Jurnal Pendidikan Vokasi
Volume 16, No. 2, 2026, pp. 145-160
Online: https://journal.uny.ac.id/index.php/jpv

Implementing child-friendly school principles in vocational curriculum, pedagogy, and assessment: A qualitative case study

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ARTICLE INFO

Article History
Received:
11 July 2026;
Revised:
28 July 2026;
Accepted:
31 July 2026;

Keywords
child-friendly vocational education;
competency-based assessment;
participatory pedagogy;
work-related character;
vocational secondary school

ABSTRACT

Creating safe, inclusive, and participatory learning environments has become a critical challenge in Technical and Vocational Education and Training (TVET), which is expected to develop not only students' occupational competencies but also their character. However, empirical evidence regarding the implementation of Child-Friendly School (CFS) principles in curriculum, pedagogy, and assessment within vocational secondary education remains limited. This study aimed to explore the implementation of the CFS approach at SMK Negeri 1 Makassar, Indonesia. A qualitative case study design was employed, involving 18 informants: one principal, two vice principals, eight teachers, five students, and two parents. Data were analyzed through iterative qualitative coding and thematic development, following the data condensation, data display, and conclusion drawing and verification procedures proposed by Miles, Huberman, and Saldaña. NVivo 14 was used to facilitate data management and analysis. The trustworthiness of the findings was established through source and method triangulation, member checking, and peer debriefing. The findings revealed three major innovations: (1) the systematic integration of child-friendly values into the curriculum and school programs; (2) the implementation of participatory pedagogy through project-based, collaborative, and reflective learning; and (3) the adoption of character-oriented assessment using reflective journals, behavioral observations, and narrative feedback. The implementation was supported by government policies, strong school leadership, teacher commitment, and the active participation of parents and the wider community, while limited infrastructure, diverse student characteristics, and insufficient teacher competence remained significant challenges. Overall, the findings suggest that, within the context of the case examined, CFS principles provide a contextually relevant framework for integrating humanistic values into vocational curriculum, pedagogy, and assessment.

INTRODUCTION

Technical and Vocational Education and Training (TVET) plays a strategic role in preparing graduates with occupational competencies that meet the demands of the rapidly evolving labour market. Beyond technical expertise, vocational education is increasingly expected to develop employability skills, including communication, collaboration, problem-solving, adaptability, responsibility, and professional ethics, which are essential for successful workplace integration (International Labour Organization, 2023; OECD, 2023). However, vocational schools face

distinctive challenges because learning frequently occurs in workshops, laboratories, and other practice-based environments, requiring schools to ensure not only occupational safety but also students' physical, psychological, and social well-being. Recent scholarship has raised concerns that, in some TVET contexts, an emphasis on technical competence may not be accompanied by comparable attention to inclusive learning environments, student participation, and holistic development (UNESCO, 2022; Wheelahan & Moodie, 2025). These challenges highlight the need for innovative educational approaches that integrate technical competence with students' well-being and holistic development in vocational education settings.

In Indonesia, Child-Friendly School (CFS) implementation is guided by the Ministry of Women's Empowerment and Child Protection Regulation No. 8 of 2014 on Child-Friendly School Policy and reinforced by the Ministry of Education, Culture, Research, and Technology Regulation No. 46 of 2023 on the Prevention and Handling of Violence in Educational Institutions, both of which promote safe, inclusive, participatory, and violence-free learning environments. Within vocational secondary education, these initiatives are particularly relevant because learning activities are conducted in workshops, laboratories, and industrial practice settings, requiring schools to ensure students' physical safety, psychological well-being, and meaningful participation throughout the learning process (Qulyubi et al., 2023). In addition, vocational schools are expected to prepare graduates who are not only technically competent but also equipped with professional ethics, collaboration skills, a sense of responsibility, and an awareness of occupational health and safety to facilitate successful school-to-work transitions (International Labour Organization, 2023; UNESCO, 2022). Recent national policies promoting violence-free, inclusive, and learner-centered education further reinforce the importance of creating educational environments that respect children's rights and support their holistic development. In this context, the CFS approach represents an educational innovation that integrates child protection principles with curriculum, pedagogy, and assessment to foster safe, inclusive, and humanistic learning environments in vocational secondary schools.

Within TVET, the implementation of CFS principles requires a systematic transformation of curriculum, pedagogy, and assessment to support both students' occupational competence and holistic development. From a curricular perspective, CFS principles should be embedded in competency-based curricula by integrating child protection, occupational health and safety (OHS), teamwork, communication, responsibility, and ethical values into vocational learning outcomes and authentic workplace contexts (International Labour Organization, 2023; UNESCO, 2022). Pedagogically, CFS principles align with learner-centered approaches such as project-based learning, work-based learning, collaborative learning, and reflective practice, enabling students to actively engage in solving real-world vocational problems while developing technical and interpersonal competencies (Lucas et al., 2012; OECD, 2023). In terms of assessment, CFS principles extend beyond the evaluation of technical skills by promoting competency-based assessment that captures cognitive, affective, behavioral, and professional dimensions through authentic performance tasks and continuous feedback, including safety awareness, teamwork, communication, responsibility, and work readiness (Billett, 2022; UNESCO, 2022). Accordingly, curriculum, pedagogy, and assessment constitute an integrated analytical framework for examining how CFS principles are translated into educational practices that foster safe, inclusive, and humanistic learning environments while strengthening vocational competence and employability.

Despite the growing adoption of CFS policies in Indonesia, empirical research has primarily examined their contribution to child protection, violence prevention, bullying reduction, and the promotion of inclusive school climates (Konno & Schillaci, 2021; Sa'diyah & Nurhayati, 2023). Although these studies demonstrate the importance of safeguarding students' rights and well-being, they provide limited insight into how child-friendly principles are operationalized within the distinctive learning environments of TVET. In vocational secondary schools, where learning is predominantly competency-based and occurs through workshops, laboratory activities, project-based learning, and industrial work practices, little is known about how CFS principles are integrated into curriculum design, vocational pedagogy, and competency-based assessment while simultaneously fostering a culture of occupational safety, teamwork, communication, responsibility, and work readiness. Consequently, an important research gap remains regarding the implementation of CFS as

an integrated educational innovation that supports both technical competence and students' holistic development in vocational education settings.

This study aims to explore how CFS principles are implemented through curriculum, pedagogy, and assessment in a vocational secondary school, with particular attention to their role in fostering work-related character and transferable skills, including responsibility, teamwork, communication, participation, and safety awareness. The study also examines the institutional factors that facilitate and constrain the implementation of child-friendly educational practices within competency-based vocational learning. This study contributes to the limited body of research on the integration of CFS principles into TVET by proposing an analytical framework that links curriculum, participatory pedagogy, and competency-based assessment with students' holistic development. In practical terms, the findings provide evidence-informed implications for vocational school leaders, teachers, and policymakers for designing safe, inclusive, and learner-centered educational practices that support both competency development and students' readiness for learning and future employment.

METHOD

This study employed a qualitative approach (Moleong, 2018) with a case study design (Sugiyono, 2022) to explore in depth the implementation of the Child-Friendly School (CFS) model as an innovation in curriculum, pedagogy, and assessment for strengthening students' character at SMK Negeri 1 Makassar. This approach was selected because it enables educational phenomena to be examined contextually, holistically, and within their natural settings (Arifin, 2019), consistent with the principles of case study research proposed by Yin (2018) and Stake (1995).

The study was conducted at SMK Negeri 1 Makassar, South Sulawesi, Indonesia, a public vocational secondary school that has implemented the CFS program as part of its efforts to promote a safe, inclusive, and student-centered learning environment. As a TVET institution, the school provides competency-based education through classroom instruction, practical workshop activities, laboratory learning, project-based learning, and workplace-oriented learning experiences. These characteristics provided an appropriate context for examining how CFS principles are integrated into vocational curriculum implementation, learner-centered pedagogy, and competency-based assessment. Data collection was conducted from 7 January to 30 July 2024.

Participants were selected through purposive sampling to include individuals with direct experience in implementing CFS policies and vocational teaching and learning practices. A total of 18 participants were involved, comprising one principal, two vice principals, eight vocational subject teachers, five students from different vocational programs, and two parents serving as representatives of the school committee. This diversity enabled the study to capture multiple perspectives on curriculum implementation, pedagogical practices, assessment, and school governance. To protect confidentiality, all participants were assigned anonymous identification codes throughout the analysis and reporting of the findings. The participant characteristics are presented in Table 1.

Table 1. Participant Profile

Participant Code	Role	Gender	Years of Experience / Grade	Primary Contribution
P1	Principal	M	18 years	School leadership and CFS policy
VP1	Vice Principal (Curriculum)	F	15 years	Curriculum implementation
VP2	Vice Principal (Student Affairs)	M	12 years	Student development
T1–T8	Vocational Teachers	M/F	5–22 years	Teaching, pedagogy, assessment
S1–S5	Students	M/F	Grade X–XII	Learning experiences
PA1–PA2	Parents / School Committee	M/F	—	Family and community perspectives

Data were collected using three complementary techniques: non-participant observation, semi-structured interviews, and document analysis (Creswell & Poth, 2017; Yin, 2018). Non-participant observations were conducted by the first author to examine how CFS principles were implemented in curriculum delivery, learner-centered pedagogy, competency-based assessment, and teacher–student interactions. A total of 12 observation sessions were conducted, comprising six classroom lessons, four vocational workshop or laboratory sessions, and two school-wide activities. Each session lasted approximately 60–90 minutes. Observational data were recorded using a structured observation protocol, detailed field notes, and reflective memos prepared immediately after each session to maintain consistency and contextual accuracy.

Semi-structured interviews were conducted with all 18 participants using an interview guide developed based on the study's analytical framework. The interviews addressed curriculum implementation, participatory pedagogy, competency-based assessment, and factors facilitating or constraining CFS implementation. Each interview lasted approximately 45–75 minutes, was audio-recorded with participants' informed consent, and was transcribed verbatim for thematic analysis (Kvale & Brinkmann, 2008). Documentary evidence included the school curriculum, CFS policy documents, teaching modules, lesson plans, competency-based assessment rubrics, school activity reports, and other relevant institutional documents. These documents were analyzed alongside the interview and observational data to facilitate triangulation and strengthen the credibility of the findings.

Data analysis followed the iterative processes of data condensation, data display, and conclusion drawing and verification proposed by Miles et al. (2013). During data condensation, interview transcripts, observation field notes, and documentary evidence were reviewed repeatedly to generate initial codes. These codes were subsequently grouped into broader categories and synthesized into higher-order themes corresponding to the study's analytical framework: curriculum, pedagogy, assessment, and implementation conditions (Miles et al., 2013; Saldaña, 2009). NVivo 14 was used solely to organize and manage the coding process, while all analytical interpretations were undertaken by the researchers. A codebook containing code definitions and coding criteria was developed and progressively refined throughout the analytical process. Initial coding and theme development were independently reviewed by two researchers, and differences in interpretation were resolved through discussion until consensus was reached. Emerging themes were continuously compared across interviews, observations, and documents through data triangulation to strengthen credibility and confirmability (Braun & Clarke, 2022; Lincoln et al., 1985).

The trustworthiness of the findings was established using Lincoln et al. (1985) framework of credibility, transferability, dependability, and confirmability. Credibility was strengthened through methodological triangulation by comparing evidence from semi-structured interviews, non-participant observations, and document analysis. Member checking was conducted with 10 participants—the principal, two vice principals, four teachers, and three students—who reviewed interview summaries and preliminary interpretations to verify the accuracy of the researchers' interpretations. Peer debriefing was also conducted with two qualitative research experts who critically examined the coding process, theme development, and interpretation of the findings to minimize potential researcher bias.

Transferability was supported through thick descriptions of the research setting, participant characteristics, and CFS practices within the vocational education context, enabling readers to assess the applicability of the findings to similar settings. Dependability was supported by maintaining a comprehensive audit trail comprising interview protocols, observation guides, field notes, verbatim transcripts, coding records, the codebook, NVivo project files, and reflective research memos documenting analytical decisions throughout the study. Confirmability was strengthened through continuous comparison of evidence across interviews, observations, and documentary sources to ensure that each theme was supported by multiple sources of evidence rather than by a single participant or data source (Creswell & Poth, 2017; Lincoln et al., 1985).

Researcher reflexivity was maintained throughout data collection and analysis. The researchers held no managerial or supervisory roles at the research site and maintained a reflective audit trail to identify and minimize potential bias. Regular peer discussions and continuous

comparison of interpretations with the empirical data were undertaken to ensure that the findings remained grounded in participants' perspectives rather than in the researchers' prior assumptions about CFS or vocational education. The overall research process consisted of five iterative stages: preliminary study and focus formulation, field data collection, initial analysis and coding, validation and triangulation of findings, and synthesis and reporting of results. Consistent with Yin's (2018) case study principles, data collection and analysis proceeded iteratively, allowing emerging interpretations to be continually examined against evidence from the research context.

RESULTS AND DISCUSSION

Results

Child-Friendly Curriculum Innovation

The findings indicate that SMK Negeri 1 Makassar has integrated child-friendly values into its school curriculum through the revision of its vision, mission, and teaching frameworks. This integration is not merely formal but also substantive, as it incorporates the principles of justice, participation, and respect for diversity. The curriculum is designed to ensure that all subjects, as well as intra- and extracurricular activities, contribute to the development of students' empathy, responsibility, and integrity. School programs such as the Green School Movement, Student Leadership Camp, and Peer Education Program are part of the school's ongoing efforts to embed child-friendly values into everyday learning experiences, as shown in the following Table 2.

Table 2. Child-Friendly Curriculum Innovation at SMK Negeri 1 Makassar

Dimension	Findings	Empirical Evidence	Educational Implication
Curriculum Policy	The school's vision, mission, and curriculum framework explicitly incorporate Child-Friendly School (CFS) principles alongside vocational competency development.	*"Our curriculum is designed not only to develop students' vocational competencies but also to ensure that every learning activity reflects child-friendly values, safety, responsibility, and mutual respect."* (Principal, P1). Document: School Curriculum 2024, Vision and Mission Statement.	Demonstrates institutional commitment to integrating child-friendly values with competency-based vocational education.
Learning Content	Child-friendly values are integrated into vocational and general subjects through themes of children's rights, occupational safety, teamwork, communication, and social responsibility.	*"Before practical sessions, students learn about workplace safety, cooperation, and respect for others as part of the learning objectives."* (Vocational Teacher, T3). Document: Lesson Plan (RPP/Teaching Module), 2024.	Strengthens work-related character and transferable skills required in vocational education.
Learning Activities	Classroom instruction is integrated with project-based learning, workshop practice, and extracurricular programs that promote collaboration and responsibility.	Observation OBS-05: Students worked collaboratively during workshop activities, shared responsibilities, and solved practical problems under teacher supervision. Document: Project-Based Learning Report, 2024.	Develops teamwork, communication, problem-solving, and responsibility through authentic learning experiences.
Teacher Planning	Teachers embed child-friendly principles into lesson planning, classroom management, and competency-based learning activities.	*"Every teaching module includes strategies to encourage participation, respect, and safe learning during practical activities."* (Teacher, T6). Document: Teaching Module Review, 2024.	Promotes inclusive, participatory, and humanistic vocational learning.
School Culture	School policies encourage respectful interaction, student participation, discipline, empathy, and shared responsibility within vocational learning environments.	Observation OBS-09: Teachers consistently encouraged respectful communication and positive peer interaction during practical sessions. *"Students are expected to respect each other because teamwork is essential both at school and in the workplace."* (Vice Principal, VP2).	Establishes a sustainable CFS culture that supports students' personal development and workplace readiness.

Furthermore, the findings suggest that the child-friendly curriculum is perceived by participants as contributing to the development of a more positive and inclusive school culture. Most teachers reported that CFS values provided clear guidance for lesson planning and helped align learning activities with character development objectives.. Most teachers stated that the CFS values provide clear direction in lesson planning. For example, in the Civics subject (PPKn), teachers added a topic titled "Children's Rights and Social Responsibility" to strengthen students' legal and moral awareness. This finding aligns with Darling-Hammond et al. (2020), who emphasized that an inclusive curriculum should allow all learners to participate actively and feel safe within the learning process. Thus, curriculum innovation at this school is not limited to content enhancement but also represents a paradigm shift toward a more humanistic and participatory form of education.

Participatory Pedagogical Innovation

The findings indicate that teachers at SMK Negeri 1 Makassar implemented participatory and learner-centered pedagogical approaches that actively engaged students in competency-based vocational learning. Teachers primarily acted as facilitators, while students participated in collaborative discussions, practical workshop activities, project-based learning (PjBL), and community-oriented learning tasks. According to one vocational teacher, "Students are encouraged to work in teams, solve authentic problems, and present their work because these activities reflect the competencies required in the workplace" (T4). This finding was consistent with classroom observations (OBS-06), which showed that teachers promoted active participation, teamwork, and shared responsibility throughout practical learning sessions.

One example documented during the study was the "Environmentally Aware Class Project," in which students worked collaboratively to identify waste-management issues within the school workshop environment, design practical solutions, and present their project outcomes to teachers and peers. The project resulted in tangible outputs, including waste-sorting facilities and environmental awareness campaigns developed by student teams. Performance was assessed using competency-based criteria covering technical task completion, teamwork, communication, problem-solving, responsibility, and compliance with occupational safety procedures. Teachers and students consistently perceived that the project supported active participation, collaborative learning, and the development of transferable workplace skills while reinforcing CFS values such as mutual respect, inclusion, and shared responsibility (Interview T4; Student S3; Observation OBS-06; Project Assessment Rubric, 2024).

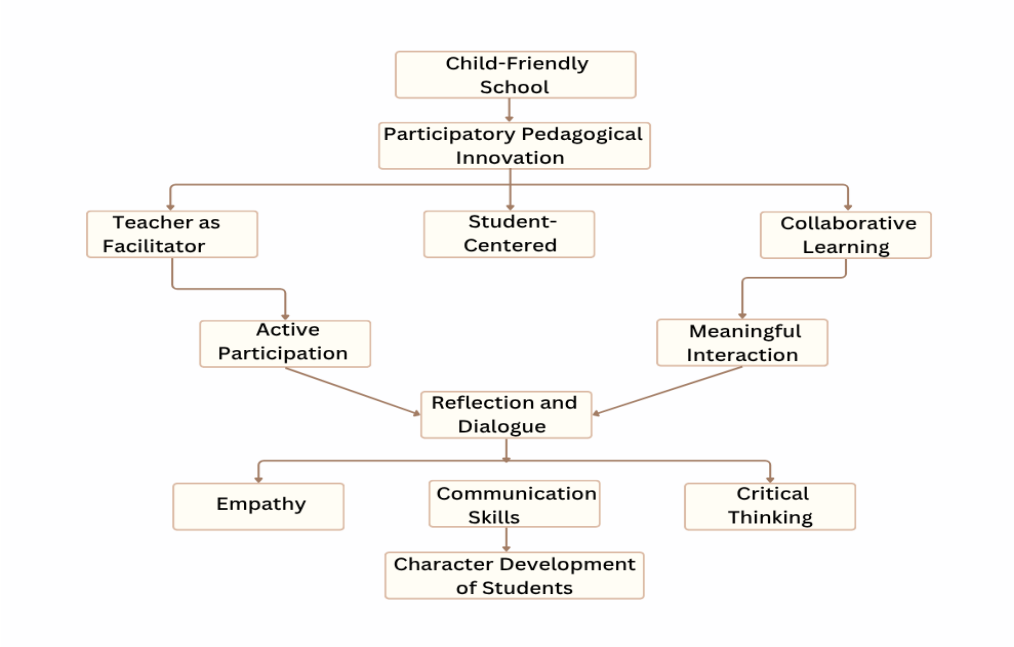

Figure 1. Conceptual Pathway of Participatory Pedagogical Innovation

Beyond encouraging student participation, the findings suggest that collaborative pedagogical practices provided opportunities for students to demonstrate empathy and develop interpersonal communication skills through group learning and shared problem-solving activities. Based on interview results, students reported feeling more valued and confident as they were given opportunities to express their opinions during class discussions. Teachers acknowledged that collaborative learning fosters social skills and mutual care among students. This finding is consistent with Vygotsky's (1978) social constructivism theory, which posits that meaningful learning occurs through authentic social interactions. Within the context of CFS, such approaches help to cultivate a classroom culture grounded in diversity, tolerance, and solidarity.

Character-Based Assessment Innovation

The findings indicate that assessment practices at SMK Negeri 1 Makassar were implemented using competency-based and authentic assessment approaches that integrated the principles of the CFS program into vocational learning. Rather than focusing solely on students' academic achievement, teachers employed assessment for learning and assessment as learning to encourage students' self-reflection, active participation, and continuous improvement throughout the learning process. According to one vocational teacher, "Assessment is not limited to the final product. We also evaluate how students collaborate, communicate, follow safety procedures, and take responsibility during practical activities" (T7). This finding was supported by classroom observations (OBS-08) showing that teachers provided formative feedback during workshop activities and encouraged students to reflect on both their technical performance and interpersonal skills.

The assessment evidence consisted of reflective journals, behavioral observation sheets, performance assessment rubrics, and student portfolios documenting project planning, practical activities, and final products. Performance was evaluated using competency indicators covering technical task completion, teamwork, communication, problem-solving, responsibility, occupational safety compliance, and reflective ability, while portfolios demonstrated students' learning progress and competency achievement across multiple learning activities. To improve scoring consistency, teachers used standardized assessment rubrics developed collaboratively within the vocational subject teacher group and discussed assessment results during regular teacher coordination meetings. These findings suggest that authentic and competency-based assessment provided multiple sources of evidence for evaluating both vocational competencies and work-related character within a child-friendly learning environment (Interview T7; Observation OBS-08; Performance Assessment Rubric, 2024; Student Portfolio, 2024).

Table 3. Character-Based Assessment Innovation

Assessment Component	Performance Indicator	Evidence
Technical Competence	Completes practical tasks according to competency standards	Performance observation
Teamwork	Collaborates effectively with peers	Observation checklist
Communication	Presents project results clearly	Oral presentation rubric
Responsibility	Completes assigned tasks independently and on time	Teacher observation
Occupational Safety	Complies with workshop safety procedures	Safety checklist
Reflection	Identifies strengths and areas for improvement	Reflective journal
Portfolio	Demonstrates learning progress and final project outputs	Student portfolio

Further analysis indicates that character-based assessment has helped students become more self-aware of their strengths and weaknesses, and to develop moral responsibility. For example, through weekly reflections, students were asked to document experiences of practicing empathy and honesty. Teachers then provided narrative feedback that was motivational rather than numerical. This strategy aligns with the formative feedback approach described by Black and Wiliam (2018), which emphasizes that constructive feedback strengthens learning motivation and fosters reflective

attitudes. Hence, character-based assessment serves as a bridge connecting knowledge with humanitarian values in daily educational practice.

Supporting and Inhibiting Factors

The findings identified several factors that were perceived to support the implementation of CFS practices at SMK Negeri 1 Makassar. First, policy support from both national and local governments, particularly the guidelines issued by the Ministry of Women's Empowerment and Child Protection (KemenPPPA) and the local Education Office, provided an institutional framework for implementing child-friendly initiatives. Second, participants described the principal's leadership commitment as an important factor in facilitating the integration of child-friendly principles through teacher professional development, awareness campaigns, and school programs such as schools without violence. Third, participants highlighted students' active involvement in school activities and decision-making forums as an integral component of the school's child-friendly practices. Finally, parents and the wider community were perceived to contribute by participating in initiatives such as the Parents' Forum and Character Education Workshops, thereby supporting the alignment of school and home environments in promoting child-friendly values.

Table 4. Supporting Factors for Child-Friendly School Implementation

Supporting Factors	Findings	Contribution
Government Policy	KemenPPPA and Education Office policies	Legal framework
Principal Leadership	Strong commitment	School transformation
Teacher Commitment	Child-friendly teaching practices	Learning quality
Student Participation	Student involvement in decision making	Democratic school culture
Parent Involvement	Parents' Forum and workshops	School-family collaboration
Community Support	External collaboration	Sustainability

Nevertheless, the study also revealed several challenges in implementing the CFS model. The primary issue concerns limitations in school facilities and infrastructure, which are not yet fully modernized or adequately maintained, making it difficult to provide safe, inclusive, and child-friendly learning spaces for all students. Additionally, diverse student backgrounds and personalities pose challenges in ensuring consistent application of child-friendly values across classrooms. Teachers often struggle to manage diversity while maintaining a focus on values-based learning. Another obstacle is the limited teacher competence in consistently applying reflective and child-friendly pedagogical principles. Consequently, continuous professional development and systematic support from local authorities are necessary to enhance teacher capacity and sustain the CFS program effectively.

Discussion

Integration of Child-Friendly Values into the Curriculum

The implementation of child-friendly values within the curriculum at SMK Negeri 1 Makassar demonstrates that the school's vision, mission, and curriculum documents have been systematically designed to create a safe, inclusive, and participatory vocational learning environment. This approach is consistent with (Darling-Hammond et al., 2020), who argue that the curriculum functions not only as a framework for organizing learning experiences but also as a vehicle for embedding ethical, social, and humanistic values into school culture. Within the context of TVET, curriculum integration becomes particularly important because vocational learning is expected to develop not only occupational competencies but also work-related character, including responsibility, teamwork, communication, and respect for occupational safety. This perspective is also aligned with (UNESCO, 2022), which emphasizes that education should promote learners' holistic development by integrating cognitive, affective, and social dimensions.

The child-friendly curriculum at SMK Negeri 1 Makassar is further operationalized through teaching modules and competency-based learning plans that integrate the values of justice, empathy, participation, and respect for diversity into both vocational and general subjects. Fitriani and

Istaryatiningtias (2020) argues that meaningful curriculum integration can only be achieved when teachers, school leaders, and other stakeholders collaboratively design learning experiences that are responsive to students' developmental needs. Such an approach enables students to participate actively in learning while fostering a sense of belonging, mutual respect, and shared responsibility. Darling-Hammond et al. (2020) similarly emphasize that inclusive curriculum planning contributes to equitable learning opportunities and strengthens students' engagement in the educational process.

Moreover, integrating child-friendly values into the vocational curriculum extends beyond moral education by preparing students for authentic workplace environments. Lickona (1992) maintains that character education is most effective when moral values are embedded within everyday learning experiences rather than taught as isolated concepts. This finding is reflected in vocational learning activities at SMK Negeri 1 Makassar, where project-based learning, environmental campaigns, and collaborative practical activities encourage students to demonstrate responsibility, cooperation, empathy, and social awareness while completing competency-based tasks. Such experiences illustrate that child-friendly values can be naturally integrated into vocational learning without reducing the emphasis on technical competence (Aminpour, 2023; Maisaroh et al., 2024).

These findings also reinforce the importance of student participation as a fundamental principle of CFS. Mabasa (2021) argues that students should be actively involved in decision-making related to school safety and learning because meaningful participation enhances students' sense of ownership, responsibility, and trust within the school community. The evidence from this study similarly indicates that involving students in curriculum-related activities, collaborative projects, and school improvement initiatives creates a learning environment in which child protection and vocational competency development complement one another rather than compete (Rusilowati et al., 2024). In vocational education, such participation is particularly valuable because it mirrors the collaborative culture expected in modern workplaces, where communication, teamwork, and shared responsibility are essential employability competencies.

The present findings further support recent studies indicating that successful CFS implementation should move beyond compliance with policy requirements and become an integral component of curriculum innovation. Aziz et al. (2025) emphasizes that the effectiveness of CFS policies depends on their integration into curriculum design, classroom practice, and school culture rather than their existence as administrative regulations. Similarly, Jailani et al. (2025) argues that child-friendly educational practices become sustainable when they are embedded in everyday teaching and learning processes through collaborative leadership and continuous stakeholder involvement (Wall et al., 2026). The findings indicate that CFS-oriented vocational learning incorporated classroom and workshop practices related to teamwork, communication, responsibility, and safety awareness. Further longitudinal research is required to determine whether these practices contribute to employability or workplace readiness.

Pedagogical Innovation Based on Participation and Collaboration

The findings demonstrate that participatory pedagogy constitutes a central element of CFS implementation at SMK Negeri 1 Makassar. Rather than positioning teachers as the sole source of knowledge, vocational learning was organized to encourage students' active engagement through project-based learning, collaborative problem-solving, practical workshop activities, and reflective discussions. Such practices are consistent with (Vygotsky, 1978) social constructivist perspective, which emphasizes that knowledge is constructed through meaningful social interaction. Within vocational education, participatory learning also provides authentic opportunities for students to develop transferable workplace competencies, including teamwork, communication, responsibility, and problem-solving, alongside technical skills (Jailani et al., 2025; Sancho et al., 2026).

The implementation of collaborative pedagogy was evident in classroom and workshop activities where students worked in groups to complete competency-based projects and solve practical problems relevant to their vocational field. These learning experiences created opportunities for peer interaction, mutual support, and shared responsibility while allowing teachers to provide continuous guidance rather than direct instruction. Noddings (2013) argues that caring relationships between teachers and students create psychologically safe learning environments that encourage

participation and foster holistic development. This finding is reinforced by Fitriani et al. (2021), who reported that child-friendly learning environments are characterized by active student participation, respectful teacher–student relationships, and collaborative classroom interactions that promote both academic engagement and personal growth.

The present findings further indicate that participatory pedagogy contributes to the integration of child-friendly principles with competency-based vocational learning. Through project-based and practical learning activities, students were encouraged to communicate ideas, negotiate responsibilities, make collective decisions, and reflect on their learning experiences. These characteristics are consistent with Rusilowati et al. (2024), who found that CFS practices aligned with the Merdeka Curriculum strengthen students' character by integrating collaborative learning, scientific inquiry, and active participation into everyday classroom activities (Rusilowati et al., 2024). Rather than separating character education from vocational instruction, the findings suggest that both dimensions can be developed simultaneously through authentic learning experiences that mirror workplace practices.

Despite these positive practices, the implementation of participatory pedagogy was not without challenges. Differences in teachers' pedagogical competence, readiness to facilitate collaborative learning, and confidence in managing student-centered instruction resulted in varying levels of implementation across classrooms. Similar challenges were identified by Liestyasari et al., (2023), who observed that sustaining CFS practices requires continuous professional development, institutional support, and consistent teacher commitment. Likewise, Sunardianta et al. (2024) emphasize that effective child-friendly learning depends not only on instructional strategies but also on school leadership, supportive learning management, and continuous monitoring of implementation. These findings indicate that the sustainability of participatory pedagogical innovation in vocational education requires systematic teacher capacity development and organizational support to ensure that child-friendly principles are consistently translated into classroom and workshop practices.

Transformation of Character-Based Assessment

The findings indicate that character-based assessment at SMK Negeri 1 Makassar has been implemented through authentic and competency-based assessment practices that integrate CFS principles into vocational learning. Rather than functioning solely as a mechanism for measuring students' academic achievement, assessment was used to monitor students' learning progress, provide formative feedback, and encourage continuous self-reflection during both classroom instruction and practical workshop activities. This finding is consistent with Black and Wiliam (2018), who argue that formative assessment supports learning by generating meaningful feedback that enables students to regulate their own learning. Within the context of TVET, such assessment practices are particularly relevant because vocational competence encompasses not only technical performance but also responsibility, communication, teamwork, and professional attitudes demonstrated throughout the learning process.

The study further revealed that teachers employed multiple sources of assessment evidence, including performance assessment rubrics, behavioral observation sheets, reflective journals, and student portfolios documenting project implementation and practical work. These assessment strategies enabled teachers to evaluate students' competency attainment while simultaneously documenting the development of work-related character and transferable skills (Das & Banerjee, 2025). Rather than emphasizing final products alone, the assessment process considered students' participation, collaboration, adherence to occupational safety procedures, and reflective capacity. This finding supports (Akmaliyah et al., 2021), who argues that child-friendly teaching and assessment encourage active learner participation, reflection, and meaningful interaction, thereby creating learning environments that promote both competence development and students' well-being.

Another important finding concerns the use of narrative feedback and portfolio assessment to strengthen students' learning ownership. Instead of relying exclusively on numerical scores, teachers provided descriptive feedback highlighting students' strengths, areas for improvement, and strategies for future learning. Portfolio evidence documented the progression of students'

competencies across successive learning activities, enabling teachers and students to monitor learning development over time (Çobanoğlu et al., 2018; Liu et al., 2024). Such practices are consistent with Aminpour (2023), who emphasizes that child-friendly educational environments should provide opportunities for learners to express their experiences, participate actively in learning, and receive supportive feedback that enhances confidence and engagement. From a vocational education perspective, continuous portfolio assessment also reflects authentic workplace evaluation, where competency development is judged through sustained performance rather than isolated examinations (Çobanoğlu et al., 2018; Hajaroh et al., 2021).

Despite these positive practices, the findings also indicate several implementation challenges. Differences in teachers' assessment literacy, variations in interpreting character indicators, and limited use of standardized competency rubrics affected the consistency of assessment across vocational subjects. Although teacher coordination meetings were conducted to discuss scoring criteria, greater standardization remains necessary to ensure assessment reliability while preserving flexibility for authentic classroom contexts. Recent policy reviews by Aziz et al. (2025) and Liu et al. (2024) similarly highlight that the sustainability of CFS implementation depends not only on supportive policies but also on teachers' assessment competence, institutional commitment, and continuous quality assurance. Therefore, strengthening teachers' professional capacity in authentic and competency-based assessment, supported by standardized digital rubrics and collaborative moderation practices, is essential to ensure that character assessment contributes meaningfully to students' vocational competence, work-related character, and lifelong learning readiness.

Supporting and Inhibiting Factors of Implementation

The findings suggest that the successful implementation of the CFS program at SMK Negeri 1 Makassar is influenced by the interaction of institutional, pedagogical, and community-related factors rather than by a single enabling condition. At the institutional level, leadership commitment, supportive school policies, and the integration of child-friendly principles into competency-based vocational education created a conducive environment for implementing safe, inclusive, and participatory learning. In vocational education, such institutional commitment is particularly important because practical learning activities conducted in workshops and laboratories require clear procedures related to student safety, participation, and mutual respect. These findings are consistent with (UNICEF, 2009), which emphasizes that effective CFS implementation depends on whole-school commitment and leadership that consistently promotes children's rights and well-being throughout educational practices (Baiocco et al., 2017; Liestyasari et al., 2023).

Teacher professionalism also emerged as a critical supporting factor in translating institutional policies into classroom and workshop practices (Salvador, 2019; Zamzam et al., 2026). Rather than merely delivering vocational content, teachers facilitated collaborative learning, encouraged reflective dialogue, and modeled professional responsibility during practical activities. This finding supports (Lickona, 1992), who argues that character education becomes meaningful when teachers consistently demonstrate ethical values through everyday instructional practices. Similarly, Martin et al. (2024) highlights that students develop stronger feelings of belonging, participation, and engagement when schools intentionally create supportive learning environments characterized by respectful relationships and meaningful interactions between teachers and learners. Within vocational education, these relationships contribute not only to students' well-being but also to the development of work-related attitudes that are essential for future employment.

Another important enabling factor identified in this study was the active involvement of parents and the wider community. Collaboration with parents, local industries, and community organizations strengthened the implementation of vocational projects and reinforced child-friendly values beyond the classroom (Novitasari et al., 2024; Sapsağlam & Eryılmaz, 2024). Such partnerships provided authentic learning experiences while supporting students' social responsibility and workplace readiness. This finding is consistent with Million et al. (2024), who emphasizes that children's well-being is shaped by interconnected educational and community environments rather than by school interventions alone. In vocational schools, this collaboration is particularly valuable

because learning frequently extends beyond school through workplace-based activities, community projects, and partnerships with external stakeholders.

Despite these strengths, several challenges continue to influence the consistency of CFS implementation. Differences in teachers' understanding of child-friendly principles, variations in assessment practices, limited learning facilities, and the diversity of students' social and cultural backgrounds affected the implementation of competency-based and participatory learning across vocational subjects (Egli et al., 2020; Paisun et al., 2025). These findings indicate that sustainable implementation requires continuous professional development, institutional monitoring, and systematic curriculum supervision. In addition, strengthening collaborative planning among teachers and improving the availability of standardized instructional and assessment resources would support more consistent implementation across departments. Therefore, the successful implementation of CFS principles in vocational education should be understood as an ongoing process of organizational learning that requires continuous collaboration among school leaders, teachers, students, parents, and community partners to promote both vocational competence and students' holistic development.

CONCLUSION

This study demonstrates that the implementation of the Child-Friendly School (CFS) approach at SMK Negeri 1 Makassar has been integrated into three interrelated dimensions of vocational education: curriculum, pedagogy, and assessment. The findings indicate that child-friendly principles can be embedded within competency-based vocational learning through curriculum planning that incorporates humanistic values, participatory pedagogical practices that promote active learning and collaboration, and authentic assessment that evaluates both vocational competencies and work-related character. Collectively, these practices were associated with a learning environment characterized by participation, inclusion, safety awareness, collaboration, and reflective learning.

The study also identifies several factors influencing the implementation of CFS practices in vocational education. Strong leadership, teacher commitment, supportive school policies, and collaboration with parents and the wider community emerged as key enabling factors, whereas differences in teachers' pedagogical competence, assessment literacy, and the availability of learning facilities remained important challenges. These findings suggest that the successful implementation of CFS principles requires continuous professional development, systematic curriculum support, and institutional commitment to sustain child-friendly practices across vocational learning environments. Although this study is limited to a single vocational secondary school, it provides empirical evidence that may inform the development of child-friendly curriculum, participatory pedagogy, and authentic assessment in comparable Technical and Vocational Education and Training (TVET) contexts. Future studies are encouraged to examine the implementation of CFS practices across different vocational institutions and to explore their long-term contribution to students' employability skills, workplace readiness, and holistic development.

AUTHOR CONTRIBUTIONS STATEMENT

This journal uses the Contributor Roles Taxonomy (CRediT) to recognize individual author contributions, reduce authorship disputes, and facilitate collaboration.

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
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C : **C**onceptualization	I : **I**nvestigation	Vi : **Vi**sualization
M : **M**ethodology	R : **R**esources	Su : **Su**pervision
So : **So**ftware	D : **D**ata Curation	P : **P**roject administration
Va : **Va**lidation	O : Writing - **O**riginal Draft	Fu : **Fu**nding acquisition
Fo : **Fo**rmal analysis	E : Writing - Review & **E**diting	

CONFLICT OF INTEREST STATEMENT

The authors declare that they have no known competing financial or non-financial interests that could have appeared to influence the work reported in this paper.

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