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Positive-Realistic Perceptions of VO and ICT English: Teacher Collaboration in Vocational High Schools

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Abstract

This study aims to explore teachers' perceptions regarding the integration of vocational orientation (VO) approaches and ICT in English language learning within vocational schools, with a particular focus on the collaboration between English teachers and vocational teachers. It uses a qualitative approach with a multi-case design in 7 vocational high schools in Kendari City, Indonesia. The data collection combines interviews from 28 informants, consisting of 7 English teachers, 7 vocational teachers, and 14 students. Besides that, classroom observation and document analysis were also conducted. The results of the study show that three themes emerge, namely: (1) the potential and benefits of integration; (2) student achievement; and (3) interdisciplinary collaboration. The informants have positive but realistic views. This perception is multi-layered. They consider that integrating English assignments with the place of work can be beneficial, especially when supported by ICT tools and teachers' collaboration. There are common constraints such as time, internet access, and unclear roles in collaboration. Successful integration requires three essential elements, namely adequate access to ICT, collaborative structures through regular joint planning, and cross-disciplinary joint artifacts. If these three elements are met, the informant's perception will merge and produce ESP learning that is authentic and relevant to the world of work.

Keywords: *Vocational Orientation, ICT, English Language Learning, Vocational High Schools, Perception, Teacher collaboration, English for Specific Purposes*

Introduction

English has become a necessity in the era of globalization and Industrial Revolution 4.0 for Vocational High School graduates of Indonesia. As an educational institution with the aim to prepare students for competition in the world of work, vocational schools have a duty to support their technical skills with industry-oriented English language teaching. With the promise, vocational school graduates step out into the workforce with not just technical knowledge but also English communication ability. These other competencies are likely to make students more competitive in the global marketplace.

However, the reality that occurs in the field of vocational school graduates faces the challenge of a still limited number of jobs. Meanwhile, large and multinational companies make good English skills one of the requirements for hiring. As a result, vocational school graduates still need additional qualifications, including English language skills, to be able to compete with college graduates and get better positions in these companies. This becomes complex when the reality on the ground shows that English learning carried out so far in vocational schools is often not in line with the context of the department and the technical skills needed by the industrial world. The condition can be identified from the English curriculum used by vocational schools in Indonesia is still general, not yet oriented to the needs of vocational schools. Teachers must work more creatively to develop the existing curriculum to suit the vocational context. However, the high administrative burden of teachers causes the practice to be only partial and generally depends on the individual enthusiasm of teachers. This condition is also described in the study by (Suharno et al., 2020), noted that although the ratio of vocational schools has increased by 70%, school openings that are not supported by feasibility studies cause graduates to find jobs due to less applicable teaching materials. A systematically planned strategy, not just the initiative of teachers, is needed so that teaching materials can be in accordance with the vocational context and the needs of the job market.

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At the same time, Skarpaas & Hellekjær (2021) point out that the VO approach is considered a highly important and effective method for teaching English in vocational schools. This approach is an effective strategy for teaching English in vocational schools because it bridges language learning with vocational needs and experiences. Materials and activities are adjusted to the department so that the language is learned in a meaningful context and is ready to be used in the world of work. The key indicator is collaboration between English teachers and vocational teachers so that the results can be more relevant and applicable.

However, this practice frequently faces obstacles such as limited time, disparities in ICT, administrative challenges, and gaps in knowledge, especially in schools with an unestablished collaboration ecosystem. Research also indicates that this collaboration helps address students' language barriers, reduces confusion and frustration, and supports professional growth and innovative teaching practices. (Wu & Ji, 2022; Zalyaeva & Solodkova, 2014).

On the other hand, the development of ICT introduces new opportunities to change the way English is learned in vocational schools. (Pérez-Jorge et al., 2025). The integration of ICT in learning provides not only more interactive and engaging methods but also enables the creation of English language learning that is more contextual and relevant to vocational needs. Digital platforms, technology applications, and various technological devices can be used to build a learning environment by imitating the real work situations where English serves as a means of professional communication. ICT integration further strengthens the relevance of learning by providing access to authentic content, simulated work situations, and opportunities to interact with the global community in their respective areas of expertise.

Based on the empirical study presented, this study believes that it is critical to understand how teachers and students perceive the integration of VO and ICT through teacher collaboration in vocational English learning. The perspectives of English teachers and vocational teachers will offer a holistic view of the readiness, challenges, and opportunities for implementing this innovative learning approach.

Teachers as learning facilitators have a crucial role in designing and implementing learning by integrating these three components. In the meantime, students can benefit from the learning process so that they become motivated and ready to actively participate. A deep understanding of teacher and student perceptions will help develop more effective implementation strategies, identify the training teachers need, and develop education policies that support the transformation of English learning in vocational schools. The results of this study are intended to contribute to increasing the quality of English language learning in ways that are relevant to the needs of the world of work and in line with the latest technological developments.

The novelty of this research lies in the merging of two approaches, VO and ICT, into one learning framework based on teacher collaboration. This merger has rarely been studied simultaneously by previous researchers. Most previous research has addressed VO or ICT separately, without placing it in the context of cross-field synergy involving English teachers and vocational teachers in vocational schools. The alignment of perceptions between English teachers, vocational teachers, and students is an important indicator of the success of VO and ICT integration. When the three parties have a convergent understanding and view of the learning objectives, the relevance of the material, the methods used, and the expected benefits, then the implementation of learning will be more effective and meaningful. Conversely, perception gaps can result in misalignments in learning practices that reduce authenticity and relevance. Therefore, research on teacher and student perceptions is essential to identify areas that are already aligned, uncover gaps that need to be bridged, and formulate appropriate development strategies to improve the quality of English language learning in vocational schools that are responsive to vocational needs and technological developments. Thus, this research is expected to make a theoretical and practical contribution to the development of English learning models that are more relevant to vocational needs and technological developments. The purpose of this study is to identify the perception of teachers and students towards the integration of VO and ICT-based learning in English learning through collaboration between English teachers and vocational teachers at vocational schools in Kendari City. Research question: What is the perception of teachers and students towards the integration of VO and ICT in English learning through collaboration between English teachers and vocational teachers in vocational schools throughout Kendari City?

Methods

This study uses a qualitative approach with a multi-case study design to explore the perception of teachers and students towards the integration of VO and ICT in English language learning in vocational schools, especially in the Kendari City area, Indonesia. This design was chosen to allow for an in-depth analysis of the same phenomenon in different school contexts, resulting in comprehensive and trustworthy findings through cross-case replication.

The research was conducted in 7 vocational schools throughout Kendari City. Informants were selected deliberately by applying exclusive and inclusive criteria based on the teacher's teaching experience, which is a minimum of 5 years, having a professional teacher certification, and being involved in technology adoption. Meanwhile, students are active students from level XII who have an integrated learning experience. A total of 28 informants consisted of 7 English teachers, 7 vocational teachers, and 14 students.

The data was collected over an 11-month period, namely the period from August 2024 to July 2025. Data collection was carried out through semi-structured in-depth interviews. The duration of the interview varies around 45-60 minutes per informant, with an average of 50 minutes. In addition, observations were made on informant participation in the learning process, and document studies in the form of Learning Outcomes, Learning Implementation Plan, and learning materials. The interview uses validated guidelines to explore perceptions, experiences, and challenges in the integration of VO and ICT. Observations are carried out at least three to four times per school to obtain accurate data as validation of interview data.

The data analysis process uses thematic analysis through the stages of the Miles and Huberman model. (Miles & Huberman, 1984). During the data analysis process, all stages take place simultaneously and interact with each other. In other words, data reduction, data presentation, and conclusion drawing are not done linearly but interact with each other. To develop and analyze specific themes, refer to the data analysis guide. (Braun & Clarke, 2021). The validity of the data was ensured through triangulation of sources (English teachers, vocational teachers, and students), triangulation of methods (interviews, observations, documentation), and member checks with participants. All data is analyzed with the help of NVivo software to ensure the systematization and accuracy of the coding and categorization process of the theme. Furthermore, cross-case matrix comparisons were carried out, and credibility validation was carried out through the examination of external parties who were not involved in data collection.

This research has been approved by the Research and Development Division of Southeast Sulawesi Province, Indonesia, and follows the ethical guidelines of the Research Ethics Committee of Halu Oleo University.

Result and Discussion

The integration of VO and ICT at SMK Kota Kendari shows various dynamics, including variations in practices, differences in perceptions, and structural barriers that often arise. Nonetheless, schools that have strongly associated ESP show great potential if this integrative approach is optimized. The goal is to create an English learning ecosystem that is authentic, relevant, and responsive to the needs of the world of work. The next section will summarize the strategic opportunities, benefits, and conditions for this integration to be realized institutionally, empowering teachers and equipping students with professional communication skills in the digital era.

Potentials and Benefits of VO and ICT Integration

The results of the study reveal the fact that the VO and ICT approach in English language learning in vocational schools has a positive impact on increasing students' learning enthusiasm. The data collected reveals that the benefits of integrating ICT into English learning can make the classroom atmosphere more interesting and less monotonous. Students become more enthusiastic and motivated to understand the material because the presentation is more contextual and visual. The use of digital media, such as presentation screens or videos, also fosters a sense of joy in students while learning. This is confirmed by the students themselves, who feel more interested and actively involved when learning is supported by technology.

Learning that is integrated with the vocational context triggers positive affective responses and increases student engagement in the three emotional, cognitive, and behavioral domains. The competitive element encourages motivation; students feel challenged to understand the material more

deeply, which reflects an increase in situational interest and an encouragement to achieve. These findings are in line with (Pozas & Letzel, 2023). It is found that those who tend to integrate ICT are determined by their personal attitudes and competencies. Similarly, this study explains how ICT integration is converted into outcomes through collaborative and structural architecture in vocational schools. Both complement each other, where strengthening will/skills can be included in PLC, while this research provides an institutional "rail" so that the will and competence really bear fruit for student outcomes. As research (Sabiri, 2020) states, the same thing.

Meanwhile, material that is appropriate to the context of the department makes students feel happier, enthusiastic, and no longer sleepy in participating in learning. This shows an increase in the value of the tasks given. Students show more consistent behavior and are more actively participating in the classroom, completing all learning activities when the learning material is in the form of terms used and technical concepts related to vocational lesson practice.

From the perspective of ESP (Hutchinson & Waters, 1981; Hyland, 2022)These students' positive responses validate the ESP's key principle that language learning should be tailored to the specific needs of learners. A high level of student satisfaction indicates that the needs analysis is successful in providing ESP material that is appropriate and specific to their field of study.

Student Outcomes in VO and ICT-Enabled English Learning

The expected goal of the Integration of VO and ICT in English language learning is to be able to produce more relevant and work-ready student outputs. From the field findings, students showed that there was an improvement in ESP-based language proficiency in mastering technical vocabulary and work genre patterns such as Standard Operating Procedures (SOPs) in the industry, business emails, reports, product descriptions, as well as better performance of authentic tasks through service role play activities, incident/ticket writing, and procedure presentation. Vocational relevance combined with ICT support increases the value of the tasks felt by students, fosters motivation and self-confidence, and reduces anxiety when reading technical texts or writing work products. The impact is seen in more focused affective, cognitive, and behavioral engagement, active participation, and the tasks assigned to be completed on time. In addition, the growth of students' independence and self-regulation in choosing strategies, compiling glossaries, doing post-editing, revising based on rubrics/peer reviews, as well as functional digital literacy that facilitates the use of the Learning Management System (LMS) and additional materials needed by students as supporting information can be accessed by students during hours outside of formal learning.

In terms of efficiency, the tasks given can be completed faster by utilizing technology. Professional communication skills have also improved. The learning process becomes more efficient as more work is completed in the classroom, feedback is provided faster, and the draft editing cycle runs smoothly. At the same time, simulation of procedures and the use of industrial artifacts form a mini-work environment that strengthens the transfer from learning to work readiness, such as understanding of operational standards (SOPs), documentation, and basic team coordination. These benefits appear consistently across different majors with different oppressions. Some majors that emphasize dominant and distinctive skills, such as the Department of Computer and Network Engineering, emphasize procedural accuracy, the Marketing department focuses on persuasive skills, while the Hospitality department focuses on service and etiquette, and the Office of Formal Administration. The risks that arise are still well managed. Potential translation dependencies and device disruptions are addressed through post-editing, digital classroom rules, a balanced Bring Your Own Device (BYOD) policy, and an offline selection of materials. In essence, VO and ICT encourage more measurable, contextual, and in accordance with industry solutions.

These findings are in line with (Bereczki & Kárpáti, 2021) in their research emphasizing how experts' beliefs drive ICT-based creative practices as well as the challenges of assessing them. Meanwhile, this study explains how collaborative architecture and shared artifacts translate the integration of VO and ICT into measurable learning outcomes. When the two studies are combined, the creative approach becomes the main resource for ESP tasks, while the performance rubric and boundary objects developed in this study serve as an assessment tool so that creativity remains in accordance with work standards and is easy to apply in various classes.

Constraints and Strategies of Interdisciplinary Collaboration

The study findings reveal that collaboration between English teachers and vocational teachers in vocational high schools is currently hampered by structural and cultural factors. At the school level,

support and policies are not strong, so collaboration runs incidentally, lacks supportive regulations, scheduled agendas, time, budget allocation, and accountability, making it difficult to evaluate and be comprehensive. At the curriculum level, the Learning Outcomes set out in the curriculum have not been integrated with competencies and industry standards, so teachers must prepare their own adjustments to the order of the material, design assignments that cover multiple subjects, and adjust assessments. This condition is exacerbated by time constraints and high administrative burden, making ICT practices stop at the level of substitution, namely at video playback events and the use of digital sheets to present material, rather than integrated performative tasks. The level of work culture, differences in background, and perception of low roles lead to interdependence and territoriality. This condition causes collaboration to become transactional, namely the exchange of terms and design rather than integrative tasks based on SOPs, joint teaching, and joint assessment. Teachers who have participated in training have not been able to apply the knowledge they have gained. Nonetheless, most teachers and students have a positive perception of this collaboration, with some scenes to be fulfilled. They believe that this integration can increase closeness to the world of work, which includes aspects of relevance, the use of technical terms, and simulation. Some schools show experience of collaborative practice in integrated learning; this is evidenced through interviews and document studies in the form of learning planning that teachers use to teach. However, the sustainability of this practice is highly dependent on the existing ecosystem conditions, such as collaborative schedules, availability of reliable internet and devices, clarity of shared roles and indicators, and support for teacher capacity development (TPACK-in-action). These findings are referred to as the "positive-realistic perception" of teachers and students towards the implementation of the integration of VO and ICT approaches through collaboration between English teachers and vocational teachers.

To see if the strategies implemented by the teachers have overcome the obstacles in each school, pay attention to the difference between the Strategy and the Obstacles in Figure 1; which schools have ≥ 0 (superior) and which are still ≤ 0 (withheld)?" This data is presented based on the results of matrix coding query data analysis that has been processed with NVIVO.

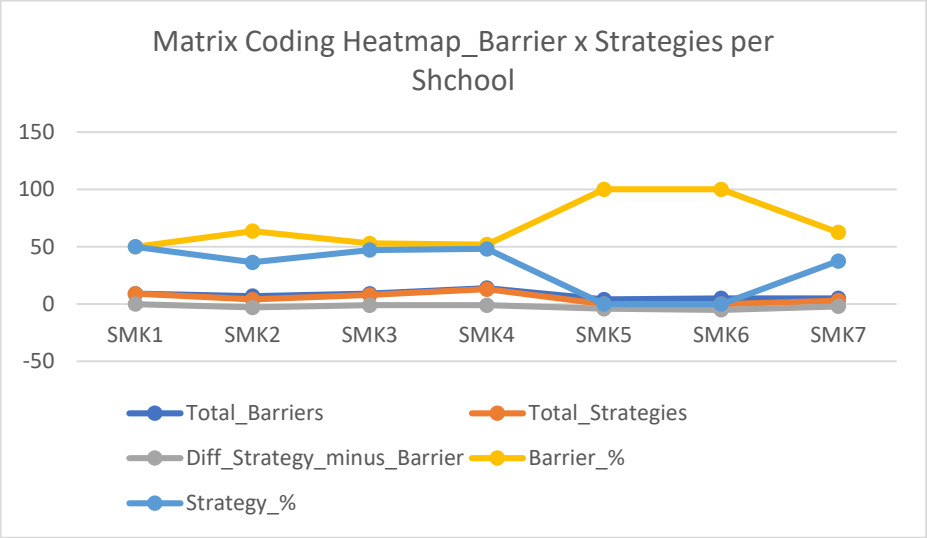

Figure 1. Matrix Coding Heatmap: Barriers × Strategies

Figure 1 above shows that SMK1 has a balanced profile between obstacles and strategies (50% versus 50%; 9 versus 9 indicators). Although SMK1 faces challenges such as limited internet access, curriculum problems, and differences in teacher perceptions, these obstacles are successfully offset by the implementation of a strong ESP and a variety of learning methods and media. These findings also show that the learning ecosystem in SMK1 is ready for a standardization process in the formation of PLCs and shared resource repositories so that effective practices can be consistent across classrooms.

SMK2 showed a dominant but mild barrier, with a distribution of 64% of barriers compared to 36% of strategies (7 indicators of barriers compared to 4 strategy indicators). Although learning strategies have been implemented, their effectiveness is still suboptimal in overcoming major obstacles such as time constraints, an unintegrated curriculum, and the unclear role of teachers. To improve the balance and effectiveness of strategy implementation, SMK2 requires interventions in the form of structured co-

planning, scheduling, cross-mapping between learning objectives and vocational competencies, and strengthening ESP task-based learning strategies that are more systematic and authentic.

SMK3 shows an almost balanced profile with a percentage of obstacles of 53% and a strategy of 47% (9:8 indicator). The school has strengths in the application of ESP, especially in the integration of work genres that are appropriate to the students' vocational context. However, limited access to technology and the internet hinders the frequency of implementation, so that the impact is not optimal on students' academic abilities. To achieve full balance, SMK3 requires strengthening more intensive learning strategies, such as technical glossaries, post-editing activities, strengthening basic literacy, as well as improving stable connectivity and adequate accessibility of ICT devices for all students.

SMK4 showed an even balance, namely 52% of obstacles and 48% of strategies (14:13 indicator). Although the development of ESP and the variety of learning methods are quite good, limited internet access is a major obstacle in implementing the strategy optimally. To ensure that the implementation of learning runs continuously, SMK4 needs to rely more on a face-to-face approach that does not completely rely on internet connections. In addition, schools also need to implement an inclusive BYOD policy, pay attention to differences in technology access between students, and improve technological facilities and stable internet connections so that learning strategies can be implemented consistently and effectively in all classes.

SMK5 shows a total barrier profile with a 100% distribution of barriers with no recorded strategies (4:0 indicators), which indicates that there are no clear practices or mechanisms in integrating VO and ICT in English language learning. Structural barriers such as an unintegrated curriculum, limited time for collaboration, and differences in understanding of the role of teachers need to be corrected through systematic interventions, namely by establishing school-level policies that provide formal legitimacy, providing special time for periodic joint planning, and compiling boundary objects as a starter kit that includes integrated learning operational standards, vocational work genre templates, and assessment instruments that combine language aspects with vocational competencies to support effective collaboration between English teachers and vocational teachers from the beginning of implementation.

SMK6 shows full dominance with a 100% resistance ratio and 0% strategy (5:0 indicator). The main obstacle faced is like SMK5, namely, the perception of the role of teachers and a rigid curriculum. To overcome the problem of "territoriality" in the form of a tendency to teach individually, it is recommended to use a shared teaching micro-cycle strategy. This method involves cooperation in short cycles (2-3 meetings), which is complemented by joint assessment. This approach also aims to change role patterns and encourage real cooperation in the teaching and evaluation process.

SMK7 showed dominance in moderate resistance with a ratio of 63% resistance to 38% strategy (5:3 indicator). Although the school has tried initial strategies such as process facilitation and optimization, these efforts have not succeeded in addressing gaps in terms of curriculum, time, and understanding of the role of teachers. To improve collaboration and teaching effectiveness, concrete steps are needed in the form of ready-to-use ESP assignment templates and a minimum monthly cooperation schedule that provides practical guidance and a structured schedule for teachers.

Bridging the Gap of Potential, Outcome, and Collaboration

Based on the cross-school findings presented earlier, three main patterns can be mapped, namely: (1) balanced or almost balanced schools, where the potential benefits of integrating VO and ICT are quite in line with student learning outcomes due to the existence of collaborative practices that run well; (2) schools that are dominated by obstacles, where potential exists, but results have not been achieved due to time-related constraints, curriculum that has not been integrated with vocational, and less effective coordination; (3) schools that face many barriers, where educational strategies are barely visible because structural prerequisites such as mandates, collaborative time, shared artifacts, and access are still not available. This pattern indicates that the significant difference is not in the concept of education, but in how to turn potential into results, namely, through planned and sustainable collaboration. From a VO/ESP perspective, it is recommended that the material taught is closely connected to the genre of work, such as SOPs, incident tickets, business emails, and product descriptions, and uses a technical lexicon. However, if there is no link from Language Learning Outcomes to industry standards or procedures, the teacher's job will be stuck in delivering a glossary without providing tasks that can be carried out and assessed based on the performance rubric. These findings constructively expand the ESP. (Hyland, 2022), with operational settings: the need for boundary objects (SOP/genre packages, two-column vocational language rubrics, departmental glossaries) that bridge between VO practice and the classroom across all disciplines.

In the ICT pillar, schools with structured collaboration practices no longer only use digital videos or worksheets but have risen to the level of simulating tasks in the context of work. This is in line with the concept of TPACK. (Swallow & Olofson, 2017). This perspective emphasizes the importance of sharpening knowledge about the material (content knowledge) in the context of Vocational High School, which should be understood as a vocational genre and procedure, not just a language topic. Thus, technological knowledge and pedagogy are focused on orchestrating just-in-time scaffolding such as glossaries, post-editing, and work templates, as well as fair offline-first/BYOD modes so that learning practices are not dependent on infrastructure. In other words, ICT functions as a multiplier of the effect of direct learning (VO) if applied in the form of the right task. Research (Li et al., 2023) examining the relationship between subject literacy shows results that art literacy is positively associated with Computer & Information Literacy (CIL) and ICT skills; science literacy is positive for basic ICT but negative for advanced ICT. In contrast to this study, which sees that the main obstacle does not come from content literacy, but the structure and governance that determine whether VO and ICT strategies turn into results.

Furthermore, the existence of the Teacher Collaboration pillar emerges as a causal link: when there is a program mandate, a specific time for co-planning, and a repository that can be accessed together, the potential can be turned into results. And vice versa, without that, collaboration becomes transactional, just exchanging terms and not leveling up to a more authentic task/assessment design. It validates the PLC/CoP framework (Farnsworth et al., 2016) and expands it: effective collaboration in vocational schools requires explicit shared artifacts (boundary objects) and work rituals that can be carried out repeatedly (micro-cycle co-teaching and co-assessment) so that quality standards are maintained across the classroom. These findings are in line with Meyer et al., 2022), which states that collaboration between teachers is an important factor influencing outcomes at the student, teacher, and school levels. However, the focus of her research is on the influence of principals' leadership that supports collaboration mediated collective effectiveness using the theoretical framework of social dependence and Collective Teacher Efficacy. Meanwhile, this research focuses on outputs that fill potential gaps and outcomes found in the field through structured collaboration. Similarly, (Hamengkubuwono et al., 2022b; Skarpaas & Hellekjær, 2021) see that teacher collaboration is still rarely done in schools because of so many challenges faced by teachers. Meanwhile, this research is here to offer solutions that can fill these gaps.

Theoretically, these findings provide four deeper explanations. First, ESP functions effectively when integrated with curriculum boundary objects and crosswalks, thus enabling the transfer mapping process from learning competencies (LO) to various practical tasks and assessment rubrics. Second, TPACK in the context of vocational education needs to be reinterpreted as V-TPACK, where the content is not only in the form of subject matter, but is interpreted as a genre or industry procedure, while information and communication technology (ICT) is chosen to complete tasks relevant to the world of work, not just to teach the material. Third, the Professional Learning Community (PLC) or Community of Practice (CoP) is not only the background, but also part of the mechanism that drives change: collaboration is an essential condition for turning potential into tangible results. Fourth, infrastructure aspects such as equitable device owner-based learning (BYOD) and offline-based key approaches, as well as collaborative time policies, are an important part of this model; Without these elements, learning practices will only stop at the substitution stage and will not develop into a task engineering model.

In a few words, the term bridging the gap refers to a shift of attention from existing potential to consistent implementation through structured collaboration, so that the end result can be clearly seen. In a theoretical context, it connects VO/ESP, ICT/TPACK, and PLC/CoP in a single learning ecosystem: the vocational context provides meaning, ICT serves as a power driver, and collaboration offers a framework so that English learning in vocational schools becomes relevant, measurable, and in accordance with the demands of the world of work. From the pattern formed, the basis for policy making and intervention can be determined. Pay attention to school mapping and the implications in the following table:

Table 1. Basis of Policy Making and Intervention per School (Based on Barries x Strategies Pattern)

Case Study	Pattern	Policy Focus	Priority Interventions	Success Indicators
Smk1	Balanced	Formalize Plcs And Repositories	Standardization Of Esp Assignments Across Classes,	Plcs Have A Clear Agenda And Role; Esp Tasks Remain Consistent Across The

		Together, Set Protected Time On Byod	Monthly Co-Planning, Offline First Package, Method/Media Curation	Class; Feedback Based On Rubrics Helps In The Revision Process; Students Can Relate Assignments To Practices In Their Field Of Study
Smk2	Light-Dominant Barriers	Schedule Official Co-Planning, Arrange A Crosswalk Of Learning Outcomes And Learning Objectives On Vocational Competencies.	Sop-Based Esp Tasks, Templates, And Rubrics Optimize The Lms, Offline First Option.	Collaborative Planning Is Done Regularly (Not Just Incidentally); The Use Of Crosswalks When Developing Lesson Plans; The Existence Of New Esp Tasks; Teachers Report That The Administrative Burden Becomes Lighter; Learning Flow Becomes More Structured.
Smk3	Almost Balanced	Fair Loaner Device (Byod) Policies, Infrastructure Improvement Plans	Scaffolding (Grosarium, Post Editing), Offline Material Packages, Increased Bandwidth	All Students Can Run Assignments Without Device Or Quota Constraints; Concentration During Lessons Increases; The Quality From The Draft To The Final Version Has Been Improved; Offline Packages Are Used In Classroom Activities
Smk4	Almost Balanced (Connectivity Bottleneck)	Offline First As Standard, Fair Byod, Infrastructure Improvement Plan	Caching/Pre Download, Local Server, Scheduled Co-Teaching, Varied Media Curation	Learning Activities Continue Even Though The Internet Connection Is Slow; Co-Teaching Is Carried Out According To The Schedule; Cached Material Is Used Optimally; The Session Runs Smoothly According To The Observations Of Teachers And Students
Smk5	Barrier Only	Program Mandate, Appoint Pic, Allocate Collaboration Time	Start-Kit (Sop/Genre Package, 2-Column Rubric, Glossary), Micro Cycle, Co-Teaching (2-3 Meetings)	Team Structure And Sk Are Already Available; The First Plc Meeting Has Been Held; The First Published Esp Task; The Use Of Two-Column Rubrics Began To Be Implemented; Documentation Of The Initial Stage Of The Process Has Been Carried Out
Smk6	Barrier Only	Clarification Of The Role Of Language And Vocational Requires Co-Assessment	Micro Co-Teaching And Co-Assessment; Workshop Role Clarity; Early Crosswalk	Role-Related Documents Have Been Agreed Upon; Co-Teaching Sessions Take Place. The Assessment Was Carried Out Collaboratively Using A Two-Column Rubric; Reflections From Teachers Show A Reduction In Territoriality And An Increase In Mutual Referral Between Teachers.

Smk7	Medium Dominant Barrier	Monthly Co-Planning Schedule; Direct Curriculum To Esp	Ready-To-Use Esp Task Templates; Lms Optimization	The Collaboration Schedule Is Well Followed; Esp Templates Are Implemented In Some Classes; Administration Becomes More Efficient Through Lms; Collaboration Feels More Structured

The success assessment of the implementation of this framework is designed qualitatively to see how deeply the impact is received. This needs to be supported by supporting evidence in the form of artifacts such as PLC minutes, joint lesson plans, filled rubrics, student products, reflections from teachers and students, and classroom observations.

Limitations and Recommendations

This research is qualitatively exploratory, so it focuses more on practices, perceptions, and integration challenges than on quantitatively measuring the impact on learning outcomes, skills that can be used in the world of work, and digital competencies. As a result, conclusions regarding long-term effectiveness cannot be made unequivocally. The data obtained is also dominated by the views of teachers and students, who are vulnerable to subjectivity and bias. In addition, collaboration between teachers is still trapped in discourse or potential because its formal implementation has not been carried out systematically in the schools studied. For further research, different approaches are needed, such as quantitative to measure the impact and effectiveness of integration or mixed design with objective indicators, triangulation from various sources, and testing of structured collaboration programs to assess the effectiveness of integration more deeply.

Conclusion

The integration of VO and ICT in English language learning in vocational schools has created new findings, namely: (1) Language skills in the context of work and technical vocabulary (ESP), improved performance in the form of authentic assignments, student engagement, student confidence to enter the workforce, and digital literacy skills; (2) Differences in performance between schools are influenced by structural prerequisites such as program policies, officially scheduled collaboration times, cross-examination of learning outcomes and competency standards with vocational standards, common artifacts (SOPs, genre packages, two-column rubrics, glossaries), and equitable access to offline technology approaches. Without these structural prerequisites, integration practices only reach the level of substitution. But by using these elements, these practices can evolve into integrated assignment design, as well as consistent co-teaching and co-assessment. In theory, these findings support the concepts of ESP, boundary objects, and constructive alignment, which form TPACK into a V-TPACK whose content includes procedures and types of work, and makes PLC/CoP a mechanism that converts potential into tangible results. The overall direction is to formalize collaboration, connect the curriculum with vocational standards, guarantee teachers' time, and ensure equal access to ICT so that practices can be standardized, scaled, and truly ready for use in industry.

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