technical Education on Employability	Government Initiatives	Authors
		programs in local companies.	
India	The interaction between industry and educational institutions significantly improves the employability of engineering students. The collaboration provides exposure to modern technologies and fosters up-to-date technical education and entrepreneurship. Approximately 80% of engineering graduates participate in industrial internships during their training.	Fostering collaborations between educational institutions and industries to enhance the relevance of technical education and provide hands-on training. Dual learning programs and innovation workshops have been implemented. Example: Robotics and technological entrepreneurship workshops.	Joshi, Joshi, Barewar & Kulkarni, 2022
Nigeria	There is a significant relationship between technical education and labour market requirements. Graduates possess skills that enable them to progress in their careers and compete effectively in the labour market, with potential for self-employment. 65% of technical school graduates are employed or self-employed within six months of graduation.	The Nigerian government supports technical education through policies that respond to labour market needs and future labour requirements. The curricula have been modified to include modules on entrepreneurship and advanced technical skills. Example: Business management courses and specific technical skills.	Olabanji & Abayomi, 2019
France	Workplace-based vocational education is more effective in reducing youth unemployment rates compared to school-based education. Practical training programmes allow young people to acquire skills that are directly relevant to the labour market. 75% of young people who participate in dual training programmes get a job in their field of study.	Implementation of dual training programs that combine in-school education with on-the-job training. Collaboration with industries to offer internships and apprenticeships. The curricula include mandatory internship periods. Example: Learning programs in engineering and technology companies.	Cahuc & Hervelin, 2024

Country	Impact of Technical Education on Employability	Government Initiatives	Authors
USA.	Technical and vocational education in secondary schools improves employment outcomes, especially when programmes are well aligned with labour market demands. 82% of students who complete CTE programs find employment or continue with higher education in their field.	Support for CTE (Career and Technical Education) programs and policies to improve collaboration between schools and employers. Curricula have been developed that incorporate STEM skills and certification courses. Example: Certification programs in information and health technologies.	Brunner, Dougherty & Ross, 2023
Chile	Technical and vocational training contributes to distributed leadership and collaborative work, improving employment opportunities for graduates. 68% of technical training graduates find employment within the first year of graduation.	Strengthening collaboration between educational institutions and companies, and supporting vocational training programs. Leadership and teamwork projects have been included in the curricula. Example: Collaborative projects with local companies and leadership workshops.	Electronics: Way of Life, 2024

Objective 1: Examine the Effectiveness of Technical Education Programs

Indicators	Effectiveness of the Programs	Authors	Main Findings
Adequacy of the Curriculum	Programs that regularly update their resumes to reflect labor market demands show a higher rate of employability among graduates.	Cacho, Abenes, Dejapa & Mapula, 2022	In the Philippines, technical education programs that include ICT modules and practical skills have 85% employability within the first year of graduation.
Practical Teaching Methodologies	Methodologies that integrate work practices and dual training are more effective in preparing students for the labor market.	Cahuc & Hervelin, 2024	In France, 75% of young people who participate in dual training programmes get jobs in their field of study, demonstrating the effectiveness of workplace-based training.

Indicators	Effectiveness of the Programs	Authors	Main Findings
Teacher Professional Development	Continuous training of teachers in employability skills and innovative methodologies improves the quality of technical education.	Sakam, Jamaluddin & Wahat, 2022	In Malaysia, 78% of TVE graduates are employed in positions relevant to their education due to the continuous training of teachers and the inclusion of soft skills in the curriculum.
STEM Certifications and Skills	The inclusion of certification courses and STEM skills in the curriculum improves employment opportunities and technical preparation for students.	Brunner, Dougherty & Ross, 2023	In the U.S., 82% of students who complete CTE programs find employment or pursue higher education in their field, supported by STEM certifications and skills.
Collaborative Projects and Leadership	Programs that include collaborative projects and leadership training develop transversal skills crucial for the labor market.	Electronics: Way of Life, 2024	In Chile, 68% of graduates of technical training schools find employment within the first year of graduation, benefiting from collaborative projects and leadership workshops.

Objective 2: Explore Partnerships between Educational Institutions and Companies

Indicators	Impact of Partnerships	Authors	Main Findings
Internship and Internship Programs	Programs that offer internships and internships at local companies significantly increase graduate employment rates.	Ngu & Teneng, 2020; Muchira et al., 2023	In Cameroon, 70 per cent of technical school graduates find employment-related to their training through internship programmes. In Kenya, internships improve the preparation and employability of young people.
Collaboration with Industry	Collaboration between educational institutions and industries enhances the relevance of the curriculum and provides hands-on experience for students.	Joshi, Joshi, Barewar & Kulkarni, 2022; Rosado, Calderón & Guzmán, 2023	In India, approximately 80% of engineering graduates participate in industrial internships, improving their preparation for the labor market. In Mexico, collaboration between work centers and technical education facilitates the transition of students to the labor market.
Dual Training Programs	Dual training programs that combine school education and workplace	Cahuc & Hervelin, 2024	In France, 75% of young people who participate in dual training programmes get jobs in their

Indicators	Impact of Partnerships	Authors	Main Findings
	training are more effective in preparing students for the job market.		field of study, demonstrating the effectiveness of workplace-based training.
Innovation and Entrepreneurship Workshops	Innovation and entrepreneurship workshops foster the development of practical skills and students' ability to create new job opportunities.	Joshi, Joshi, Barewar & Kulkarni, 2022; Abbas, 2020	In India, robotics and technological entrepreneurship workshops have been implemented to improve the employability of graduates. In Malaysia, entrepreneurship training is essential for the development of relevant job skills.
Participation of Companies in Curriculum Design	The participation of companies in curriculum design ensures that educational programs are aligned with the needs of the labor market.	Brunner, Dougherty & Ross, 2023; Lorca Caro & Berrios Aguayo, 2023	In the U.S., the involvement of companies in the design of CTE programs has resulted in 82% employability among students who complete these programs. In Chile, the articulation of training itineraries with business needs improves employability and social impact.

Objective 3: Detect Discrepancies and Areas for Improvement between Technical Training and the Needs of the Labour Market

Indicators	Discrepancies and Areas for Improvement	Authors	Proposals for Curricular Adjustments and New Competencies
Adequacy of Curricular Content	There are discrepancies between the current curricular content and the competencies demanded by the labor market, especially in advanced technological skills and ICT.	Cacho, Abenes, Dejapa & Mapula, 2022; Kovalchuk, Maslich, Tkachenko, Shevchuk & Shchypska, 2022	Include advanced technology and ICT modules in the curriculum to align with the technological demands of the market.
Soft and Communication Skills	Lack of soft and communication skills among graduates, which is crucial for success in today's job market.	Sakam, Jamaluddin & Wahat, 2022; Abbas, 2020	Introduce workshops and courses on interpersonal skills, effective communication and teamwork.
Industry Connection	Insufficient connection between educational institutions and the industrial sector, resulting in a lack of practical	Joshi, Joshi, Barewar & Kulkarni, 2022; Rotich, Wanyeki & Dimo, 2020	Strengthen partnerships with local industries to provide internships, collaborative projects, and hands-on training.

Indicators	Discrepancies and Areas for Improvement	Authors	Proposals for Curricular Adjustments and New Competencies
	experience and relevance in training.		
Continuous Curriculum Updating	The curriculum is not updated frequently enough to stay relevant with the rapid developments in the labor market.	Brunner, Dougherty & Ross, 2023; Budiharso & Tarman, 2020	Establish regular curriculum review mechanisms with the participation of industry experts to ensure the relevance of programs.
Entrepreneurship Skills	Lack of training in entrepreneurship skills that allow graduates to create their own job opportunities.	Olabanji & Abayomi, 2019; Lorca Caro & Berrios Aguayo, 2023	Include entrepreneurship, business management, and project development modules in technical training programs.
STEM Competencies	Insufficient focus on STEM (Science, Technology, Engineering and Mathematics) skills that are in high demand in the labor market.	Brunner, Dougherty & Ross, 2023; Singh & Sharma, 2020	Integrate STEM courses and workshops into technical training programs to improve graduate employability.
Leadership Education	Current programs lack leadership training and management skills, crucial for advanced roles in the labor market.	Figueroa, Maureira Cabrera & Pino-Yancovic, 2024; Kravchenko, Bilyk, Onipko, Plachynda & Zavitrenko, 2021	Implement leadership and management modules within the curriculum to prepare students for leadership roles in their careers.

4. DISCUSSION

Technical education has established itself as an essential pillar to improve employability in various global labour markets. This education not only equips students with specific technical skills, but also enhances soft skills, such as problem-solving and communication, which are critical in the modern work environment. In countries such as the Philippines and Malaysia, practice-oriented curricular improvements and employability-focused teaching methodologies have shown positive results with high rates of post-graduation employment, these examples underscore the direct relationship between relevant technical education and employment opportunities in technical and technological sectors.

Specific Objective 1: Examine the Effectiveness of Technical Education Programs

The effectiveness of technical education programs can be measured through the adequacy of their curricula and the implementation of teaching methodologies that reflect the current needs of the labor market. In the Philippines, the inclusion of ICT and practical skills in technical education programs has resulted in 85% employability within the first year of graduation, demonstrating the effectiveness of updating curricula to align with emerging technological demands (Cacho, Abenes, Dejapa & Mapula, 2022). In addition, in France, the implementation of dual training, combining theory and practice, highlights how teaching methodologies can directly influence students' employability (Cahuc & Hervelin, 2024).

In Malaysia, continuous professional development of teachers in employability skills and innovative methodologies has proven to be an effective strategy for improving graduate employment outcomes. 78% of TVE graduates in Malaysia report being employed in positions relevant to their education, underlining the importance of continuous teacher training and the inclusion of soft skills in the curriculum (Sakam, Jamaluddin & Wahat, 2022). In the US, CTE programs that include certification courses and STEM skills have resulted in 82% employability, highlighting the relevance of these skills in today's labor market (Brunner, Dougherty & Ross, 2023).

Finally, in Chile, programs that incorporate collaborative projects and leadership training have been instrumental in developing transversal skills crucial for the labor market. 68% of technical training graduates find employment within the first year of graduation, benefiting from collaborative projects and leadership workshops that not only improve employability, but also

prepare students to take on leadership roles in their future careers (Figueroa, Maureira Cabrera & Pino-Yancovic, 2024).

Based on this, we can highlight that technical education programs that achieve high employability share key characteristics: the continuous adaptation of the curriculum to the needs of the labor market, the professional development of teachers, and the integration of practical and soft skills. These programs not only prepare students for today's demands, but also train them to meet future challenges through an education that effectively combines theory and practice.

Specific Objective 2: Evaluate the Impact of Partnerships between Educational Institutions and Companies

Alliances between educational institutions and companies are crucial to improve the employability of graduates of technical programs. These collaborations allow curricula to be more relevant and for students to gain practical life experience. In India, collaboration between industry and educational institutions has led to approximately 80% of engineering graduates participating in industrial internships, thereby improving their preparation for the labor market (Joshi, Joshi, Barewar & Kulkarni, 2022). This model of cooperation shows how the integration of practical experience in technical education can bridge the gap between theory and practice.

In Cameroon, internship programmes in local companies have been instrumental in improving the employability of technical school graduates. 70% of these graduates find employment related to their training, demonstrating the effectiveness of internships in providing students with the hands-on experience they need to succeed in the labor market (Ngu & Teneng, 2020). In Kenya, internships have also proven to be an effective strategy to improve the preparation and employability of young people, highlighting the importance of practical experiences in technical education (Muchira et al., 2023).

In addition, in Mexico, collaboration between work centers and technical education has facilitated the transition of students to the labor market. These collaborative programs allow students to gain hands-on experience while still in training, which increases their employment opportunities after graduation (Rosado, Calderón, & Guzmán, 2023). In France, dual training programs that combine school-based education and on-the-job training have proven to be highly effective, with 75% of participants finding employment in their field of study (Cahuc & Hervelin, 2024).

Therefore; Partnerships between educational institutions and businesses are critical to ensuring that technical education programs are relevant and effective. These collaborations allow students to gain hands-on experience and apply their knowledge in a real-world environment, significantly improving their employment opportunities. The implementation of dual training programs and internships should be a priority to maximize the employability of graduates.

Specific Objective 3: Detect Discrepancies and Propose Improvements

Identifying and addressing discrepancies between the technical training offered and the needs of the labour market is critical to the long-term relevance of technical education programmes. The need to include advanced technology and ICT skills has become evident, as reflected in market demand. In the Philippines, programs need to include more advanced technology modules to align with market demands (Cacho, Abenes, Dejapa & Mapula, 2022). In Ukraine, Kovalchuk et al. (2022) also point to the need to modernize curricula to include advanced technology.

In addition, the lack of soft and communication skills among graduates suggests a critical area for improvement. In Malaysia, the importance of including workshops and courses on interpersonal skills and effective communication is highlighted to improve students' readiness for the labour market (Sakam, Jamaluddin & Wahat, 2022). Abbas (2020) also highlights the need to improve these skills in technical training to ensure that graduates can compete effectively in the modern work environment.

Another area for improvement is the insufficient connection between educational institutions and the industrial sector. In India, it is recommended to strengthen partnerships with local industries to provide hands-on training and collaborative projects (Joshi, Joshi, Barewar & Kulkarni, 2022). In Kenya, improving the interaction between technical education and local industries is crucial to ensure the relevance of training (Rotich, Wanyeki & Dimo, 2020). Not only do these partnerships enhance the relevance of the curriculum, but they also provide students with the hands-on experience needed to succeed in the job market.

In addition, continuous updating of the curriculum is essential to keep up with the rapid developments of the labor market. In the US, Brunner, Dougherty, and Ross (2023) suggest establishing regular curriculum review mechanisms with the participation of industry experts to ensure that educational programs remain relevant. Budiharso and Tarman (2020) also

emphasize the importance of continuous updating of the curriculum to adapt to the changing demands of the labor market.

Finally, the lack of training in entrepreneurship skills that allow graduates to create their own job opportunities is a shortcoming identified in several contexts. In Nigeria, it is recommended to include business management and project development modules to foster entrepreneurship among graduates (Olabanji & Abayomi, 2019). Lorca Caro and Berrios Aguayo (2023) also highlight the importance of these skills in Chile. The inclusion of STEM courses and workshops in technical training programs can significantly improve the employability of graduates, as observed in the US and other countries (Brunner, Dougherty & Ross, 2023; Singh & Sharma, 2020).

In addressing, the discrepancies between technical training and the needs of the labour market is vital to ensure the employability of school graduates. Modernizing the curriculum, including soft skills, and improving connection to industry are essential. In addition, continuous updating and integration of entrepreneurship skills and STEM competencies are key strategies to maintain the relevance and effectiveness of technical education programs in an ever-changing work environment.

5. CONCLUSIONS

This research highlights the critical importance of technical education as an effective tool to improve employability in diverse global contexts. Through a detailed analysis of several countries, it is concluded that technical education programs that adapt their curricula to the demands of the labor market and that integrate practical and soft skills are highly effective. The research underscores that government initiatives and collaborations with industry are essential to maximise the benefits of technical education.

The study contributes to the understanding of how well-designed technical education can bridge the gap between education and employment, providing students with the skills needed to succeed in the modern labour market.

Specific Conclusion 1: The effectiveness of technical education programs depends to a large extent on the adequacy of their curricula and the implementation of teaching methodologies that reflect the needs of the labor market. It is concluded that programs that include information and communication technology (ICT) and practical skills have significantly higher employability rates. The research provides evidence that continuously updating the curriculum

to align with emerging technological demands is crucial to effectively preparing students for the job market, implying that educational institutions must remain flexible and responsive to the changing needs of the industry.

Specific Finding 2: Partnerships between educational institutions and companies play a vital role in improving the employability of graduates of technical programs. It is concluded that these collaborations allow curricula to be more relevant and for students to gain essential practical experience. Research shows that participation in industrial internships and dual training programs significantly improves students' preparation for the labor market, this finding underscores the importance of integrating practical experience into technical education to bridge the gap between theory and practice, thus improving graduates' employment prospects.

Specific Finding 3: Identifying and addressing discrepancies between the technical training offered and the needs of the labour market is critical to the long-term relevance and effectiveness of technical education programmes. It is concluded that the inclusion of advanced technologies, ICT competencies, and soft skills in the curriculum is essential to meet the demands of the modern labor market. The research highlights the need to strengthen connections with industry and continually update curricula to ensure that educational programs remain relevant. In addition, the inclusion of entrepreneurship training and STEM skills is vital to prepare graduates for an ever-changing work environment.

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