

Critical Review of Character Education in Vocational High Schools in Era Society 5.0

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Abstract

The rapid advancement of digital technology and the accelerated pace of social transformation have fundamentally reshaped work, learning, and human interaction, making character education increasingly strategic in Vocational High Schools (SMKs). This study presents a critical review of national and international literature to evaluate the relevance of character education in the Society 5.0 era, identify implementation challenges, and propose strategic directions for adaptive and contextually grounded practice. The analysis indicates that effective character education requires a multidimensional approach, integrating moral, social, spiritual, and professional competencies through holistic curricula, extracurricular programs, school leadership, and stakeholder collaboration. Technology offers opportunities to enhance engagement, digital literacy, and collaboration, yet it also introduces risks such as distractions, ethical dilemmas, and gaps in digital competence. Key challenges include misalignment between school programs and industry demands, inconsistent integration of religious and digital values, and varied stakeholder involvement. Therefore, character education must operate as an ecosystemic effort, balancing technological innovation with ethical and humanistic values to produce SMK graduates who are competent, ethical, and resilient in meeting the demands of Society 5.0.

Keywords: Character Education; Vocational High Schools; Society 5.0; Digital Literacy

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INTRODUCTION

The advancement of technology in the digital era and the acceleration of social transformation have fundamentally changed the way humans work, interact, and learn. Education, as a strategic institution, is no longer understood merely as a process of knowledge transfer but as a comprehensive mechanism for developing students' cognitive competencies, attitudes, behaviors, and moral maturity. In the Society 5.0 era, a human-centered society supported by intelligent technologies such as *artificial intelligence*, *big data*, and *the Internet of Things*, character education becomes increasingly relevant. This transformation requires students not only to master technical skills but also to develop socio-

emotional competencies, including integrity, empathy, ethics, responsibility, resilience, and wise decision-making (Lian et al., 2020; Dwiningrum, 2021). In the context of vocational education, these demands are particularly crucial, as SMK graduates are expected to adapt quickly to a flexible, digital, and highly automated work ecosystem.

Although digital technology provides broader learning access, it also poses significant challenges to students' character development. Studies report rising cases of cyberbullying, gadget addiction, plagiarism, decreased empathy, and identity crises due to the pervasive influence of global digital culture (Indra, 2019; Lestari & Handayani, 2023; Virgustina, 2019). In SMKs, these phenomena directly affect discipline, work ethic, commitment, and professional attitudes, which are prerequisites for workforce readiness (Rojaki & Yuliana, 2023). This situation indicates that technological advancement brings both opportunities and risks, necessitating adaptive, systematic, and contextual character education. National education policies, including Law No. 20 of 2003 and Government Regulation No. 87 of 2017 on Character Education Strengthening, mandate character formation, emphasizing collaboration among schools, families, and communities to cultivate character habits (Indra, 2019; Ritonga, 2022). Nevertheless, policy implementation still faces challenges, such as limited counseling programs, insufficient resources, inconsistent integration of religious and digital values, and gaps between concept, policy, and practice (Muslihati, 2019; Virgustina, 2019; Listianah, 2022; Zulkarnain et al., 2023).

Various studies have explored character education in SMKs from multiple perspectives, ranging from implementation models (Akhimelita et al., 2020) and school leadership roles (Lukmantoro et al., 2024) to parent-teacher collaboration (Baidi, 2019; Angelina & Pandin, 2020). At the macro level, research demonstrates that character education strategically contributes to producing globally literate, adaptive students with critical thinking skills capable of navigating the complexities of the digital era (Saputro & Murdiono, 2020; Hermino & Arifin, 2020; Dewi & Alam, 2020). However, most studies focus on technical implementation or conceptual approaches and do not critically examine how SMK character education can meet the demands of Society 5.0, integrating humanistic and intelligent technology aspects to create a valuable and productive society.

A review of existing studies reveals significant research gaps: (1) limited analysis of the direct link between SMK character education and Society 5.0 competencies, especially in relation to future workforce needs; (2) lack of critical evaluation mapping the potential, challenges, and barriers to implementing character education in a digital and post-pandemic context; (3) insufficient integration of intelligent technology, student behavior changes, and character-based vocational learning needs; and (4) absence of a comprehensive synthesis combining national and international perspectives on transforming character education relevant to technological and social changes. These gaps highlight the necessity of an integrated and in-depth critical review.

The urgency of this research is further reinforced by the role of character education as a moral compass in facing unpredictable digital technologies and artificial intelligence (Sidik et al., 2025; Saidi et al., 2025). In the workforce, character is a fundamental indicator determining professionalism, integrity, collaboration, and adherence to ethical and safety standards. Industry reports indicate that weaknesses in SMK graduates' character, such as low discipline, work ethic, and responsibility, are major factors reducing the quality and competitiveness of vocational labor (Indra, 2019; Abbas, 2021). Therefore, character

education is not only a moral issue but also a sustainable workforce competency development strategy.

Furthermore, the Society 5.0 era demands a more progressive role for character education. Society 5.0 emphasizes human development capable of balancing digital intelligence with social, emotional, and spiritual intelligence. Character education forms the foundation for students to navigate the digital space ethically, critically manage information, and utilize technology for social good. In the SMK context, it is essential to build an educational ecosystem integrating character values into learning processes, school management, industrial practice, and social interactions. Failure to adapt character education to the realities of Society 5.0 risks producing graduates unprepared in terms of ethics and mindset for the intelligent technology-dominated workforce.

Based on these contexts and research gaps, this article aims to: (1) critically review literature on character education in SMKs; (2) map the relevance of character education in addressing the demands of Society 5.0; (3) identify challenges and barriers in implementing character education in vocational education; and (4) propose strategic directions for contextual, adaptive, and technology-informed character education. The study focuses on the relationship between character education, vocational competencies, and workforce requirements in the Society 5.0 era. Its main contribution lies in providing a critical review integrating national and global perspectives, offering a strategic reference for educators, policymakers, and stakeholders in designing relevant, adaptive, and future-oriented character education.

METHOD

This study employs a critical literature review method to systematically examine the development, implementation, and challenges of character education in vocational high schools within the framework of Society 5.0. The review evaluates empirical, conceptual, and theoretical findings to identify thematic patterns and research gaps. Literature searches were conducted through Google Scholar, ERIC, Scopus, and DOAJ using the keywords “*character education*”, “*vocational education*”, and “*Society 5.0*”. The selected sources consist of reputable academic publications from 2020 to 2025, with a primary focus on peer-reviewed journal articles and the exclusion of non-scholarly or non-research documents.

Table 1. Inclusion and Exclusion Criteria

Category	Criteria
Inclusion	<ul style="list-style-type: none"> ▪ Studies discussing character education in vocational high schools or vocational education. ▪ Research related to technology integration, 21st-century competencies, or Society 5.0 ▪ Articles written in Indonesian or English ▪ Empirical studies, theoretical studies, or implementation models.
Exclusion	<ul style="list-style-type: none"> ▪ Studies that do not address the context of vocational education ▪ Articles that do not provide relevant data, concepts, or findings ▪ Non-academic literature such as blogs or opinion pieces without scientific validation.

The article selection process was conducted in three stages:

1) Initial Screening

The first stage involved examining the titles, abstracts, and keywords of all 70 collected studies to assess their relevance to the focus of this review, character education in vocational high schools within the framework of Society 5.0. Based on the predefined inclusion and exclusion criteria, 25 articles were retained for further evaluation, while others were removed due to lack of relevance, outdated publication years, or insufficient academic rigor.

2) Critical Evaluation of the Literature

The 25 articles that passed the initial screening underwent a detailed full-text review to assess methodological rigor, depth of empirical evidence, and conceptual contributions. The evaluation was guided by theoretical perspectives on character education and the principles of Society 5.0. During this stage, 15 articles were excluded because they did not adequately address vocational education, lacked analytical depth, or failed to meet scientific publication standards. As a result, 10 articles were deemed eligible for inclusion in the final synthesis.

3) Thematic Synthesis

In the final stage, data from the 10 selected articles were systematically extracted, including study identification, educational context, research design, variables examined, and key findings related to character education in vocational high schools in the era of Society 5.0. The extracted data were then organized into overarching thematic categories such as character values, digital technology integration, vocational pedagogy, future-oriented competencies, and implementation challenges. This process yielded a structured and comprehensive understanding of the current state and evolving landscape of character education in the vocational context.

Overall, from the initial 70 articles, a total of 60 were excluded throughout the selection process due to irrelevance, failure to meet inclusion criteria, unavailability of full text, or insufficient scientific quality, resulting in 10 high-quality articles being included in the final analysis.

The data analysis process employed a qualitative, interpretative approach typical of critical literature reviews. Selected studies were coded based on their methodological characteristics, thematic focus, and relevance to character education in vocational high schools within the framework of Society 5.0. The coding process facilitated the identification of recurring concepts, divergences, and emerging patterns across empirical and conceptual literature. Findings were then organized into analytical categories, such as character values, digital integration, vocational pedagogy, and future competencies, to generate a coherent synthesis that reflects current developments and unresolved issues in the field.

The validity of the analysis was strengthened through source triangulation by comparing literature drawn from diverse research designs, publication outlets, and geographical contexts. This approach ensured that the synthesized findings did not rely on a single type of evidence or perspective. Additionally, a critical appraisal framework was applied to evaluate the methodological rigor and credibility of each study, enabling a balanced and objective interpretation of results. These strategies enhance the reliability,

transparency, and representativeness of the conclusions regarding the state of character education in vocational high schools in the era of Society 5.0.

RESULT AND DISCUSSION

1. Description Overview

An analysis of the ten primary articles provides a comprehensive overview of character education dynamics in vocational high schools (SMKs) amid the digital era and Society 5.0. Subekti and Alinurdin (2021) emphasize the critical role of school consistency in fostering a culture of discipline and teacher exemplarity, while Nugroho (2022) highlights the necessity of strategic collaboration between schools and industries to authentically instill responsibility and work ethics. Sari et al. (2024) underline the urgency of strengthening digital character in response to intelligent technology challenges, supported by Hariati et al. (2023), who demonstrate that school culture and digital mentoring significantly influence student character internalization. Lukmantoro et al. (2024) further stress the impact of school leadership in reinforcing the character ecosystem through digital literacy policies and teacher competency development. Other studies (Akhimelita et al., 2020; Rojaki, 2024) point to character integration in learning and specialized programs, as well as gaps between school-taught values and industry requirements. These findings form the basis for further analysis, systematically presented in Table 2.

Table 2. Literature Review

Author & Year	Main Focus	Method & Research Type	Key Findings
Subekti & Alinurdin (2021)	Implementation of character education from a good character perspective in vocational high schools (SMKs)	Descriptive Study (Qualitative)	Character education in SMKs is well-implemented and integrated into the curriculum and supporting tools through systematic planning, supervision, and evaluation
Nugroho (2022)	Integration of character education in vocational education at SMKs	Contextual Literature Study (Qualitative)	Soft skills development through character education is integrated via: (1) all subjects, (2) extracurricular activities, and (3) structured character reinforcement programs and industrial culture
Listianah (2022)	Strengthening religious values in character education in the Society 5.0 era	Theoretical / Analytical Study (Conceptual Analysis)	Character education approaches should integrate religious values to cultivate virtuous individuals capable of facing the complexities of Society 5.0
Hariati et al. (2023)	Implementation of character education for SMK students in the digital era	Mixed Methods: Descriptive (Qualitative & Quantitative)	The digital era has both positive and negative impacts. Effective solutions include digital ethics learning, screen-time limits, digital literacy enhancement, and collaboration among teachers, parents, and community
Zulkarnain et al. (2023)	Relevance of Ki Hajar Dewantara’s Trisentra character education model (family, school, community) in Society 5.0	Literature Study (Analytical)	The Trisentra model remains relevant as a synergistic foundation; collaboration among the three pillars should be strengthened and mediated by technology to consistently shape student character

Lukmantoro et al. (2024)	School leadership in strengthening character education in the digital literacy era	Exploratory Study (Case Study: Qualitative)	School leaders play a key role in creating a holistic integration model of character education across curriculum, learning, activities, and school culture in the digital era
Sari et al. (2024)	Strategies for strengthening character education in the Society 5.0 era	Theoretical / Analytical Study (Conceptual Analysis)	Strengthening character in Society 5.0 requires innovative approaches that ethically leverage technology, emphasize global diversity, collaboration, and critical-creative thinking skills
Rojaki (2024)	Review of character education implementation in SMKs	Literature Study (Traditional Review)	Character education in SMKs is implemented through two main strategies: integration into learning and specialized character reinforcement programs (e.g., cadet programs), requiring commitment from the whole school community
Saidi et al. (2025)	The role of school leaders in strengthening character education in the Society 5.0 era	Literature Study (Systematic / Narrative)	School leaders should act as transformational leaders and digital role models to guide the school community in internalizing character values in the context of technology and a hyper-connected Society 5.0
Hidayati et al. (2025)	Implementation of the Pancasila Student Profile (P5) Strengthening Project in SMKs	Literature Study (Systematic / Narrative)	P5 implementation effectively builds competencies and character of the Pancasila Student Profile; success depends on careful planning, differentiated learning, and ongoing authentic assessment

Table 3. Critical Analysis and Synthesis

Aspect	Strengths	Limitations	Future Directions
Implementation of Character Education (Subekti & Alinurdin, 2021)	Systematic integration of character education into curriculum and supporting tools	Focused only on school practices; limited attention to digital and industrial challenges	Explore integration of character education in the digital era and Society 5.0 context
Integration of Character in Vocational Education (Nugroho, 2022)	Strategies for integration through subjects, extracurricular activities, and structured character programs	Literature-based study; lacks direct empirical data from SMKs	Investigate the effectiveness of character integration in technology-enhanced learning
Religious Values in Character Education (Listianah, 2022)	Emphasizes the importance of religious values in shaping resilient character	Conceptual study without field evidence	Practical implementation of religious value integration in modern SMKs
Character Education in the Digital Era (Hariati et al., 2023)	Combines qualitative and quantitative data; provides practical solutions for digital impacts	Focuses on students; less attention to school leadership roles	Examine collaborative approaches among teachers, parents, and community in digital character internalization
Trisentra Model Relevance (Zulkarnain et al., 2023)	Highlights family-school-community synergy and holistic collaboration	Does not test implementation in contemporary SMKs	Evaluate effectiveness of the Trisentra model mediated by technology

School Leadership & Character (Lukmantoro et al., 2024)	In-depth analysis of principal leadership in holistic character integration	Case study; limited generalizability	Explore leadership roles in digital curriculum and character programs in other SMKs
Character Education Strategies (Sari et al., 2024)	Focuses on innovative approaches using ethical technology	Conceptual; lacks empirical validation	Test the effectiveness of innovative character education strategies in SMKs
Literature Review of Character Implementation (Rojaki, 2024)	Synthesizes key strategies for character implementation in SMKs	No empirical analysis	Conduct empirical studies to assess the effectiveness of integration strategies
School Leaders as Digital Role Models (Saidi et al., 2025)	Emphasizes transformational leadership and digital role modeling	Literature-based; limited field-specific data	Investigate practical implementation

2. Discussion

This discussion critically synthesizes findings from the reviewed literature on character education in vocational high schools (SMKs) within the context of vocational training, the digital era, and Society 5.0. Studies reveal diverse approaches, from curriculum-integrated character programs to specialized initiatives and leadership-driven models. They also highlight challenges and opportunities related to technology, stakeholder collaboration, and gaps between school-taught values and industry needs. For clarity, the findings are organized into five key themes: character concepts and values, implementation models and strategies, technology integration, stakeholder roles in character reinforcement, and field-level achievements and challenges. Each theme is analyzed comparatively to highlight patterns, differences, and implications for advancing effective character education in SMKs.

Concept and Values of Character in Vocational Education

The literature consistently emphasizes the fundamental role of character values in vocational education as a foundation for shaping competent, ethical, and socially responsible graduates. Subekti and Alinuridin (2021) argue that “good character” functions as a guiding principle integrated systematically into curriculum design, teaching practices, and school culture, highlighting the importance of discipline, role modeling, and evaluative mechanisms. Complementing this perspective, Listianah (2022) underscores the integration of religious values as essential for cultivating morally upright and resilient students who can navigate the complexities of Society 5.0. Nugroho (2022) further extends the concept by emphasizing soft skills such as responsibility, teamwork, and work ethics, reflecting the increasing demand for vocational competence in professional contexts. Supporting these insights, (Akhimelita et al., 2020; Hariati et al., 2023) highlight that character development must be embedded across both formal and informal learning experiences, ensuring that students internalize values that align with personal, social, and professional expectations. Collectively, these studies demonstrate that character education in vocational settings cannot be unidimensional; rather, it requires a comprehensive framework that integrates moral, spiritual, and practical competencies, while remaining sensitive to contextual demands.

While the core agreement across studies is the multidimensional nature of character, nuanced differences emerge in emphasis and application. Subekti & Alinuridin (2021)

prioritize discipline and exemplary behavior, Listianah (2022) emphasizes religiosity as a moral anchor, and Nugroho (2022) focuses on the cultivation of vocational competence and employable skills. These complementary perspectives suggest that effective vocational character education necessitates a holistic approach that simultaneously nurtures ethical integrity, spiritual awareness, and professional readiness. Moreover, the findings indicate that schools, educators, and stakeholders must collaborate to operationalize these values through structured curricula, experiential learning, mentorship, and community engagement (Lian et al., 2020; Yuliana et al., 2021; Hidayati et al., 2025). This integrated approach ensures that character education in SMKs not only fosters individual growth but also prepares students to contribute meaningfully to society and the workforce in the evolving digital and Society 5.0 era.

Models and Strategies of Character Education Implementation in SMKs

Research on character education in vocational high schools (SMKs) demonstrates a range of models and strategies aimed at fostering students' moral, social, and professional competencies. Rojaki (2024) identifies two primary pathways: the integration of character education within academic subjects and the implementation of specialized programs, such as cadet or leadership training, which are designed to cultivate discipline, responsibility, and civic awareness. Complementing this, Lukmanto et al. (2024) emphasize the pivotal role of school leadership in orchestrating a holistic model that harmonizes curriculum, learning activities, school culture, and extracurricular programs. The findings of (Hariati et al., 2023; Akhimelita et al., 2020) further support the importance of embedding character development across multiple dimensions of school life, including classroom instruction, mentorship, and community engagement. Collectively, these studies highlight the necessity of structured, systematic integration supported by competent and visionary leadership to ensure the sustainability and effectiveness of character education programs.

Differences among the models primarily lie in the implementation focus and innovation. Rojaki (2024) underscores traditional curricular integration, whereas Lukmanto et al. (2024) advocate for leadership-driven, holistic strategies that coordinate academic, cultural, and extracurricular domains. In contrast, Sari et al. (2024) highlight the adoption of technology-mediated approaches, leveraging digital tools ethically to enhance student engagement and collaborative learning. The synthesis of these perspectives suggests that effective implementation requires both flexibility and contextual adaptation, ensuring alignment with students' developmental needs, societal expectations, and the digital demands of Society 5.0. Moreover, the integration of experiential learning, mentorship, and stakeholder collaboration (Lian et al., 2020; Yuliana et al., 2021; Hidayati et al., 2025) emerges as essential for translating strategic models into tangible outcomes, bridging theoretical frameworks with practical, real-world applications.

Technology Integration and Challenges in the Society 5.0 Era

The integration of technology in character education within vocational high schools (SMKs) offers significant opportunities to enhance learning outcomes, engagement, and skill development, yet it also presents complex challenges. Hariati et al. (2023) report that the digital era brings both positive effects, such as broader access to learning resources and personalized educational experiences, and negative effects, including reduced focus, digital

distractions, and potential ethical dilemmas. To address these risks, the authors recommend structured digital ethics education, screen-time management, and the incorporation of digital literacy programs for both students and teachers. Similarly, (Santika, 2020; Saputro & Murdiono, 2020) emphasize the need for a balanced approach in which technology complements rather than replaces value-based education, ensuring that students develop both technical competencies and strong moral foundations.

Beyond risk mitigation, technology is increasingly recognized as a strategic tool to advance collaboration, critical thinking, and global awareness. Sari et al. (2024) highlight innovative approaches that leverage digital platforms to facilitate interactive learning, problem-solving, and ethical decision-making, while Zulkarnain et al. (2023) emphasize technology-mediated collaboration among the three pillars of character education: school, family, and community, aligned with the principles of Society 5.0. The divergence across studies lies in emphasis: some prioritize minimizing digital risks, whereas others focus on proactive, value-driven utilization of technology. Collectively, these findings underscore the importance of integrating technological innovation with a strong ethical framework, continuous capacity-building for educators, and collaborative stakeholder engagement (Hariati et al., 2023; Sari et al., 2024; Zulkarnain et al., 2023). Such a balanced and context-sensitive approach ensures that digital tools enhance, rather than compromise, the holistic development of students' character in the Society 5.0 era.

Roles of Schools, Teachers, and Stakeholders in Character Reinforcement

The literature consistently emphasizes that the success of character education in vocational high schools (SMKs) relies on the active, coordinated involvement of multiple stakeholders, including principals, teachers, parents, and the broader community. Study (Lukmantoro et al., 2024; Saidi et al., 2025) highlight the pivotal role of school principals as transformational leaders and digital role models, who not only establish policies and school culture but also guide the community in integrating ethical, social, and professional values. Hariati et al. (2023) further underscore that teachers, parents, and communities must collaborate actively to reinforce students' character development, particularly in navigating the opportunities and challenges of the digital era. Study (Akhimelita et al., 2020; Hidayati et al., 2025) emphasize that synergy among schools, families, and industry partners is crucial for aligning educational objectives with practical competencies, ensuring that character education is relevant, contextual, and sustainable.

While the general consensus positions character education as an ecosystemic endeavor, studies diverge in their focal points. Some prioritize leadership and institutional vision (Lukmantoro et al., 2024), others focus on teacher guidance and parental engagement (Hariati et al., 2023; Akhimelita et al., 2020), and yet others highlight collaboration with industry to bridge school-based learning and workforce expectations (Hidayati et al., 2025). Collectively, these findings suggest that effective character reinforcement requires a holistic, stakeholder-integrated approach, combining leadership, pedagogical practices, parental support, and industry involvement. Coordinated strategies, such as mentorship programs, participatory projects, and community-based initiatives, are instrumental in translating institutional goals into tangible behavioral outcomes, thereby ensuring that students internalize ethical, social, and professional values effectively within the context of vocational education and Society 5.0.

Achievements, Gaps, and Implementation Challenges

Empirical and literature-based studies reveal both notable achievements and persistent gaps in the implementation of character education in vocational high schools (SMKs). Hidayati et al. (2025) demonstrate that the Pancasila Student Profile (P5) program effectively fosters student competencies and character development, particularly when supported by meticulous planning, differentiated instruction, and ongoing authentic assessment. Study (Subekti & Alinurdin, 2021; Rojaki, 2024) further highlight that structured programs, integrated curricula, and school-wide policy support contribute to positive outcomes, reinforcing students' moral, social, and professional competencies. These studies collectively show that when character education is systematically embedded into school structures and practices, measurable improvements in student behavior, engagement, and readiness for professional contexts are achievable.

Despite these successes, significant gaps and challenges remain. Akhimelita et al. (2020) point out a misalignment between the character values taught in schools and the expectations of the industry, while Hariati et al. (2023) note challenges related to digital distractions, uneven student engagement, and limited teacher capacity in leveraging technology effectively. Furthermore, study (Nugroho, 2022; Sari et al., 2024) emphasize the difficulty of contextual adaptation, ensuring that programs remain relevant to both local culture and the demands of Society 5.0. Collectively, these findings suggest that continuous evaluation, adaptive strategies, and stronger alignment between educational policies, school practices, and societal needs are critical for optimizing character education outcomes. Bridging these gaps requires collaboration among school leaders, teachers, parents, and industry partners, ensuring that character education not only achieves its immediate learning objectives but also equips students with competencies necessary for ethical, social, and professional success in an increasingly complex and digitalized society.

CONCLUSION

This study provides a comprehensive synthesis of character education in vocational high schools within the context of the digital era and Society 5.0. The key findings indicate that character education is multidimensional, encompassing moral, social, spiritual, and professional competencies. Effective implementation relies on holistic models integrating curriculum, extracurricular activities, school culture, and leadership, supported by collaboration among teachers, parents, industry partners, and the broader community. Technology emerges as both an opportunity and a challenge, enhancing access, engagement, and collaborative learning while requiring careful management to mitigate distractions and ethical risks. Structured programs, policy support, and leadership-driven initiatives have demonstrated measurable successes, particularly in developing students' competencies, ethical awareness, and readiness for professional environments.

Interpretation of these findings highlights that character education functions most effectively as an ecosystemic effort, where alignment across stakeholders, contextual adaptation, and continuous evaluation are essential. Despite successes, persistent gaps exist, including mismatches between school-based character values and industry expectations, challenges in integrating technology meaningfully, and varying levels of stakeholder engagement. Future directions emphasize the need for adaptive, context-sensitive strategies that leverage digital tools ethically, strengthen school-community-industry partnerships, and

ensure sustainable, value-driven practices. By addressing these challenges, vocational education can cultivate graduates who are not only competent and employable but also ethically grounded, socially responsible, and capable of thriving in a complex, digitalized society.

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