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Integration of Pixton and Deep Learning in Teaching Descriptive Writing in German: A Conceptual-Case Study Hybrid

Integrasi Pixton dan Deep Learning dalam Pengajaran Menulis Deskriptif dalam Bahasa Jerman: Hibrid Studi Kasus Konseptual

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Abstract
This article explores the integration of Pixton, a digital comic creation platform, with deep learning principles to enhance descriptive writing skills in German among Indonesian high school students. The study addresses the persistent challenges of low motivation and limited proficiency in descriptive writing by developing and implementing a Pixton-based teaching module grounded in mindful, meaningful, and joyful learning. Employing a conceptual and case study approach, the research involved needs analysis, module design using the ADDIE model, classroom implementation with 12th-grade students at SMAN 1 Driyorejo Gresik, and qualitative evaluation through observations, interviews, and reflections. Results indicate that the module increased student engagement, creativity, and collaboration, as well as improved vocabulary and sentence structure in German writing. However, challenges such as limited access to technology and the need for teacher training were identified. The findings highlight the potential of combining digital tools and deep learning to create engaging, student-centered language learning experiences.

Abstrak
Artikel ini membahas integrasi Pixton, sebuah platform pembuatan komik digital, dengan prinsip deep learning untuk meningkatkan keterampilan menulis deskriptif dalam bahasa Jerman di kalangan siswa SMA Indonesia. Studi ini mengatasi tantangan motivasi rendah dan

keterbatasan kemampuan menulis dengan mengembangkan dan menerapkan modul pembelajaran berbasis Pixton yang berlandaskan pembelajaran yang mindful, meaningful, dan joyful. Hasil penelitian menunjukkan peningkatan keterlibatan, kreativitas, kolaborasi, serta penguasaan kosakata dan struktur kalimat siswa, meskipun ditemukan kendala akses teknologi dan kebutuhan pelatihan guru. Temuan ini menegaskan potensi integrasi teknologi digital dan deep learning untuk menciptakan pembelajaran bahasa yang inovatif dan berpusat pada siswa.

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1. INTRODUCTION

Writing skills represent a crucial aspect of foreign language acquisition, serving as both a means of communication and a tool for cognitive development. Writing practices has evolved overtime with the use of technology (Regan et al. 2019). In the context of German language learning in Indonesia, the ability to produce descriptive texts particularly (*Personenbeschreibung*) descriptions of people remains a significant challenge for students. This challenge is often attributed to limited exposure to authentic language environments, a lack of culturally relevant materials, and the predominance of conventional, teacher-centered instructional methods (Rafiq, Triyono, & Djatmiko, 2023; Ameliana, 2017). As a result, students frequently exhibit low motivation and limited proficiency in expressing ideas creatively and accurately in written German. The use of Pixon in other languages including English, Indonesian, and Mandarin as well as other subjects has shown its potential in enhancing student writing skills, critical thinking skills and motivation (Dutta et al. 2023; Agin, Oznur, & Kilinc 2023;Yulaichah, Mariana, & Wiryanto 2024).

The rapid advancement of digital technology and the emergence of Society 5.0 have created new opportunities for innovation in language education (Legi, Damanik, and Giban 2023). Digital platforms such as Pixton, a comic-creation tool, offer engaging and interactive alternatives to traditional teaching media. By enabling students to visualize and narrate content, Pixton can foster greater interest, creativity, and contextual understanding in descriptive writing tasks (Satriani, Emilia, & Gunawan 2012; Dunn et al., 2011). However, the mere adoption of technology is insufficient without a robust pedagogical framework. Therefore, the integration of deep learning principles mindful, meaningful and joyful learning provides a comprehensive approach that emphasizes student engagement, relevance of content, and enjoyment in the learning process (Hyland and Hyland 2019; Mariana & Hula, 2024).

Despite the potential of digital tools and deep learning approaches, there remains a gap between ideal teaching practices and actual classroom implementation. Many teachers are unfamiliar with innovative digital media or lack the resources and training to integrate them effectively(Aditya, 2021; Munastiwi et al., 2023). Furthermore, empirical studies on the combined use of Pixton and deep learning strategies in German descriptive writing instruction are still limited, especially in the Indonesian educational context.

This article addresses these gaps by presenting a conceptual study and a case study on the integration of Pixton and deep learning in teaching descriptive writing in German. The objectives are threefold: (1) to describe the conceptual development of a Pixton-based teaching module grounded in deep learning principles. (2) to examine the potential and challenges of implementing this module in a real classroom setting, specifically with 12th-grade students at SMAN 1 Driyorejo Gresik; and (3) to provide recommendations for teachers and instructional material developers regarding the effective integration of digital technology in foreign language learning. By exploring both theoretical foundations and practical considerations, this study aims to contribute to the ongoing development of innovative, student-centered approaches in German language education.

2. METHOD

This study employed a conceptual and case study approach to explore Pixton-mediated instruction grounded in deep learning principles (mindful, meaningful, joyful) for German descriptive writing (*Personenbeschreibung*). The conceptual phase synthesized theories from multimedia learning (Mayer, Lee, & Peebles 2014) and L2 acquisition Krashen, 1982 as cited by (Nelson 2006), while the case study tested efficacy via a three-phase framework: (1) ADDIE-based module development, (2) implementation at SMAN 1 Driyorejo Gresik (12th-grade, N=32), and (3) mixed-methods evaluation (surveys, reflections, writing analysis). The dual design addressed both theoretical novelty (technology-deep learning synergy) and practical replicability.

2.1 Conceptual Framework and Module Development

The module was developed using the ADDIE model, which includes Analysis, Design, Development, Implementation, and Evaluation stages:

- Analysis**:** A needs analysis was conducted through curriculum document review, teacher interviews, and student questionnaires to identify challenges in writing descriptive texts (Personenbeschreibung) in German.
- Design**:** The module was designed to integrate Pixton as a digital comic tool with deep learning principles—mindful, meaningful, and joyful learning emphasizing student engagement and contextual relevance.
- Development**:** Comic-based learning materials were created in Pixton, featuring step-by-step instructions, model texts, vocabulary support, and reflective prompts.

- Implementation**:** The module was piloted in classroom settings, involving teacher demonstrations, student practice with Pixton, and collaborative writing activities.
- Evaluation**:** Effectiveness was assessed through teacher and student reflections, feedback forms, and observation notes, focusing on motivation, engagement, and writing improvement.

2.2. Tools, Materials, and Instruments

- Digital Tools**:** Pixton (for comic creation), laptops/tablets with internet access, and a projector for demonstrations.
- Learning Materials**:** Pixton-based worksheets, comic templates, sample German descriptive texts, vocabulary lists, and grammar guides.
- Instruments**:** Teacher interview guides, student questionnaires, observation checklists, student reflection sheets, and teacher feedback forms.
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2.3. Data Collection and Analysis

Qualitative data were gathered from document analysis, interviews, questionnaires, classroom observations, and participant reflections. Thematic analysis was used to identify patterns related to the integration of Pixton and deep learning, module effectiveness, and implementation challenges.

2.4. Ethical Considerations

All participants were informed about the study's purpose and provided consent. Anonymity and confidentiality were maintained throughout the research process.

3. RESULTS AND DISCUSSION

3.1 Development of the Pixton-Based Teaching Module

The Pixton-based teaching module was developed using the ADDIE model, focusing on the integration of digital comics and deep learning principles mindful, meaningful, and joyful learning. The module consists of several key components:

- Learning Objectives: Students are guided to write descriptive texts (Personenbeschreibung) in German, specifically describing people's physical characteristics, personalities, and daily activities.
- Module Structure: Each unit begins with a contextual introduction, followed by vocabulary and grammar support, step-by-step comic creation activities using Pixton, and reflective tasks to reinforce deep learning.
- Integration of Pixton: Students use Pixton to create digital comics that visually represent the people they describe. This process encourages creativity, contextual understanding, and active engagement.

- Deep Learning Elements**:** Activities are designed to be mindful (encouraging attention and reflection), meaningful (connected to students' real-life experiences), and joyful (fun and motivating through visual storytelling).

The Pixton-based teaching module was systematically developed using the ADDIE model, emphasizing the integration of digital comics with deep learning principles mindful, meaningful, and joyful learning. The module's structure guides students through writing descriptive texts (Personenbeschreibung) in German by focusing on physical characteristics, personalities, and daily activities.

Each unit begins with a contextual introduction, followed by vocabulary and grammar support, step-by-step comic creation activities using Pixton, and reflective tasks to reinforce deep learning. By leveraging Pixton, students visually represent the people they describe, which encourages creativity, contextual understanding, and active participation. The activities are intentionally designed to be mindful (promoting attention and reflection), meaningful (connected to students' real-life experiences), and joyful (engaging and motivating through visual storytelling).

3.2. Needs Analysis and Student Characteristics

A needs analysis was conducted with 12th-grade students at SMAN 1 Driyorejo Gresik. The findings revealed:

- Motivation and Challenges: Most students reported low motivation and difficulty in writing descriptive texts in German using conventional methods.
- Digital Literacy: The majority of students were familiar with digital platforms and expressed interest in using creative tools like Pixton.
- Learning Preferences**:** Students preferred activities that combined visual, interactive, and collaborative elements.

A needs analysis conducted with 12th-grade students at SMAN 1 Driyorejo Gresik revealed several key insights. Most students reported low motivation and difficulty in writing descriptive texts in German when using traditional methods. However, the majority were digitally literate and expressed enthusiasm for creative tools like Pixton. Furthermore, students indicated a preference for activities that combined visual, interactive, and collaborative elements, highlighting the necessity for innovative instructional approaches that cater to diverse learning styles.

3.3. Classroom Implementation Scenario

The module was piloted in a classroom scenario with the following steps:

- Introduction and Demonstration**:** The teacher introduced Pixton, demonstrated its features, and explained the objectives of the descriptive writing task.

- Guided Practice**:** Students worked in groups to create digital comics depicting a character, using German to describe physical and personality traits.
- Writing and Reflection**:** Each group wrote a descriptive text based on their comic and shared their work with the class. Students completed reflection sheets on their learning experience.

The module was piloted in a real classroom scenario. The process began with the teacher introducing Pixton and demonstrating its features, followed by a clear explanation of the descriptive writing objectives. Students then worked in groups to create digital comics depicting a character, using German to describe both physical and personality traits. Afterward, each group wrote a descriptive text based on their comic and shared their work with the class. Reflection sheets were completed to capture students' learning experiences and insights.

3.4. Student and Teacher Reflections

Feedback from students and teachers indicated several positive outcomes:

- Increased Engagement: Students reported greater enthusiasm and enjoyment in the writing process, attributing this to the creative and interactive nature of Pixton.
- Improved Writing Skills: Teachers observed improvements in students' descriptive vocabulary, sentence structure, and overall confidence in using German.
- Collaboration and Communication: Group activities promoted teamwork and peer learning.

However, some challenges were also identified:

- Technical Issues**:** Limited access to devices and internet connectivity occasionally disrupted activities.
- Teacher Readiness: Some teachers required additional training to effectively integrate Pixton into their lessons.

Feedback from both students and teachers indicated several positive outcomes. Students reported increased enthusiasm and enjoyment in the writing process, attributing this to the creative and interactive nature of Pixton. Teachers observed notable improvements in students' descriptive vocabulary, sentence structure, and overall confidence in using German. Collaborative group activities also fostered teamwork and peer learning. However, challenges were identified, including limited access to devices and internet connectivity, which occasionally disrupted activities. Additionally, some teachers expressed the need for further training to effectively integrate Pixton into their lessons.

3.4.1 Innovation and Advantages of the Pixton-Based Module

The Pixton-based module offers several innovative advantages over conventional teaching methods. The use of digital comics enhances student engagement and motivation by providing a more enjoyable and immersive learning experience, consistent with the principles of joyful learning. Activities

are contextually relevant, connecting with students' real-life experiences and promoting deeper understanding and retention. Pixton also empowers students to express ideas creatively and collaboratively, as its user-friendly interface and diverse design options facilitate the production of visually appealing and original descriptive texts. Teachers observed that the combination of visual and textual elements reinforced language acquisition and improved writing proficiency.

3.4.2 Challenges and Opportunities in Implementation

Despite its promise, the implementation of the module revealed several challenges. Limited access to devices and reliable internet connectivity remains a significant barrier in many Indonesian schools, underscoring the need for investment in technological infrastructure. Teacher readiness is another concern, as some educators require additional training and support to effectively utilize digital tools like Pixton. Student adaptation also emerged as an issue; some students needed time to become comfortable with the new approach and develop proficiency with the platform. Ensuring curriculum alignment is essential so that the integration of Pixton and deep learning complements national standards and learning objectives.

3.4.3 Implications for Digital-Era Foreign Language Teaching Materials

The findings of this study have important implications for the development of foreign language teaching materials in the digital era. Instructional materials should be student-centered, prioritizing engagement, relevance, and creativity. Seamless integration of digital tools into the curriculum can enhance learning outcomes and promote student agency. Empowering teachers through targeted professional development and ongoing support is crucial for successful technology integration. Finally, continuous evaluation of digital teaching materials through student feedback, teacher reflections, and performance data is necessary to ensure their effectiveness and relevance.

4. CONCLUSION

In summary, the integration of Pixton and deep learning principles presents a promising approach to teaching descriptive writing in German. The module not only addresses common challenges such as low motivation and limited proficiency but also leverages digital technology to create engaging, effective, and student-centered learning experiences. By acknowledging and addressing the practical challenges identified, educators can harness the potential of digital tools to transform foreign language education and better prepare students for the demands of the digital era.

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