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Leadership as a Factor in Maintaining Quality Assurance in Technology and Vocational Education and Training: A Systematic Literature Review

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ABSTRACT

This article focuses on the concept of leadership, which involves managing organizations or groups of individuals, particularly in the context of TVET institutions and sectors. Quality assurance, which measures the level of excellence in comparison to similar processes, is crucial in TVET schools to determine competence and global competitiveness. The article aims to explore the impact of leadership on managing quality in vocational schools and examines various aspects considered for quality control. This study utilizes the Systematic Literature Review, and the data was gathered from reputable sources, specifically Google Scholar, encompassing research conducted between 2018 and 2023. The analysis employed rigorous inclusion and exclusion techniques. The selected articles delve into the impact of leadership skills on quality assurance within the context of vocational education. The findings underscore the crucial role of leadership in guaranteeing educator competence, refining curriculum standards, and establishing effective quality control measures.

Keywords: Leadership, Quality Assurance, Vocational Education and Training

INTRODUCTION

The continuous evolution of industries and the rapid advancement of technologies have spurred nations worldwide into fierce competition, as they harness their readily available resources and strive to develop diverse skill sets in anticipation of an upcoming era. In close connection with Technical and Vocational Education and Training (TVET), the methods, models, and strategies employed in education are profoundly impacted by the prevailing era and the pace of technological advancement [1]. The transition is characterized by the widespread adoption of information technology to facilitate digital-based learning across various educational levels, spanning from elementary schools through junior high schools up to universities [2]. By integrating advanced technologies and versatile pedagogic tools, the education sector seeks to bridge the gap between theoretical knowledge and practical skills demanded by the job market. Emphasizing quality assurance becomes crucial in this endeavor, as it not only guarantees standardized proficiency but also instills confidence in employers that graduates are well-prepared to excel in their chosen careers.

Moreover, in the dynamic landscape of the working world, a strong emphasis on quality education fosters a continuous learning culture, allowing individuals to adapt, upskill, and remain relevant throughout their professional journeys. As industries continue to evolve, the synergy between education and

quality assurance plays a pivotal role in creating a competent and future-ready workforce.

Maintaining and controlling the quality assurance of an institution involves considering several aspects, with leadership being widely recognized as a primary driver for ensuring and upholding an organization's standards and excellence. The significance of leadership development has reached unprecedented levels, as companies of all sizes acknowledge the need to cultivate new leadership capabilities and organizational strengths to flourish in today's volatile, uncertain, complex, and ambiguous business landscape [3]. Emerging from conventional approaches, instructional leadership, and its accompanying

Branch, distributed instructional leadership, are two important educational leadership theories with significant impacts on this study [4]. Leadership qualities can bolster a leader's capacity to address and handle professional challenges that may emerge in the workplace [5].

Quality assurance (QA) is a notion that pertains to performance measures established by authorities to evaluate the effectiveness of educational institutions, ensuring that the learning outcomes align with the specific requirements of each society [6]. On the contrary, quality assurance refers to the implemented procedures, processes, and standardized systems that provide support and ensure the efficient delivery of educational services [7]. Enhancing the measurement of the correlation between the aforementioned four elements and TVET can be achieved through

effective monitoring and evaluation of its supply, demand, and financing aspects [8]. Due to the globalization of the marketplace and the necessity to offer training that meets comparable standards to those found in the developed world, the significance of quality assurance in technical and vocational education and training (TVET) is steadily rising [9].

The alignment of leadership skills and quality assurance within vocational schools is essential to establish standardized levels of quality required to meet specific requirements. To achieve this goal, collaboration between institutions, governments, and industries is necessary to ensure the ongoing implementation of quality control measures in each nation. Moreover, cultivating effective leadership skills plays a crucial role in supporting students' development of soft skills.

Consequently, this study aims to investigate the impact of leadership in managing quality within vocational schools and identify the key aspects involved in carrying out quality control. Based on the preceding discussion on the implementation of leadership in quality assurance, the following questions arise: (1) Why are leadership skills significant in Vocational Education? (2) What are the impacts or implications that should be done to ensure controlled quality through leadership in Vocational Education?

RESEARCH METHOD

This article utilizes the Systematic Literature Review (SLR) methodology to

examine the importance of quality assurance in leadership across various vocational domains. As literature reviews are crucial components of academic analysis, they must exhibit credibility, reliability, and reproducibility. Conducting an in-depth review of scientific journal literature within a specific discipline plays a crucial role in identifying research gaps and providing valuable insights to support future studies in that field.

1. Search Strategy

This research was conducted to identify publications that specifically address the topic of quality assurance in leadership within vocational education. To achieve this, a targeted approach was employed, focusing on specific terms present in the titles, keywords, and abstracts of articles. This methodology proved beneficial in narrowing down the scope and relevance of the articles included in the review. The study utilized the Google Scholar databases as primary sources of data, ensuring access to a diverse array of scientific articles and publications from various fields. By using these reputable databases, more reliable sources were extracted for analysis. A specific search string was implemented to establish connections relevant to this article's focus, allowing for a comprehensive analysis of available data and literature on the significance of quality assurance in leadership within vocational education. The search string used is "quality assurance" AND "leadership" AND "vocational education" OR "TVET".

2. Study Selection

The study selection process involves

repetitive and progressive procedures, divided into multiple stages for various tasks. A thorough search is performed to gather articles and papers relevant to the research, focusing on the importance or factors influencing the quality assurance of leadership in vocational education. The search yielded a total of 2743 articles.

3. Inclusion and Exclusion Indicators

In any field of study and research, it is crucial to consider the process of inclusion and exclusion. This involves utilizing reliable indicators that have been established to achieve accurate outcomes and address the research question effectively.

Table 1. Inclusion and exclusion indicators

Inclusion	Exclusion
<ul style="list-style-type: none"> • Research related to quality assurance of leadership in vocational education • Publication date of article between the range of the year 2018 to 2023 • Research articles are published and produced in English • Research articles and papers are open-access and available to be downloaded on the complete version • The research displays a proper methodology and sufficient framework 	<ul style="list-style-type: none"> • Research is unrelated to quality assurance of leadership in vocational education • Articles published outside of the year 2018 to 2023 • Research articles are produced in languages other than English • Research articles are not available to download in the complete version • The research articles are not a literature review, review, or bibliometric study

Initially, the search string applied on Google Scholar as the database yielded a total of 2743 articles. After applying inclusion and exclusion criteria, 543 papers were further assessed but found irrelevant to the quality assurance of leadership in vocational education. Additionally, 57 publications were outside the range of the years 2018 to 2023,

and another 50 papers, not written in English and unavailable for full download, were excluded. Eventually, 7 articles were identified as relevant and addressing the research question. The data extraction process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) workflow.

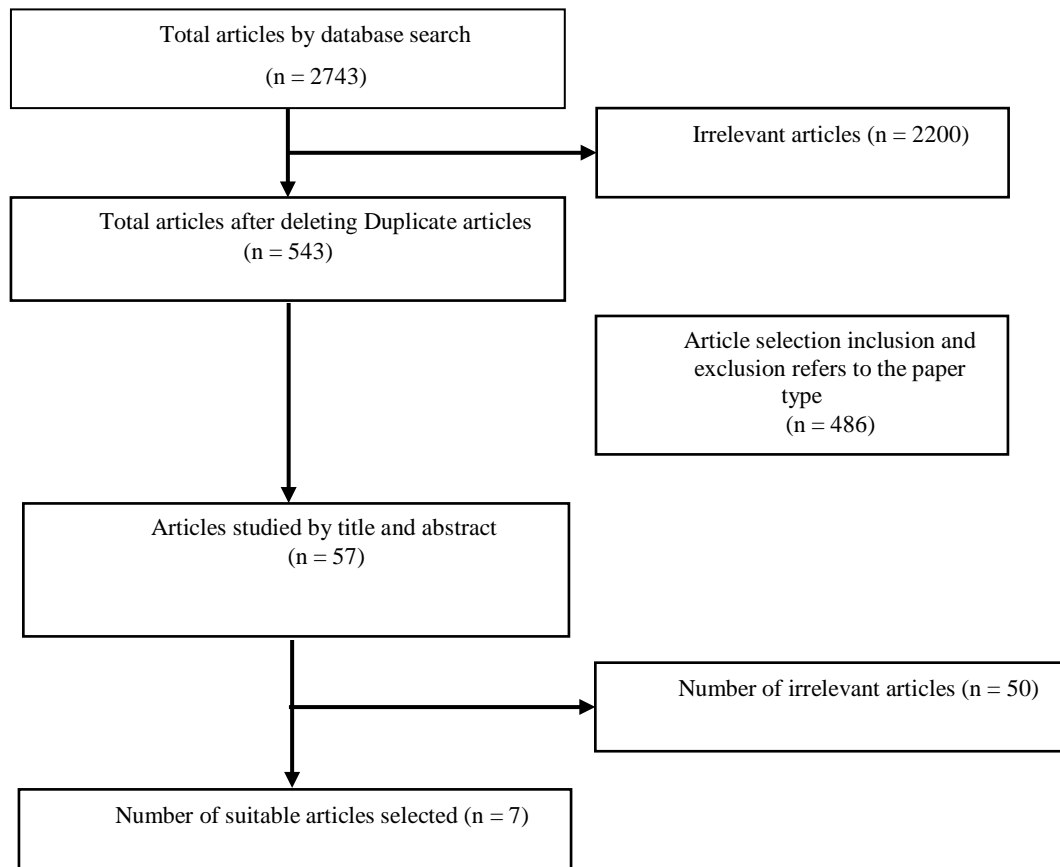


Figure 1. Article selection process through PRISMA flowchart

Following a rigorous selection process, the articles included in this study are as follows:

Table 2. Selected articles

AUTHORS	TITLE OF PUBLICATION	YEAR
M. D. MESFIN, E. J.VAN NIEKERK	<i>Leadership Styles of the Deans in Ethiopian Governmental Technical and Vocational Education and Training (TVET) Colleges</i> [10]	2019
REYANHEALME ROHANAI, AVLYIN JAY SUMAYONG, ADIBFARHAN ZAIME, HASYAMUDDIN OTHMAN, MAGDELYNE ANSIK LIMAN, AGNES SUMAYONG, LAI CHEE SERN	<i>Leadership Style among TVET Postgraduates Student</i> [11]	2020
NURHANIM SAADAH ABDULLAH, SRI SUMARWATI, MOHD ISMAIL ABD AZIZ	<i>Life and Career Skills Among Technical and Vocational Education and Training (TVET) Students in Vocational Colleges</i> [12]	2020

- Quienera Joshua, Supriyanto, Tutin Aryanti, Mervyn Wong Hsin Jyi, Emmanuel Obobi Tettehfi*
- IRDAYANTI MAT NASHIR, *The Future of Leadership Framework in Malaysia Education Systems [13]* 2020
- MOH KHAIRUDIN DWI ESTI,
NURUL NAZIRAH MOHD
IMAM MA'AROF, MOHAMED
NOR AZHARI BIN AZMAN,
MOH KHAIRUDIN
- JAMELAA BIBI ABDULLAH, *Development of TVET Leadership Model Among Leaders in TVET Institutions* 2021
ZAINUREN HJ MOHD NOR, [14]
- AKMAL HAJI ABD HAMID,
NOOR HASLINDA HARUN,
EUIS MARIANI KOSWARA,
MUHAMAD AZHAR
STAPA@MUSTAPA,
NORABEERAH
SAFORRUDIN, AHZAN
SALVINA WATI AHMAD
- WAN HANIM NADRAH *Leadership 4.0 In Technical and Vocational Education and Training* 2021
BINTI WAN MUDA, *Institution [15]*
- FAZLINDA BINTI AB HALIM,
KHAIRUNESA BINTI
ISA, AHMAD NABIL BIN
MD NASIR
- LUQMAN MAHMUD, *The Relationship between Distributed Leadership and Organizational* 2022
SHAIFUL ANNUAR KHALID, *Citizenship Behavior among TVETPractitioner in Malaysia [16]*
AHMAD NIZAN MAT NOOR
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RESULT AND DISCUSSION

The findings from the literature review will be presented as relevant and essential insights that directly address the research questions. The researcher will methodically organize and explain these findings, potentially grouping them based on identifiable themes or concepts that emerge from the analysis. Furthermore, the researcher will diligently evaluate the identified sources to ensure the accuracy and reliability of the presented information.

Q1: Why are leadership skills significant in Vocational Education?

The presented table highlights the significance of quality assurance in vocational education leadership, as evidenced by the selected articles:

Table 3. Significance of quality assurance in vocational education leadership

ARTICLE TITLE	SIGNIFICANCE OF QUALITY ASSURANCE IN VOCATIONAL EDUCATION LEADERSHIP
<i>Leadership Styles of the Deans in Ethiopian Governmental Technical and Vocational Education and Training (TVET) Colleges</i>	The significance of this study lies in investigating the impact of leadership styles adopted by deans on the perceived effectiveness of government TVET Colleges, as assessed by deans, teachers, and students
<i>Leadership Style among TVET PostgraduatesStudent</i>	The objectives of this research are twofold: firstly, to uncover any distinctions between gender and leadership style, and secondly, to determine the prevailing leadership style among students in the Technical and Vocational Education and Training (TVET) setting
<i>Life and Career Skills Among Technical and Vocational Education and Training (TVET) Students in Vocational Colleges</i>	This research aims to investigate whether education institutions, especially in technical and vocational education, are successfully incorporating life and career skills to equip a semi-skilled and skilled workforce capable of competing in the global labor market
<i>The Future of Leadership Framework in Malaysia Education Systems</i>	The research's objective is to investigate the insights of Technical and Vocational Education and Training (TVET) experts on innovative instructional leadership
<i>Development of TVET Leadership Model Among Leaders in TVET Institutions</i>	The primary objective of this study isto create a leadership model for Technical and Vocational Education and Training (TVET) focusing on leaders within TVET institutions under the Ministry of Education (MOE), in Malaysia
<i>Leadership 4.0 In Technical and Vocational Education and Training Institutions</i>	As a pioneering figure in the TVET institution within this ever-evolving world, it is crucial to grasp the strategic significance of our role in fostering the growth of knowledge and skills. We must strive to comprehend the dynamic nature of the current challenges and opportunities, ensuring our position as leaders enables us to make a substantial contribution to the development of individuals' capabilities
<i>The Relationship between Distributed Leadership and Organizational Citizenship Behavior among TVET Practitioner in Malaysia</i>	This study aims to advocate Organizational Citizenship Behavior (OCB) as a prospective factor capable of enhancing the performance of TVET teachers in Malaysia

Based on the presented table, it becomes evident that quality assurance in vocational education leadership holds several key significances. The table indicates that five articles focus on the impact of leadership in TVET (Technical and Vocational Education and Training) institutions, emphasizing its potential influence, particularly for organizations and institutions [17][18]. Moreover, the articles stress the importance of perceiving leadership as an equal opportunity for all, including women, who can effectively shoulder responsibilities and contribute to leadership roles, even in areas traditionally associated with feminist tasks. Another highlighted aspect is that leadership represents a stable and invaluable career skill, enabling future workers to compete effectively in the global market [19][20].

Consequently, TVET institutions and universities bear the responsibility of offering a plethora of leadership-oriented programs to encourage students to prepare themselves for upcoming revolutions and to equip them with the ability to adapt to the ever-changing technological landscape. Before that, the organization OCB in Malaysia plays a crucial role by empowering teachers nationwide to instill leadership skills in their training, ultimately fostering confidence and guidance for future generations [21]. Furthermore, the table underscores the necessity for TVET.

Institutions and educational authorities to prioritize quality assurance in leadership development programs. These programs should focus not only on imparting technical

knowledge but also on nurturing leadership competencies among students. By doing so, future graduates will be better equipped to take on leadership roles and drive positive changes within their respective fields [22][23].

The discussion in the table also highlights the broader societal impact of leadership in vocational education. Effective leadership in this domain goes beyond individual success; it can lead to the advancement of industries, economic growth, and societal progress. As students develop strong leadership skills, they are more likely to become proactive and engaged citizens who actively contribute to their communities and the overall welfare of society [24]. Additionally, the table points out that leadership should be viewed as a continuous journey rather than a fixed destination. Institutions need to establish a culture that promotes lifelong learning and growth for both students and educators. Encouraging a growth mindset and providing opportunities for leadership development throughout one's career can lead to more competent and confident leaders in the workforce. In conclusion, the table highlights the multifaceted significance of quality assurance in vocational education leadership. It underlines the importance of promoting [25].

Leadership as an inclusive endeavor, fostering leadership skills through educational programs, and recognizing its far-reaching impact on individuals, industries, and society as a whole. By investing in leadership development, TVET institutions and educational bodies can contribute significantly to building a skilled and capable workforce, poised to address the challenges and opportunities of the future [15][16][26].

Q2: What are the impacts or implications that should be done to ensure controlled quality through leadership in Vocational Education?

Table 4. Impacts or implications enforced to ensure controlled quality through leadership in vocational education

ARTICLE TITLE	IMPACTS OR IMPLICATIONS ENFORCED TO ENSURE CONTROLLED QUALITY OF VOCATIONAL EDUCATION LEADERSHIP
<p><i>Leadership Styles of the Deans in Ethiopian Governmental Technical and Vocational Education and Training (TVET) Colleges</i></p>	<ul style="list-style-type: none"> • The research suggests that deans should be made aware that employing a combination of transformational and transactional leadership styles (rather than the laissez-faire style) is likely to enhance their efficiency and the motivation of teachers, particularly when dealing with relatively young and inexperienced staff in Ethiopian TVET colleges and as a consequence, teachers' job satisfaction levels, serving as indicators of perceived work performance, are expected to increase
<p><i>Leadership Style among TVET PostgraduatesStudent</i></p>	<ul style="list-style-type: none"> • The impact of leadership, in comparison to genetic factors, is greater for females than males concerning environmental effects, leading to an increased influence of heritability estimates in females over males. • This study uncovered that among TVET postgraduate students, Administrative Leadership has been ranked as the most prominent leadership style. • The significant differences observed between genders in the Administrative Leadership Style (ALS) and Conceptual Leadership Style (CLS) suggest that both male and female individuals have an equal likelihood of statistically dominating in the TVET education environment.
<p><i>Life and Career Skills Among Technical and Vocational Education and Training (TVET) Students in Vocational Colleges</i></p>	<ul style="list-style-type: none"> • The results of this study indicated a noteworthy disparity between male and female students in vocational colleges concerning Flexibility and Adaptability skills, Social and Cross-cultural skills, Productivity and Accountability skills, and Responsibility

Development of TVET Leadership Model Among Leaders in TVET Institutions

- To prepare students effectively for the real working environment, vocational colleges should prioritize providing serious training and embedding Life and Career skills into the curriculum of all their programs.
- This study contributes to expanding the scope of TVET education by enhancing the skills of students, enabling them to confidently navigate their careers and life after graduating from vocational colleges.
- This study has achieved the development of a TVET Leadership Model tailored to the Malaysian context, serving as a valuable guide for leaders within TVET institutions under the Ministry of Education (MOE).
- Some of the implications in this study are to create a TVET leadership module incorporating the 13 elements of the TVET leadership model, designed to train managers and middle managers in Vocational Colleges, Technique Schools, and Secondary Daily Schools offering PIMA/PVMA courses. Additionally, establish a team of experts from IAB faculty to conduct the TVET leadership training, develop a comprehensive TVET leadership handbook intended for sharing with BPLTV., undertake collaborative research with universities to formulate TVET leadership models for leaders in Malaysian tertiary institutions, and conduct a comparative regional study, analyzing TVET practices in countries such as Indonesia, Thailand, Brunei, Vietnam, and Singapore.

- The findings of this study revealed that the dimension of leadership is contingent upon the rapidly evolving scenario brought about by a revolution.
- TVET leaders must seize the potential opportunities of the new era with responsibility and wisdom, employing flexible leadership to drive their institutions' success.
- This study emphasizes the importance of leaders being equipped with credible styles, competencies, and characteristics to emerge as future leaders in the context of IR4.0.
- TVET institutions must focus on developing a Leadership 4.0 culture that aligns with the requirements of IR4.0 to effectively meet the evolving demands.
- The present study's conclusion highlights that distributed leadership has a positive and significant correlation with teacher Organizational Citizenship Behaviors (OCBs).
- In schools where leadership responsibilities are shared among multiple individuals, there is a higher likelihood of teachers displaying OCBs.
- It is worth noting that both distributed leadership and organizational citizenship research are continually evolving, which posed a challenge for the researcher to discuss the study's findings about the existing literature.
- It is recommended that further research evidence is necessary to gain a deeper understanding of the constructs of distributed leadership and OCBs, including their interrelationships, antecedents, and implications within school settings.

The Relationship between Distributed Leadership and
Organizational Citizenship Behavior among TVET
Practitioner in Malaysia

One notable consensus across multiple research papers is the significance of employing a combination of transformational and transactional leadership styles in vocational education settings [27][28]. This blend of leadership approaches is found to enhance efficiency and teacher motivation, particularly when dealing with relatively young and inexperienced staff in vocational colleges. The results suggest that leadership can be a powerful tool in elevating teachers' job satisfaction levels, ultimately improving their perceived work performance [10][13][16].

Gender differences in the impact of leadership have also been investigated. Studies reveal that the influence of leadership when compared to genetic factors, is more substantial for females than males concerning environmental effects. This observation leads to a higher degree of heritability estimates in females over males. However, it is essential to note that both male and female individuals have an equal likelihood of statistically dominating in the TVET education environment when it comes to specific leadership styles, such as Administrative Leadership and Conceptual Leadership [11][29]. The focus on skills development in vocational education has led to studies examining the relevance of life and career skills in preparing students for the real working environment. Results suggest that vocational colleges should prioritize providing serious training and embedding these vital skills into the curriculum of all programs. By doing so, students can confidently navigate their careers and lives after graduating from vocational colleges, contributing positively to

their communities and industries [12][18].

Another critical aspect that emerged from the research is the role of staffing challenges in the overall organizational construct of vocational institutions. The identification of understaffing and skill mismatches has highlighted the need for comprehensive workforce planning, talent acquisition initiatives, and professional development programs for staff. By fostering a strong and stable organization, equipped with competent staff working harmoniously together, vocational institutions can enhance productivity, innovation, and the ability to overcome challenges with greater efficiency [13][30].

Moreover, as we venture into the Fourth Industrial Revolution (IR4.0), the importance of adaptive leadership becomes paramount. TVET leaders must seize the potential opportunities of this new era with responsibility and wisdom, employing flexible leadership styles to drive their institutions' success. Emphasizing the significance of credible leadership styles, competencies, and characteristics, TVET institutions must focus on developing a leadership 4.0 culture that aligns with the evolving demands of IR4.0 [15][31].

Additionally, fostering a culture of distributed leadership has been found to have a positive and significant correlation with teacher Organizational Citizenship Behaviors (OCBs). In schools where leadership responsibilities are shared among multiple individuals, there is a higher likelihood of teachers displaying OCBs. This underlines the importance of collaborative leadership approaches that promote positive workplace relationships and effective teamwork [16][21].

In the overall context, the research on leadership in vocational education sheds light on

Quienera Joshua, Supriyanto, Tutin Aryanti, Mervyn Wong Hsin Jyi, Emmanuel Obobi Tetteh various aspects that influence the effectiveness and success of educational institutions. The findings highlight the importance of adopting a combination of transformational and transactional leadership styles, addressing gender differences in leadership impact, prioritizing life and career skills development, and adapting leadership practices to suit the requirements of IR4.0. By embracing these insights and implementing appropriate strategies, vocational education can be better equipped to navigate challenges and embrace opportunities, ultimately leading to enhanced student outcomes and organizational success.

CONCLUSION

The journal mentioned above emphasizes two fundamental questions explored in this. Review paper: the importance of Leadership skills in Vocational Education and the factors that ensure quality control through effective leadership in this field. All seven journals provide detailed explanations regarding the significance of leadership skills in maintaining institutional standards.

Moreover, they shed light on how the development of such skills can be influenced by both internal and external factors within an institution. Additionally, possessing these leadership skills goes beyond classroom learning, enabling students to acquire other soft skills and inspiring them to actively participate and collaborate with the community, particularly within the industry. In addition, the journals draw attention to the role of visionary leaders in shaping the direction of vocational education and fostering a culture of innovation and adaptability. Effective leaders in this

context are seen as catalysts for positive change, driving progress not only in academic aspects but also in the practical application of knowledge in real-world scenarios. An important aspect illuminated by the journals is the symbiotic relationship between leadership skills and the overall success of vocational education institutions. Institutions with strong leadership at various levels tend to exhibit higher student satisfaction, better learning outcomes, and a more conducive learning environment.

On the other hand, leadership deficiencies can lead to organizational challenges, affecting the overall effectiveness and reputation of the institution. Moreover, the journals underscore the significance of mentorship and guidance in nurturing leadership potential among students. Encouraging mentorship programs and providing opportunities for leadership experiences can substantially contribute to the personal and professional growth of students. In conclusion, the reviewed journals collectively emphasize the critical role of leadership skills in the realm of Vocational Education. They highlight how effective leadership not only ensures the maintenance of institutional standards but also shapes students into well-rounded individuals equipped with the necessary skills to thrive in the community and industry. The findings call for a concerted effort from educational institutions to prioritize leadership development programs, fostering an environment that nurtures and celebrates leadership potential among students and educators alike.

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