

Analyzing the Interface Design of VOCAYO: A Qualitative Case Study

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Abstract. *Digital learning applications for English language education have increasingly emphasized not only content quality but also interface design, as interface plays a crucial role in shaping learners' engagement and learning experience. VOCAYO is a contextual English learning application developed to introduce English vocabulary related to local tourism contexts. While previous studies often focus on learning outcomes or technological effectiveness, limited attention has been given to how interface design supports contextual learning in locally grounded digital applications. This study aims to analyze the interface design of VOCAYO through a qualitative case study approach. The analysis focuses on visual layout, navigation structure, content presentation, and contextual relevance of the interface elements. Data were collected through systematic interface observation, and reflective analysis based on established principles of educational interface design. The findings indicate that VOCAYO's interface emphasizes simplicity, cultural familiarity, and contextual clarity, which contribute to user-friendly navigation and reduced cognitive load. Visual consistency, intuitive icons, and localized vocabulary presentation support learners' interaction with the application without overwhelming them with technical complexity. However, the analysis also identifies areas for improvement, particularly in interaction feedback and visual hierarchy enhancement. This study highlights the importance of interface design as a pedagogical component rather than a purely aesthetic element. The findings provide practical insights for developers and educators involved in designing contextual digital learning applications, especially those integrating local knowledge and sustainable education perspectives.*

Keywords: *contextual learning; digital interface; English learning application; qualitative case study; VOCAYO*

1. Introduction

The integration of digital technology into English language learning has reshaped how learners access, engage with, and experience language education. Mobile applications, web-based platforms, and digital learning systems are increasingly used to supplement or replace conventional classroom practices (Darmawati, 2018). These tools offer flexibility, portability, and opportunities for independent learning, making them particularly relevant in contexts where access to formal instruction may be limited or uneven. However, the effectiveness of digital learning applications is not determined solely by the instructional content they provide. The way content is presented and accessed through interface design plays a crucial role in shaping learners' interaction with digital learning environments. Interface design functions as the primary point of contact between users and digital learning systems. In educational applications, interface elements such as layout, navigation, visual hierarchy, typography, and iconography directly influence how learners process information and perform learning tasks (Sari & Setiawan, 2023). A poorly designed interface may increase cognitive load, confuse users, or discourage sustained engagement, even when the learning materials themselves are

pedagogically sound. Conversely, a clear and intuitive interface can support comprehension, motivation, and ease of use, allowing learners to focus on learning rather than on managing the technology (Pratiwi et al., 2022).

In the field of English language education, digital applications are often promoted for their potential to increase learner engagement and autonomy. However, many applications prioritize technological novelty or content quantity over user-centered design principles. Research on educational technology has emphasized that learning effectiveness depends not only on what learners study, but also on how learning environments are structured and experienced (Novela et al., 2024). Interface design therefore should be understood as a pedagogical component rather than a purely technical or aesthetic feature. One pedagogical approach that has gained increasing attention in language education is contextual learning. Contextual learning emphasizes the connection between language input and learners' real-life experiences, cultural backgrounds, and local environments. In this approach, language is presented as a meaningful tool for communication within specific social and cultural contexts, rather than as abstract grammatical structures or isolated vocabulary items (Syahputri et al., 2024). Contextual learning has been shown to enhance relevance, motivation, and retention, particularly for learners who struggle to relate generic learning materials to their lived realities. Digital platforms offer strong potential for contextual learning because they can integrate text, images, audio, and interactive elements in ways that reflect authentic environments. However, contextual learning does not emerge automatically through digitalization. The interface design must intentionally support contextual connections by aligning visual elements, navigation structures, and content organization with the learning context. When interface design fails to reflect learners' environments or cultural familiarity, digital applications risk becoming detached from the very contexts they aim to represent (Rahman et al., 2022).

In recent years, there has been growing interest in integrating local knowledge and sustainable education principles into English language learning. Rather than relying solely on globalized or Western-centered materials, educators and developers have begun to explore ways to incorporate local culture, tourism, and community-based content into language learning applications (Haniefah et al., 2024). This approach not only supports language development but also promotes cultural awareness, identity affirmation, and sustainability-oriented education (Akbulut, 2007). VOCAYO was developed within this educational perspective. It is a contextual English learning application designed to introduce English vocabulary related to local tourism contexts. Instead of presenting decontextualized vocabulary lists, VOCAYO integrates language learning with representations of local places, activities, and cultural environments. The application aims to help learners connect English language learning with their surrounding environment, thereby making learning more meaningful and relevant. While studies on digital English learning applications frequently focus on learning outcomes, motivation, or technology acceptance, fewer studies have examined interface design as an object of analysis in its own right. Existing literature on educational interface design highlights several core principles, including simplicity, consistency, usability, and visual coherence. Simplicity refers to minimizing unnecessary visual elements that may distract learners. Consistency involves maintaining uniform design patterns across screens to support familiarity. Usability emphasizes ease of navigation and intuitive interaction, while visual coherence ensures that interface elements align with instructional goals.

In language learning applications, interface design carries additional significance

because learners often engage independently, without immediate teacher support. If navigation is unclear or visual elements are overwhelming, learners may disengage quickly. Studies on cognitive load theory suggest that excessive visual complexity can interfere with learning by diverting attention away from essential information (Widyastuti & Kusumadewi, 2018). Therefore, interface design decisions must consider learners' cognitive capacity and learning focus. Qualitative research on educational technology has increasingly emphasized the value of design analysis, particularly in early-stage or context-specific applications. Rather than measuring effectiveness through standardized tests alone, qualitative studies allow researchers to explore how design elements function in practice, how they align with pedagogical intentions, and how they may be improved. Case study approaches are especially useful for examining individual applications in depth, capturing design features that may be overlooked in large-scale quantitative studies (Lestari & Sutrisna, 2022).

Despite this growing recognition, interface analysis remains relatively underrepresented in conference proceedings related to English language education and educational technology. Many conference papers prioritize experimental designs or statistical outcomes, leaving limited space for design-oriented discussions. However, interface design is not a neutral medium; it shapes learning experiences, user engagement, and perceptions of educational quality (Arimbawa et al., 2024). Understanding how interface design supports or constrains contextual learning is therefore a valuable contribution to the field. This study positions interface design as a pedagogical artifact embedded within a digital learning system. By focusing on VOCAYO as a qualitative case study, the research aims to examine how interface elements support contextual English learning through visual structure, navigation, and content presentation. The study does not seek to generalize findings across all digital learning applications, nor does it attempt to measure learning effectiveness quantitatively (Tandean & Yulianingsih, 2025). Instead, it provides a detailed analysis of interface design within a specific contextual learning tool. Analyzing VOCAYO's interface also contributes to broader discussions on locally grounded digital education. In contexts where educational resources must align with local culture, environment, and sustainability goals, interface design becomes a critical bridge between pedagogy and technology. A well-designed interface can reinforce contextual meaning, while a poorly aligned interface may undermine educational intentions. Therefore, this study seeks to address the following research question: *How does the interface design of VOCAYO support contextual English learning from a qualitative case study perspective?*

2. Method

This study employed a qualitative case study approach to analyze the interface design of VOCAYO as a contextual English learning application. A qualitative design was considered appropriate because the purpose of the study was not to measure learning outcomes or user performance quantitatively, but to explore and interpret interface characteristics as a pedagogical design artifact. Case study research allows for an in-depth examination of a bounded system, enabling the researcher to capture design features, contextual alignment, and usability aspects within a specific application. VOCAYO was selected as the single case for this study due to its explicit focus on contextual English learning and its integration of local tourism-related content. The application represents a locally grounded digital learning tool rather than a commercially generic language-learning platform. This specificity made VOCAYO suitable for qualitative interface

analysis, as the study aimed to understand how interface design supports contextual meaning rather than generalized usability metrics.

The primary data source for this study was the VOCAYO application itself. Data were collected through systematic interface observation, focusing on all available screens within the application. Each screen was examined multiple times to identify visual layout, navigation structure, typography, icon usage, color consistency, and content organization. Screenshots were captured and archived to document interface elements and support detailed analysis. This documentation process enabled the researcher to compare interface features across different sections of the application and identify recurring design patterns. In addition to direct interface observation, design-related documents associated with VOCAYO were reviewed to provide contextual background. These documents included descriptions of design goals, intended users, and pedagogical considerations underlying the application's development. Document analysis was used to support interpretation rather than to evaluate technical specifications. The combination of interface observation and document review allowed for a richer understanding of how design intentions were translated into interface features. The analytical framework for this study was informed by established principles of educational interface design and usability. Rather than adopting a rigid checklist, these principles served as interpretive lenses guiding qualitative analysis. The analysis focused on four main dimensions: visual clarity, navigation and usability, contextual representation, and interaction support. Visual clarity referred to layout simplicity, readability, and visual hierarchy. Navigation and usability examined how easily users could move between screens and access content. Contextual representation focused on how visual and textual elements reflected local tourism contexts. Interaction support considered feedback mechanisms and user guidance within the interface.

Data analysis followed a thematic qualitative approach. Observational notes and documented screenshots were coded into preliminary categories based on the four analytical dimensions. These categories were then refined into broader themes through iterative comparison. For example, observations related to layout spacing, typography consistency, and color usage were grouped under visual clarity, while menu structure and icon consistency were analyzed under navigation and usability. This process allowed themes to emerge inductively while remaining grounded in established design principles. To enhance trustworthiness, the study emphasized transparency and reflexivity. The researcher maintained reflective notes throughout the analysis to document analytical decisions and interpretations. Rather than presenting the interface as wholly effective or ineffective, the analysis aimed to acknowledge both strengths and limitations. This balanced approach helped reduce subjective bias and supported credible interpretation. As this study did not involve human participants, ethical considerations were minimal. No personal data were collected, and the analysis focused solely on the interface as a design artifact. The study also did not attempt to rank or compare VOCAYO with other applications, as the objective was to provide an in-depth understanding of a single case rather than comparative evaluation.

3. Results and Discussions

The qualitative analysis of VOCAYO's interface revealed several design characteristics that contribute to its role as a contextual English learning application. The findings are organized around four main themes derived from the analytical framework: visual clarity, navigation and usability, contextual representation, and interaction support.

These themes illustrate how interface design functions as a pedagogical medium rather than a neutral visual layer.

Visual Clarity and Layout Simplicity

One of the most prominent features of the VOCAYO interface is its emphasis on visual clarity. The layout across screens is relatively uncluttered, with sufficient spacing between elements and a limited number of visual components presented at one time. This design choice aligns with principles of cognitive load reduction, allowing learners to focus on language content without being distracted by excessive decorative features. Typography is generally consistent, with readable font sizes and clear distinctions between headings and content text, although some screens could benefit from stronger hierarchy differentiation. The restrained use of color further contributes to visual clarity. Rather than employing highly contrasting or saturated color schemes, the interface favors a balanced palette that supports readability and visual comfort. This approach is particularly relevant for language learning applications, where prolonged reading and repeated exposure to vocabulary items are common. By avoiding visually overwhelming elements, the interface supports sustained engagement and minimizes fatigue.

From a pedagogical perspective, visual clarity facilitates comprehension by directing learners' attention toward essential learning content. The findings support existing literature suggesting that simplicity in interface design is not a limitation but a strategic choice that enhances learning usability. In the case of VOCAYO, visual clarity reinforces the application's contextual learning goals by allowing contextual imagery and vocabulary content to stand out naturally.

Navigation Structure and Usability

Navigation within VOCAYO is generally intuitive and user-friendly. Main menus are clearly labeled, and navigation paths are straightforward, enabling users to move between sections with minimal cognitive effort. Icons used in navigation are consistent in style and placement, which supports familiarity and reduces the need for repeated instructions. This consistency is particularly beneficial for users who may have limited experience with digital learning applications. The interface does not rely on complex nested menus or hidden features, which aligns well with usability principles for educational applications. Learners can access content directly without unnecessary steps, supporting autonomous exploration. This design choice reflects an understanding of the target users' needs and supports self-paced learning.

However, the analysis also revealed minor usability limitations. While navigation paths are clear, the interface offers limited visual cues indicating the user's current position within the application. Breadcrumbs or subtle highlighting of active sections could enhance orientation, especially for longer learning sessions. Despite this limitation, overall navigation design supports ease of use and aligns with learner-centered design principles. In relation to contextual learning, intuitive navigation allows learners to focus on exploring language content within meaningful contexts rather than managing technical features. This supports the notion that usability is a prerequisite for effective contextual learning in digital environments.

Contextual Representation through Visual and Content Design

Contextual representation emerged as a central strength of VOCAYO's interface design. Vocabulary items are presented alongside visual elements that reflect local

tourism contexts, such as places, activities, or culturally familiar settings. These visual representations function as contextual anchors, helping learners associate English vocabulary with real-world environments they recognize. The thematic organization of content further supports contextual learning. Vocabulary is grouped according to relevant themes rather than presented as isolated lists. This thematic structure reinforces meaningful connections between words and contexts, aligning with contextual learning theory. The interface design thus supports learning not only at the content level but also through its organizational logic.

From a design perspective, the integration of contextual imagery is balanced rather than excessive. Images complement textual content without overwhelming the screen, maintaining visual clarity while enhancing contextual meaning. This balance is crucial, as excessive imagery may distract learners, while insufficient visual support may limit contextual understanding. These findings resonate with previous research emphasizing the role of culturally and contextually relevant materials in language learning. VOCAYO's interface demonstrates how contextual representation can be embedded within design choices, reinforcing learning objectives through visual coherence and thematic consistency.

Interaction Support and Feedback Mechanisms

Interaction support within the VOCAYO interface is functional but relatively limited. Users can navigate between screens and access content smoothly, yet interaction feedback remains minimal. For example, user actions such as selecting a menu item or completing a section are not consistently accompanied by visual or auditory feedback. While this simplicity avoids unnecessary distractions, it may reduce opportunities for reinforcing user engagement. Interaction feedback plays an important role in guiding learners and confirming successful actions. Subtle feedback mechanisms, such as highlighting selected items or providing brief confirmations, can enhance user confidence without increasing complexity. The absence of such features in VOCAYO suggests an area for potential refinement rather than a fundamental design flaw. Despite this limitation, the interface supports learner autonomy by allowing users to explore content freely. The lack of rigid progression structures enables learners to choose content based on interest or relevance, which aligns well with contextual and informal learning principles. This flexibility reflects a pedagogical decision to prioritize exploration over linear instruction.

Interface Design as Pedagogical Mediation

Taken together, the findings indicate that VOCAYO's interface functions as a form of pedagogical mediation. Design choices related to visual clarity, navigation, and contextual representation shape how learners interact with language content and how meaning is constructed. The interface does not merely deliver vocabulary but frames it within recognizable contexts through visual and organizational cues. The results support the argument that interface design should be considered an integral part of instructional design in digital language learning. Rather than treating interface elements as secondary to content, this study highlights how design coherence and contextual alignment contribute to meaningful learning experiences. In comparison with generic language learning applications, VOCAYO's interface demonstrates the value of locally grounded design. While it does not rely on advanced technological features or gamification, its strength lies in aligning interface simplicity with contextual relevance. This approach

aligns with sustainable education perspectives that emphasize accessibility, relevance, and cultural grounding over technological excess.

4. Conclusions

This qualitative case study examined the interface design of VOCAYO as a contextual English learning application, focusing on how interface elements support meaningful engagement with language content. The analysis demonstrates that VOCAYO's interface prioritizes visual clarity, intuitive navigation, and contextual representation, positioning interface design as an integral pedagogical component rather than a purely aesthetic feature. Through simple layouts, consistent visual patterns, and thematic organization of vocabulary, the interface facilitates learner interaction with contextualized English content while minimizing cognitive load. The findings suggest that the integration of local tourism contexts within the interface design enhances the relevance of learning materials and supports contextual meaning-making. Visual elements function as contextual anchors, enabling learners to associate English vocabulary with familiar real-world environments. This alignment between interface design and pedagogical intention reflects a locally grounded approach to digital English learning that values accessibility and cultural relevance.

At the same time, the study identifies areas for potential improvement, particularly in interaction feedback and visual hierarchy. Enhancing feedback mechanisms and strengthening visual differentiation could further support user orientation and sustained engagement without compromising simplicity. These findings indicate that interface design refinement is an ongoing process rather than a fixed outcome. This study contributes to the discourse on digital language learning by highlighting the value of interface analysis as a legitimate area of educational research. Rather than emphasizing learning outcomes or technological novelty, the study underscores the importance of design coherence and contextual alignment in supporting learning experiences. Future research may extend this analysis by incorporating learner perspectives or comparative studies across similar applications. Nevertheless, this study affirms that thoughtful interface design plays a critical role in supporting contextual English learning in digital environments.

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6. References

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