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Investigating The Use of SimDif Website-Based Media in English Language Teaching

(A Descriptive Qualitative Study at SMK Pancasila 3 Baturetno)

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ABSTRACT

The integration of interactive web-based learning media has become increasingly important in English Language Teaching (ELT), particularly in vocational education where learning relevance and practical communication skills are essential. This study aims to explore the implementation of the SimDif website as an interactive learning medium in vocational English classrooms, focusing on its instructional process, challenges, influence on students' motivation and engagement, as well as its perceived benefits and limitations. This research employed a qualitative descriptive design conducted at SMK Pancasila 3 Baturetno. The participants consisted of a teacher collaborator and Grade XI Technical Machining students. Data were collected through classroom observations, student interviews, and a teacher collaborator interview. Classroom field notes were used to capture learning activities, interactions, and student responses during the implementation of SimDif. Data were analyzed using thematic analysis through data reduction, data display, and conclusion drawing. The findings reveal that SimDif was implemented through structured stages, including platform introduction, analysis of model texts, guided website creation, and student presentations. Despite challenges related to internet connectivity, time management, and students' initial digital skills, the use of SimDif positively influenced students' motivation and engagement. Students demonstrated increased participation, confidence, collaboration, and autonomy in learning English, particularly when completing vocationally relevant tasks. Furthermore, SimDif facilitated authentic language use by connecting English learning with students' vocational contexts, although its effectiveness depended on teachers' pedagogical and technological readiness. In conclusion, SimDif functions as a meaningful interactive web-based learning medium that supports student-centered, motivating, and contextually relevant English learning in vocational schools. This study suggests that teacher guidance, task design, and infrastructure support are crucial to maximize the pedagogical potential of website-based learning media in ELT.

Keywords: *Interactive Web-based Learning, SimDif, Vocational English Teaching, Student Motivation and Engagement, Qualitative Research.*

ABSTRAK

Integrasi media pembelajaran berbasis web interaktif semakin penting dalam Pembelajaran Bahasa Inggris (ELT), khususnya di pendidikan vokasi yang menuntut relevansi pembelajaran dan keterampilan komunikasi praktis. Penelitian ini bertujuan untuk mengeksplorasi implementasi website SimDif sebagai media pembelajaran interaktif dalam

kelas Bahasa Inggris vokasi, dengan fokus pada proses pelaksanaannya, tantangan yang dihadapi, pengaruhnya terhadap motivasi dan keterlibatan siswa, serta manfaat dan keterbatasan yang dirasakan. Penelitian ini menggunakan desain kualitatif deskriptif yang dilaksanakan di SMK Pancasila 3 Baturetno. Partisipan penelitian terdiri atas seorang guru kolaborator dan siswa kelas XI Teknik Pemesinan. Data dikumpulkan melalui observasi kelas, wawancara siswa, dan wawancara guru kolaborator. Catatan lapangan digunakan untuk mendokumentasikan aktivitas pembelajaran, interaksi, serta respons siswa selama implementasi SimDif. Data dianalisis menggunakan analisis tematik melalui tahapan reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa SimDif diimplementasikan melalui tahapan terstruktur, yaitu pengenalan platform, analisis teks model, pembuatan website secara terbimbing, dan presentasi hasil kerja siswa. Meskipun terdapat tantangan berupa keterbatasan koneksi internet, manajemen waktu, dan keterampilan digital awal siswa, penggunaan SimDif memberikan dampak positif terhadap motivasi dan keterlibatan siswa. Siswa menunjukkan peningkatan partisipasi, kepercayaan diri, kolaborasi, dan kemandirian dalam belajar Bahasa Inggris, terutama ketika mengerjakan tugas yang relevan dengan bidang kejuruan mereka. Selain itu, SimDif memfasilitasi penggunaan bahasa yang autentik dengan menghubungkan pembelajaran Bahasa Inggris dengan konteks vokasional siswa, meskipun efektivitasnya sangat bergantung pada kesiapan pedagogis dan teknologi guru. Simpulannya, SimDif berfungsi sebagai media pembelajaran berbasis web interaktif yang mendukung pembelajaran Bahasa Inggris yang berpusat pada siswa, memotivasi, dan kontekstual di sekolah vokasi. Penelitian ini menegaskan pentingnya perancangan tugas yang tepat, bimbingan guru, dan dukungan infrastruktur untuk mengoptimalkan potensi pedagogis media pembelajaran berbasis website dalam ELT.

Kata Kunci: *Media Pembelajaran Berbasis Web Interaktif, SimDif, Pembelajaran Bahasa Inggris Vokasi, Motivasi dan Keterlibatan Siswa, Penelitian Kualitatif*

INTRODUCTION

In the era of digital transformation and Industry 4.0, the teaching and learning of English have undergone a profound paradigm shift. The integration of technology into English Language Teaching (ELT) has moved beyond supplementary use toward becoming an essential medium of instruction. Web-based learning environments allow learners to access, interact with, and create content dynamically, encouraging active participation and collaborative learning (Wang & Vásquez, 2021). These technological developments enable learners to engage with authentic materials and multimedia-rich environments, facilitating language acquisition through real-world exposure (Zhao & Song, 2022). According to Al-Fraihat, Joy, and Sinclair (2020), interactive e-learning platforms improve learning satisfaction and engagement through accessibility, flexibility, and personalization. Similarly, Li and Wang (2022) emphasize that website-based learning supports constructivist approaches, allowing students to construct meaning through exploration and interaction, which aligns with the need for digital literacy, creativity, and learner autonomy in 21st-century learning.

In Indonesia, English plays an essential role in vocational education as a means of communication in professional and industrial settings. The *Kurikulum*

Merdeka emphasizes the importance of equipping vocational students with the ability to communicate effectively and comprehend authentic English materials relevant to their field. However, English teaching in many vocational schools (SMK) remains dominated by traditional teacher-centered approaches that focus on grammar and textbook-based instruction. Rahmawati and Wibowo (2019) noted that such approaches often lead to low engagement and poor motivation because students fail to see the relevance of English to their vocational expertise. Furthermore, although digital infrastructure has improved, many teachers still face difficulties integrating technology due to limited pedagogical training and technical confidence (Nugroho, 2021).

At SMK Pancasila 3 Baturetno, similar challenges are evident. Based on the researcher's teaching experience, many students show low enthusiasm for English, particularly when lessons rely on lecture or translation methods. They tend to become passive learners and perceive English as a difficult and irrelevant subject. However, students demonstrate greater interest when exposed to visually engaging and interactive materials. During the COVID-19 pandemic, the researcher began experimenting with SimDif, a website-building application that allows teachers to design interactive websites containing texts, videos, exercises, and links relevant to students' vocational fields. The use of SimDif has created a more engaging classroom atmosphere where students are more willing to explore materials independently, collaborate with peers, and participate in language tasks simulating real-world communication.

The integration of digital technology into English teaching is therefore not merely an instructional trend but a pedagogical necessity in the era of *Merdeka Belajar*. The initiative promotes learner autonomy, critical thinking, and technology-supported personalized learning experiences. As Dörnyei and Ushioda (2021) highlight, sustained motivation in language learning depends on meaningful, personally relevant, and engaging tasks, which can be supported through web-based media. In the vocational education context, particularly at SMK Pancasila 3 Baturetno, adopting SimDif represents a step toward aligning English teaching with industrial culture and digital transformation goals while enhancing students' vocational readiness, digital literacy, and engagement.

Previous studies have explored technology integration in ELT, but most focus on platforms such as Moodle, Edmodo, and Google Classroom. Shadiev and Yang (2020) reviewed technology-enhanced language learning primarily in higher education contexts. Rahmawati and Wibowo (2019) examined teachers' perceptions of web-based learning in Indonesian EFL classrooms, yet their scope excluded vocational schools. Nugroho (2021) investigated website-based learning in SMK contexts but focused only on writing outcomes without examining teacher and student experiences qualitatively. Rahimi and Zhang (2022) also emphasized the importance of teachers' technological, pedagogical, and content knowledge (TPACK), yet research exploring these elements within vocational classrooms remains limited.

Building upon these gaps, this study focuses on SimDif, a user-friendly website builder that allows teachers to design interactive learning websites. Unlike

institutional platforms, SimDif empowers teachers to act as content creators and instructional designers. This study contributes contextual innovation by situating English learning within a vocational environment, pedagogical innovation through the use of a website-building tool supporting constructivist learning, and methodological innovation through a descriptive qualitative design capturing teachers' and students' experiences. Therefore, this research aims to investigate the use of SimDif website-based media in English language teaching at SMK Pancasila 3 Baturetno, exploring its classroom implementation, students' responses, and factors that support or hinder its effectiveness in fostering digital literacy and meaningful learning experiences.

RESEARCH METODOLOGY

This study employed a qualitative descriptive research design to explore the implementation of SimDif as a website-based learning medium in teaching procedure texts in vocational English at SMK Pancasila 3 Baturetno. The design was chosen to provide a detailed and contextual description of how SimDif was used in classroom practice, how students responded to its implementation, and how it contributed to enhancing learning engagement and relevance. Qualitative descriptive research focuses on presenting a clear and accurate description of a phenomenon as experienced by participants in their natural setting (Sandelowski, 2000; Lambert & Lambert, 2012; Kim, Sefcik, & Bradway, 2017). In line with this, the study documented the instructional process, classroom interactions, and participants' experiences related to SimDif-based learning to generate practical insights into vocational English teaching (Neergaard et al., 2020).

The research was conducted at SMK Pancasila 3 Baturetno, a vocational school located in Wonogiri, Central Java, Indonesia, which offers three technical majors: Mechanical Engineering (TPA), Automotive Engineering (TKRO), and Motorcycle Engineering (TBSM). The study focused on the XI TPA (Mechanical Engineering A) class, which implemented SimDif as a website-based learning medium for learning procedure texts. The participants consisted of all students in the XI TPA class, one English teacher who acted as a teacher collaborator, and the researcher. The teacher collaborator conducted the teaching and learning activities using SimDif, while the researcher acted as an observer, interviewer, and data analyst. In qualitative descriptive research, the researcher functions as the primary instrument for collecting and interpreting data (Creswell & Poth, 2018).

The data in this study were obtained from both primary and secondary sources. Primary data were collected through classroom observations, interviews, and documentation during the implementation of SimDif-based learning, including records of classroom interactions, students' responses, and the teacher collaborator's perspectives regarding the learning process. Secondary data were derived from supporting documents such as lesson plans and SimDif-related materials, including user manuals and instructional guidelines. To ensure the trustworthiness of the findings, the study applied data triangulation by combining observation, interview, and documentation data, supported by reflective field notes and discussions with the teacher collaborator during the research process.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

The findings of this study were obtained from the classroom implementation of SimDif-based procedure text instruction conducted in two meetings (19 and 26 January 2026) in Class XI TPA. The learning activities were collaboratively organized by the teacher and observed by the researcher through observation notes, interviews, and documentation. The instructional design was structured through web-based learning pages created on the SimDif platform, which students accessed using their mobile devices during the lesson. The learning process consisted of three stages: opening, main activities, and closing. In the opening stage, the teacher introduced the learning objectives and explained how to navigate the SimDif pages. During the main activities, students explored the procedure text materials, identified the generic structure and language features, and produced their own vocationally relevant procedure texts individually or collaboratively, while the teacher provided guidance and feedback and the researcher documented classroom interactions. The lesson concluded with reflection and feedback to reinforce students' understanding.

The first meeting focused on conceptual understanding, where students analyzed the purpose, structure (goal, materials, steps), and language features (imperatives and sequence markers) of procedure texts in vocational contexts. The second meeting emphasized productive performance, requiring students to draft, revise, and present their own procedure texts related to technical machining practices. Students' written work, presentations, and interactions with the SimDif website served as qualitative evidence of engagement and learning processes. Based on the implementation, the findings were organized according to the research questions: (1) the implementation process of SimDif in teaching procedure text, (2) the challenges encountered during the implementation, (3) students' motivation and engagement, and (4) the perceived benefits and limitations of using SimDif in vocational English instruction. These aspects are conceptually illustrated in Figure 4.1, which presents the implementation process (RQ1) as the central phase supported by challenges (RQ2), student motivation (RQ3), and perceived benefits and limitations (RQ4).

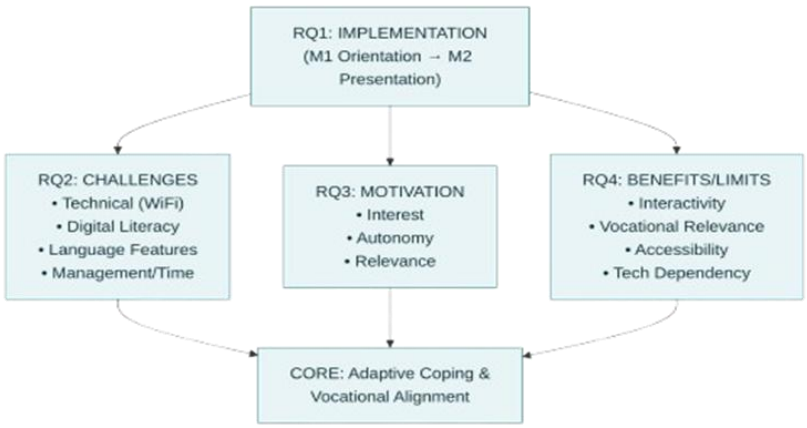

Figure 1. Research Questions Framework: From Implementation To Core Themes

Findings for Research Question 1 (Implementation)

Implementation of the SimDif website-based learning medium in teaching procedure text at SMK Pancasila 3 Baturetno was conducted through two classroom meetings that focused on introducing the platform, guiding students in understanding procedure text, and supporting them in producing their own texts. During the first meeting, the teacher introduced SimDif and guided students in accessing and navigating the website using their smartphones. Although several students experienced difficulties connecting to the school Wi-Fi, the issue was resolved through peer support such as sharing hotspots and devices so that learning activities could continue. After all students gained access, the teacher guided them to explore the procedure text materials provided on the SimDif page.

In the content delivery stage, the teacher explained the definition, purpose, generic structure (goal, materials/tools, steps), and language features of procedure text, including the use of imperative verbs and sequencing words. A model procedure text was used to help students identify each structural element and language feature. Through guided questioning and discussion, students practiced identifying the goal, materials, and steps in the model text. Some students initially experienced confusion, especially in distinguishing materials from steps, but the teacher provided prompts, modeling, and explanations to clarify these elements.

During the second meeting, the focus shifted from understanding to production. Students worked in groups to write their own procedure texts related to workshop activities in their vocational field. Each group was assigned a topic and asked to produce a complete text that included a clear goal, appropriate materials/tools, and well-ordered steps using imperative verbs and sequencing markers. While students drafted their texts on SimDif, the teacher circulated around the classroom, providing scaffolding, vocabulary support, and immediate feedback to ensure the clarity and logical order of the instructions.

Peer interaction played an important role in the learning process. Students collaborated within groups to organize ideas, discuss the sequence of steps, and divide roles such as typing and checking the structure. After drafting, groups exchanged their texts and provided peer feedback using simple criteria focusing on the completeness of the structure and the accuracy of language features. This process helped students identify missing elements and revise their work before presenting their procedure texts to the class.

Overall, the implementation of SimDif-based learning followed a structured sequence that combined orientation, guided exploration, collaborative writing, revision, and presentation. The activities encouraged active participation, peer interaction, and continuous feedback. The findings indicate that SimDif functioned not only as a platform for delivering learning materials but also as a tool that supported collaborative writing, student engagement, and the development of procedural language skills within a vocational English learning context.

Findings for Research Question 2 (Challenge)

The findings for RQ 2 reveal four main categories of challenges encountered during the integration of SimDif in the classroom: technical access, digital literacy

and navigation, language and content, and classroom and time management. These challenges emerged during both meetings, which focused on orientation and text analysis in Meeting 1 and drafting and presentation in Meeting 2. Data from classroom observations, interviews, and documentation show that these challenges did not stop the learning process but were addressed through adaptive strategies implemented collaboratively by the teacher and students.

Technical challenges were mainly related to unstable school Wi-Fi, slow loading of the SimDif pages, and limited mobile data. Some students experienced difficulty accessing the website at the beginning of the lesson, which temporarily slowed the transition to the learning activities. To overcome these problems, the teacher encouraged students to share mobile hotspots, allowed groups to share devices, and provided alternative access methods so students could continue the lesson without major disruption.

Challenges related to digital literacy and navigation appeared more clearly during the drafting stage in Meeting 2. Some students had difficulty editing content on SimDif using their smartphones due to small screen size, zooming issues, and difficulty locating editing tools. These difficulties initially caused delays and frustration among several students. The teacher addressed this by demonstrating the editing process through screen mirroring, pairing more experienced students with beginners, and encouraging peer assistance, which helped students continue their work more confidently.

Language and content challenges were also observed, particularly in understanding the structure and language features of procedure texts. Some students struggled to distinguish between the goal, materials, and steps, identify imperative verbs, and organize actions using sequencing words. The teacher addressed these difficulties through scaffolding strategies such as verbal explanations, visual examples, checklists, and immediate feedback during classroom monitoring. These strategies helped students gradually improve their understanding and apply the correct structure in their writing.

Overall, the findings indicate that although the integration of SimDif presents several practical challenges, these obstacles can be managed through collaborative problem-solving, teacher guidance, and peer support. The learning process continues effectively because both the teacher and students adapt to the constraints while maintaining the focus on meaningful language learning and classroom participation.

Findings for RQ3: Influence on Students' Motivation and Engagement

The findings for RQ3 show that the use of SimDif positively influences students' motivation and engagement during the learning process. Across both meetings, students demonstrate increased participation, sustained attention during tasks, and positive emotional responses toward the learning activities. Students actively access the website, participate in discussions, collaborate during group work, and respond enthusiastically to technology-supported learning. These patterns indicate that the integration of SimDif helps create a more engaging classroom atmosphere compared to conventional learning activities.

One important factor that enhances motivation is students' interest and enjoyment when using digital tools. Many students express that learning through the website is more enjoyable than completing traditional textbook-based exercises. This is especially visible during collaborative activities, such as exploring the model procedure text and presenting group projects. The interactive and visual features of SimDif help maintain students' attention and encourage active participation, even among students who are usually less active in conventional classroom settings.

Another factor is the sense of autonomy experienced by students while using SimDif. The platform allows students to edit content, organize pages, and revise their work independently without relying entirely on the teacher. During the drafting stage, groups are able to experiment with the layout of their procedure texts and make improvements based on their own ideas and peer suggestions. This independence increases students' confidence and encourages them to take greater responsibility for their learning products.

The relevance of the tasks to students' vocational field also plays a strong role in increasing motivation. Writing procedure texts related to workshop activities makes students feel that English learning is directly connected to their future careers. Students begin to view English not only as a school subject but also as a practical tool for workplace communication and technical documentation.

Overall, the findings indicate that SimDif-based learning enhances motivation and engagement through increased interest, greater learner autonomy, and meaningful connections to vocational skills. The integration of the website creates a learning environment where students are more active, collaborative, and focused, demonstrating that technology-supported instruction can effectively support vocational English learning when it is aligned with students' field of specialization.

Findings for RQ4: Perceived Benefits and Limitations

The findings for RQ4 reveal that participants perceive both benefits and limitations in the use of SimDif for vocational English learning. Data from teacher reflections, student interviews, and classroom observations indicate that the main benefits include interactivity, vocational relevance, and accessibility, while the main limitations involve technical dependence, preparation demands, and platform constraints. These perceptions provide a balanced understanding of how SimDif functions in real classroom practice.

One of the main benefits of SimDif is its interactive and visual features, which make learning activities more engaging compared to traditional printed materials. Students are able to embed images, videos, and hyperlinks related to machining tools and workshop procedures in their texts. This multimedia environment helps students understand procedure texts more clearly and connect language learning with real vocational contexts. In addition, the real-time editing feature supports collaborative learning, allowing students to revise their work immediately and discuss improvements with group members during drafting and revision stages.

Another significant benefit is the strong relevance of the learning tasks to students' vocational specialization. By creating digital procedure texts related to workshop activities, such as machine operation and workshop safety, students

perceive English as a practical tool for workplace communication rather than merely a school subject. The platform is also accessible through mobile web browsers without requiring installation, which makes it convenient for students to use their personal smartphones during classroom activities.

Despite these benefits, several limitations are also identified. The most notable challenge is the dependence on a stable internet connection, which can cause disruptions when the school Wi-Fi is slow or unstable. From the teacher's perspective, preparing learning materials on SimDif also requires considerable time, particularly when designing pages, selecting media resources, and testing compatibility with mobile devices. In addition, editing longer texts on small smartphone screens can slow the drafting process, especially when students type technical vocabulary.

Overall, the findings indicate that SimDif provides meaningful pedagogical benefits while also presenting practical constraints. However, these limitations do not stop the learning process because both teachers and students adapt through strategies such as peer support, collaborative problem-solving, and flexible classroom management. When integrated effectively, SimDif functions not simply as a digital tool but as a learning environment that supports engagement, vocational relevance, and student-centered learning in vocational English classrooms.

Discussion

SimDif Implementation and Constructivist Learning Principles

The structured implementation of SimDif, from orientation and model text analysis to guided drafting and oral presentation, demonstrates clear alignment with constructivist learning theory. Constructivism posits that learners actively construct knowledge through experience, interaction, and reflection rather than passively receiving information (Li & Wang, 2022). In this study, students did not merely read procedure texts; they analyzed structural components, identified linguistic features, collaborated in groups, and ultimately produced their own vocationally relevant texts within a digital environment.

The use of guided questioning, modeling, and gradual release of responsibility reflects scaffolded learning, a core element of constructivist pedagogy. The teacher's mediation during identification of goal–materials–steps and imperative verbs enabled learners to bridge prior knowledge with new conceptual understanding. This indicates that SimDif functioned as a structured learning space where meaning-making was facilitated through interaction and reflection.

Furthermore, the integration of multimedia elements within the SimDif platform supports Mayer's (2021) cognitive theory of multimedia learning, which emphasizes that well-organized textual and visual input enhances comprehension and cognitive processing. The website format allowed content segmentation and clear structural organization, which supported procedural literacy development in a vocational context.

Thus, the effectiveness observed in this study is not attributable to technology alone, but to the constructivist instructional design embedded within its implementation.

CALL Perspective: Technology as Pedagogical Mediation

From a Computer-Assisted Language Learning (CALL) perspective (Beatty, 2013), technology serves as a mediating instrument that supports interaction, autonomy, and language practice rather than replacing pedagogical functions. The findings reinforce this theoretical stance. While SimDif provided accessibility and interactive features, it required continuous teacher mediation to ensure comprehension, maintain engagement, and address technical barriers.

The technical challenges observed, such as internet instability and mobile editing limitations, demonstrate that digital platforms are inherently context-dependent. However, the adaptive strategies employed by the teacher, including peer support, backup connectivity solutions, and task simplification, illustrate what Rahimi and Fathi (2023) describe as pedagogical orchestration in technology-enhanced classrooms. The teacher's ability to respond flexibly to technological constraints prevented disruption of learning continuity.

These findings align with Yuliantoro et al. (2023), who emphasize that the success of digital learning innovation depends on teacher readiness and contextual adaptability. Therefore, SimDif's effectiveness cannot be separated from the instructional competence that mediated its use. The platform functioned optimally when technological affordances were integrated with responsive pedagogical strategies.

TPACK Integration in Vocational ELT Context

The implementation of SimDif in this study provides empirical illustration of the TPACK framework, which emphasizes the intersection of Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK). The teacher demonstrated Technological Knowledge through effective use of SimDif features; Pedagogical Knowledge through scaffolding, collaborative grouping, and formative feedback; and Content Knowledge through mastery of procedure text and its vocational application.

More importantly, the convergence of these domains occurred dynamically during classroom interaction. The teaching of procedure texts was not limited to structural explanation; instead, it was contextualized within Technical Machining practices. This integration demonstrates that technology-enhanced learning in vocational education requires not only digital familiarity but also alignment with disciplinary content and instructional design.

The findings therefore extend TPACK theory into a vocational ELT setting by showing how teacher-generated websites can support industry-oriented English learning when all three domains interact coherently. SimDif functioned as a technological medium through which pedagogical and content objectives were operationalized.

ESP Orientation and Contextualized Language Development

English for Specific Purposes (ESP) theory emphasizes that language learning in vocational education must be aligned with professional communication needs (Hussain, Ullah, & Farooq, 2021). The study's findings demonstrate that language

difficulties encountered by students, particularly confusion regarding imperative verbs and procedural sequencing, were closely related to their understanding of technical processes rather than isolated grammatical deficits.

This suggests that language competence in vocational contexts is intertwined with conceptual understanding of procedures. When students wrote texts such as workshop safety instructions or machining processes, they simultaneously constructed disciplinary knowledge and linguistic accuracy. The embedding of English tasks within authentic vocational scenarios transformed grammar instruction into applied communication practice.

This aligns with Hazaea and Alzubi (2022), who argue that web-based ESP instruction becomes meaningful when language tasks reflect real-world professional contexts. The contextualized design of SimDif-based tasks therefore strengthened relevance, authenticity, and professional orientation.

Motivation, Autonomy, and Authentic Production

Motivational theory highlights the importance of autonomy, relevance, and meaningful output in fostering intrinsic engagement. The findings reveal that students exhibited increased participation, collaboration, and confidence when they were required to produce and publish procedure texts within a website format.

The act of publishing content on a digital platform created audience awareness and ownership. Students perceived their work as a product rather than merely a classroom assignment. This supports Zhao and Song (2022), who found that web-based environments promote learner autonomy when tasks involve authentic production and visible outcomes.

Importantly, motivation in this study did not emerge solely from technological novelty. Instead, it resulted from the interaction between vocational relevance, collaborative task structure, scaffolded guidance, and digital publication. SimDif acted as an enabling medium that amplified these pedagogical elements.

Benefits, Limitations, and Contextual Dependency

The identified benefits of SimDif, accessibility, interactivity, mobile compatibility, and structural organization, support the principles of interactive web-based learning described by Al-Fraihat, Joy, and Sinclair (2020). The platform facilitated flexible access to materials and enabled structured writing processes that supported procedural literacy.

However, the limitations observed highlight infrastructural and pedagogical dependencies. Internet instability and mobile editing constraints indicate that technology-enhanced instruction remains vulnerable to contextual conditions. These limitations underscore the importance of institutional readiness, teacher digital competence, and contingency planning.

Consequently, the findings reinforce the notion that technological tools do not function independently of context. Their pedagogical impact is mediated by teacher expertise, infrastructure availability, and instructional coherence.

Theoretical and Pedagogical Contribution of the Study

Beyond interpreting the findings in relation to existing frameworks, this study offers several theoretical and pedagogical contributions to the field of technology-enhanced English language teaching, particularly within vocational education contexts.

From a theoretical perspective, this study extends constructivist and CALL frameworks into a vocational secondary school setting by demonstrating how a teacher-generated website can operationalize scaffolded, learner-centered instruction in face-to-face classrooms. While much of the existing literature on web-based ELT focuses on institutional Learning Management Systems (LMS) or fully online learning environments, this research illustrates how a simplified website-building platform such as SimDif can function effectively within blended and classroom-based instruction. This situates teacher-created digital spaces as legitimate pedagogical environments rather than supplementary tools.

Furthermore, the study enriches the application of the TPACK framework by providing contextual evidence from a vocational English classroom. The findings show that effective technology integration is not merely about technical proficiency but about the dynamic intersection of technological affordances, pedagogical structuring, and vocational content alignment. In this sense, the research contributes a contextualized illustration of TPACK in ESP-oriented instruction, highlighting that disciplinary relevance is a crucial mediating variable in digital learning success.

In relation to ESP theory, the study reinforces the interdependence between language development and domain-specific procedural knowledge. The language challenges encountered by students reveal that linguistic competence in vocational contexts cannot be isolated from conceptual understanding of technical procedures. This insight supports ESP literature emphasizing that language instruction must be embedded within professional practice rather than treated as a separate academic subject.

From a pedagogical standpoint, this study provides an instructional model for vocational English teachers seeking accessible digital innovation. By demonstrating how SimDif can support structured writing instruction, collaborative drafting, and authentic presentation tasks, the research offers a replicable yet adaptable model for technology-supported procedural literacy development. Importantly, it shows that digital transformation in vocational ELT does not require complex programming skills or institutional LMS systems, but can be initiated through teacher creativity and contextual task design.

At the same time, the study critically acknowledges infrastructural and contextual limitations. By documenting how technical constraints were mediated through adaptive strategies, the research underscores that digital innovation must be accompanied by institutional support and teacher preparedness. Therefore, the contribution of this study lies not in promoting SimDif as a universal solution, but in demonstrating how pedagogically mediated technology can enhance contextual, meaningful, and learner-centered English instruction in vocational education.

Distinction from Previous Website-Based Learning Studies

While previous studies in the field of web-based English language learning have demonstrated positive impacts on student engagement and language proficiency, this study presents several distinctive characteristics that differentiate it from earlier research discussed in Chapter II.

First, many prior studies examined institutional Learning Management Systems (LMS) or structured e-learning platforms within fully online or blended learning environments. In contrast, this research investigates the use of a teacher-generated website platform (SimDif) within a predominantly face-to-face vocational classroom. The technological tool was not part of a centralized institutional system but was independently designed and managed by the teacher. This shifts the focus from institutional digital infrastructure to teacher-initiated digital innovation, which is particularly relevant in resource-limited educational contexts.

Second, earlier website-based learning research often emphasizes quantitative measurement of language improvement, such as gains in vocabulary, grammar scores, or overall proficiency. This study, however, adopts a qualitative descriptive approach that explores instructional processes, learner experiences, challenges, and pedagogical mediation in depth. Rather than measuring outcomes numerically, the research investigates how digital pedagogy operates in a real vocational classroom setting. This provides process-oriented insight rather than solely product-oriented evaluation.

Third, unlike many web-based ELT studies conducted in general English contexts, this research is situated within English for Specific Purposes (ESP), specifically in a Technical Machining vocational program. The integration of procedure texts with authentic workshop-related content differentiates this study from general digital writing instruction research. The website was not used merely as a writing platform, but as a medium to contextualize English learning within disciplinary knowledge.

Fourth, previous studies frequently portray digital platforms as innovation tools that enhance motivation primarily through technological novelty. In contrast, the findings of this study indicate that increased engagement did not emerge from the platform itself, but from the combination of vocational relevance, structured scaffolding, collaborative interaction, and authentic publication. Thus, the novelty lies not in the existence of a website, but in the pedagogical orchestration of that website within a constructivist ESP framework.

Finally, this study contributes context-specific insight into Indonesian vocational secondary education, an area that remains underrepresented in international digital ELT research. By documenting both benefits and contextual limitations, the research presents a balanced perspective that avoids technological determinism and instead emphasizes mediated, context-sensitive innovation.

Therefore, while aligned with broader web-based learning literature, this study extends existing scholarship by repositioning teacher-generated websites as adaptable, context-responsive pedagogical instruments within vocational English instruction.

In sum, the pedagogical value of SimDif in this study lies in its contextual integration rather than its technological novelty. The platform became meaningful through vocational alignment, structured scaffolding, and active teacher mediation. This research therefore reframes teacher-generated websites as context-responsive pedagogical tools that support procedural literacy in ESP-based vocational classrooms.

CONCLUSIONS

This study concludes that the implementation of the SimDif website-based learning medium in teaching procedure text at SMK Pancasila 3 Baturetno is pedagogically effective when supported by structured instruction, vocationally relevant content, and appropriate classroom scaffolding. SimDif functions not only as a medium for delivering content but also as a platform for guided learning activities, collaborative work, and the presentation of students' outcomes. The instructional process moves systematically from orientation and guided analysis to independent production and presentation. In this process, the teacher acts as a facilitator who integrates SimDif into each learning stage, enabling students to actively construct their understanding of procedure texts through interaction, discussion, and digital content creation.

Despite its effectiveness, several challenges emerge during implementation, including technical access issues, limitations in students' digital literacy, language-related difficulties, and classroom time management. However, these challenges do not disrupt the learning process because they are addressed through adaptive strategies such as peer collaboration, teacher scaffolding, and flexible classroom management. The use of SimDif also increases students' motivation and engagement, particularly when tasks are aligned with their Technical Machining specialization, making English learning more relevant to their future professions. Overall, SimDif provides benefits in terms of interactivity, accessibility, and vocational relevance, although its effectiveness still depends on technological support, teacher readiness, and careful instructional planning.

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