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# Digital Comic-Based Learning Media for Enhancing Reading Skills in French: A Research and Development Study at the A2 Level

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## Abstract

The integration of digital technology into foreign language education has created new opportunities for developing engaging and multimodal learning resources. This study aims to develop a digital comic-based learning medium and examine its effectiveness in supporting French reading skill (Comprehension Ecrite Debutante) at the A2 level. Employing a Research and Development (R&D) approach, the study involved several stages, including needs analysis, digital comic design, product development, limited trials, and evaluation of learning outcomes. The developed medium was created through the Tapas platform and incorporated visual narratives, contextual dialogues, and audio features to support learners' reading comprehension, language structure awareness, and pronunciation skills. The effectiveness of the digital comic was evaluated through pre-test and post-test assessments involving A2-level French learners. The findings demonstrate that the use of digital comics contributed to significant improvements in students' comprehension of French texts, identification of linguistic structures, and pronunciation performance. Furthermore, the integration of visual and audio elements enhanced learner engagement, motivation, and confidence during the learning process. The study concludes that digital comics function not only as innovative instructional media but also as effective multimodal learning resources that connect language learning with contextual and culturally meaningful experiences. This research highlights the potential of digital comics as an alternative pedagogical approach for foreign language education in digital learning environments.

**Keywords:** Digital comics; digital learning media; foreign language education; learner engagement; multimodal learning.

## 1. Introduction

French is one of the foreign languages that has an important status in the international world (Atabekova, 2023; Pramuniati et al., 2025). As a second language widely studied in various countries, including Indonesia, French not only serves as a means of communication but also as a window to understanding rich culture, art, and history (Andriani et al., 2019; Intan & Mulyadi, 2022; Lustyantje & Dewi, 2020; Sunendar et al., 2021). Learning a foreign language, especially French, requires the right approach to make the learning process more effective and enjoyable. One equally important aspect is the learning media used, as the right media can boost learners' motivation and enhance their understanding of the language being studied. In this case, learning French requires innovative media that can create an engaging learning experience.

This is particularly relevant in the context of learning at the basic level, such as Niveau A2, where reading and writing skills need to be well developed. Appropriate learning media can accelerate the process of understanding the material and help students master language skills more interestingly and creatively. However, students learning French often have difficulty understanding and interpreting texts, as well as pronouncing words correctly (Abdelilah & Ibrahim, 2024; Fitriah et al., 2021; Lulenge Wuta, 2023; Woore, 2018). This is due to their lack of opportunity to practice reading and writing in French properly and correctly, as they are more often taught to speak. Based on a needs analysis, learners require more innovative and engaging learning media to more easily understand the material and master language skills comprehensively. In general, French language learning focuses on four main skills: listening, speaking, reading, and writing, with grammar and vocabulary material included to support both oral and written communication skills.

The advancement of digital technology has significantly transformed educational practices, particularly in the development of innovative learning resources that support student engagement and meaningful learning experiences (Aswani et al., 2023; Azzahra & Yusuf, 2023; Camilleri & Camilleri, 2017; Djibrin et al., 2024; Laila et al., 2025; Muchith, 2023; Oyile & Nambiro, 2025; Yusuf et al., 2023). In foreign language education, digital learning media provide opportunities to overcome challenges related to limited exposure, lack of authentic contexts, and students' difficulties in understanding linguistic forms. Among various digital resources, digital comics have gained attention as an alternative instructional medium because they combine visual, textual, and interactive elements to facilitate comprehension and communication (Dewi et al., 2025; Fauzi et al., 2025; Mazyuna & Sopian, 2025; Wijaya et al., 2025). Unlike conventional learning materials that primarily rely on written texts, digital comics present information through integrated modes that enable learners to construct meaning more effectively.

Comics as a learning medium have long been used in education, especially in language teaching (Niewiadoma, 2025; Van Der Sluis, 2025). Comics are unique because they

combine text and images in a single narrative that complements each other. This format allows students to understand context, storyline, and word meaning in a more realistic and engaging way. Comics present language in the form of everyday dialogue, often accompanied by facial expressions and character gestures, making it easier for learners to grasp the emotional and social meaning of conversations.

With the development of digital technology, comics are now available not only in print but also as digital comics accessible via electronic devices such as computers, tablets, and smartphones. Digital comics offer advantages in terms of flexibility, accessibility, and the ability to integrate interactive elements such as sound, animation, and hyperlinks (Aggleton, 2019; Berube et al., 2024; Paolucci, 2019). Platforms such as Tapas, Webtoon, and Line Manga have opened up a wide space for the development of digital comics. In the world of education, Tapas is an attractive option because it allows developers or teachers to upload educational comics that users can access for free or for a fee. Digital comics on this platform also support multimedia elements such as audio and video, which can be used to enrich learning content.

In the context of digital comics, the use of images that are in harmony with the content of the dialogue text will make it easier for students to build mental representations of the meaning and context of sentences, especially in foreign languages that are still new to them, such as French at the A2 level. In the digital age, the ability to understand and produce meaning through various forms of media, not only text but also images, sounds, and videos, is known as multimodal literacy. Kress & Van Leeuwen (2001) state that modern communication not only relies on linear text but also on a combination of various modes that interact with each other to convey messages more effectively. Multimodal learning accommodates various student learning styles, whether visual, auditory, or kinesthetic.

Digital comics as a multimodal medium provide a richer learning experience (Berube et al., 2024; Febrianti et al., 2023; Jacobs, 2007; Scoville, 2018). The examples are text for reading, images for connecting meanings, and audio for pronunciation. This is very helpful in language learning, especially in building a holistic understanding of a text. Students understand material better when it is presented multimodally rather than just through text or images alone (Gellevij et al., 2002; Hartley et al., 2009; Sankey et al., 2010). This is because the integration of several forms of media can create a more complete and in-depth learning experience. In this case, learning to read and write plays an important role. The reading method aims to enhance students' ability to read foreign languages quickly, enabling them to enjoy and understand what they read. Thus, they will also be able to construct correct sentences when writing or speaking.

Although the use of comics in education is already widespread, website-based digital comics, especially for learning French at the A2 level, are still limited. This opens up great opportunities to develop more effective learning media, utilizing the power of interactivity and flexibility offered by digital media. Therefore, this study focuses on the development of Tapas website-based digital comics as a learning medium to

improve the reading and writing skills of students at the A2 level. By using Tapas as the main platform, the learning materials developed will help students become more actively involved in the learning process. They will introduce cultural aspects through visual elements and improve their French language skills more enjoyably and effectively, while also enabling them to correct their spelling when speaking.

### 1.1. Research Questions

Based on this background, the research questions in this study are:

1. How is the design of an effective Tapas website-based digital comic media for A2 level French language learning?
2. How is the effectiveness of this digital comic media in improving the French reading and writing skills of A2 level students?

## 2. Literature Review

### 2.1. Digital Comic

Comics have traditionally been recognized as a pedagogical tool because of their ability to combine images and language in a sequential narrative structure (Humphrey, 2014; Muzumdar, 2016). Through visual support, comics can provide contextual clues that help learners infer meaning and develop deeper understanding. Digital comics allow for the integration of text and visuals that not only convey information more engagingly but also support vocabulary and grammar comprehension, as well as relevant cultural context (Fauzi et al., 2025). Moreover, it effectively increase students' motivation and understanding, particularly in learning vocabulary (Bahri et al., 2024).

The emergence of digital platforms has further expanded the educational potential of comics. Digital comics provide greater flexibility, accessibility, and interactivity compared with printed comics (Berube et al., 2024; Manugas et al., 2025). Previous studies have demonstrated the positive contribution of digital comics to language learning. Digital comics have been reported to increase learners' motivation, support vocabulary acquisition, and improve reading comprehension by presenting language in engaging and meaningful contexts. The narrative structure of comics also exposes learners to authentic communication patterns, making language learning less abstract and more connected to real-life situations. Furthermore, the inclusion of cultural elements within comic narratives can enhance learners' intercultural understanding and provide contextualized language experiences.

Beyond their pedagogical value, bandes dessinées (BD) occupy a distinctive position within Francophone culture as one of its most influential literary and artistic traditions. French-language comics are widely recognized not only as entertainment but also as cultural texts that reflect social values, historical experiences, everyday life, and national identities across French-speaking communities. Consequently, incorporating comic-based materials into French language instruction enables

learners to encounter authentic cultural representations while developing linguistic competence (Ochi & Mohsni, 2023; Umekwe & Oyedele, 2021). The integration of culturally meaningful narratives encourages learners to interpret language within its social and cultural contexts rather than as isolated grammatical structures. Such an approach is consistent with contemporary perspectives on intercultural language education, which emphasize that successful foreign language learning involves understanding the cultural practices, perspectives, and communicative conventions of the target language community. Therefore, digital comics have the potential to function simultaneously as language-learning resources and as mediators of intercultural understanding.

## 2.2. Tapas Platform

Digital comic platforms such as Tapas offer a more immersive and interactive way to learn, thereby increasing student engagement. The development of digital comics for educational purposes is closely connected with the emergence of online platforms that facilitate the creation, distribution, and consumption of visual narratives (Cruz et al., 2025; Moncayo Herrera et al., 2025). One of the platforms that provides opportunities for digital comic development is Tapas, an online publishing platform that enables creators to produce and share webcomics through digital devices. Unlike traditional printed comics, Tapas-based comics provide flexible access through computers, tablets, and smartphones, allowing learners to engage with learning materials beyond the boundaries of conventional classroom settings. This accessibility makes Tapas relevant for contemporary digital learning environments, particularly for learners who are increasingly familiar with technology-mediated forms of communication.

From an educational perspective, Tapas offers several features that support the implementation of digital comics as learning resources. The platform allows the integration of visual narratives, written dialogues, and multimedia elements that can enrich learners' experiences (Khotimah & Hidayat, 2022). In foreign language learning, these features are valuable because language acquisition requires meaningful exposure to linguistic input in contextual situations. Through digital comics published on Tapas, learners can encounter vocabulary, sentence structures, and communicative expressions presented within narrative contexts rather than isolated examples. The combination of visual representations and contextualized language use can assist learners in understanding meaning, interpreting situations, and connecting linguistic forms with real-world communication.

## 2.3. The Relationship of Tapas-based Digital Comic and Learning Theories

The development of the Tapas-based digital comic in this study was guided by several complementary learning theories that explain how multimodal instructional materials facilitate second language acquisition. Rather than functioning solely as an attractive visual medium, the digital comic was intentionally designed to support learners' cognitive processing, language comprehension, and meaningful interaction

with French texts. One of the principal theoretical foundations is dual coding theory which proposes that human cognition processes verbal and visual information through two interconnected cognitive systems (Paivio, 1990). Learning becomes more effective when information is simultaneously presented through linguistic and visual channels because learners construct two mental representations that reinforce one another.

The design of the digital comic is also consistent with cognitive load theory which emphasizes the importance of minimizing unnecessary cognitive demands during learning. Foreign language learners often experience high intrinsic cognitive load due to unfamiliar vocabulary, grammatical structures, and pronunciation (Chen & Chang, 2017; Paas et al., 2003; Sweller, 2005). Therefore, the comic episodes were intentionally designed using short dialogues, sequential storylines, limited textual information per panel, and contextual illustrations. These design features reduce extraneous cognitive load by allowing students to process information gradually while maintaining attention on essential linguistic elements. The segmentation of information into manageable panels enables learners to integrate new vocabulary and grammatical structures more efficiently without becoming cognitively overwhelmed.

### 3. Method

This study employed a Research and Development (R&D) design using the ADDIE instructional design model, which consists of five systematic phases: Analysis, Design, Development, Implementation, and Evaluation. The ADDIE model was selected because it provides a structured framework for developing, validating, implementing, and evaluating educational products. It has been widely adopted in educational technology research due to its flexibility and emphasis on iterative improvement. In the present study, the model guided the systematic development of the Tapas-based digital comic from initial needs analysis through product validation, classroom implementation, and final evaluation of its effectiveness.

Before implementation, the developed digital comic underwent expert validation to ensure its content accuracy, instructional quality, language appropriateness, and technical usability. Three experts participated in the validation process:

1. one French language education specialist with expertise in CEFR-based curriculum development;
2. one instructional technology expert experienced in digital learning media development; and
3. one educational media expert specializing in multimedia and visual communication.

Each validator possessed more than five years of professional experience in higher education and educational material development. The validators independently

reviewed the prototype and provided both quantitative ratings and qualitative suggestions for improvement before the product was revised and implemented in the classroom.

Quantitative data obtained from the pre-test and post-test were analyzed descriptively by calculating students' mean scores, score improvements, and percentage gains to determine the effectiveness of the developed digital comic. The validation results from expert reviewers were summarized using mean scores for each evaluation criterion to determine the overall feasibility of the instructional media.

Qualitative data obtained from validators' written comments and students' feedback were analyzed using thematic analysis. The responses were coded according to recurring themes, including content quality, instructional effectiveness, visual attractiveness, language clarity, and technical usability. These findings informed the revision of the digital comic prior to classroom implementation.

This study was conducted in accordance with the ethical principles governing educational research involving human participants. Prior to data collection, all participants were informed about the objectives of the study, the learning activities involved, and the intended use of the collected data for research purposes. Participation was entirely voluntary, and written informed consent was obtained from all participants before the implementation of the study.

Participants were informed that they could withdraw from the research at any stage without academic penalty or negative consequences. To protect participants' privacy, all personal information was anonymized during data processing and reporting. Individual identities were replaced with codes, and no personally identifiable information is presented in this article. The collected data were used exclusively for research purposes and were securely stored with access restricted to the research team. These procedures ensured the confidentiality, anonymity, and ethical treatment of all participants throughout the research process.

## **4. Result**

### **4.1 Digital Comic Media Development**

This research produced an innovative learning medium in the form of a digital comic based on the Tapas platform, which is specifically designed to support the improvement of reading and writing skills in A2 level French language learning. This comic not only presents French text but is also arranged in an interesting, contextual, and easily accessible online visual-narrative format.

The comic is titled 'Aller à une exposition d'art Balinais' (Going to a Balinese Art Exhibition), which depicts a conversation between two teenage French learners discussing their weekend activities, including visiting art markets, painting galleries, and other cultural places familiar to everyday life in Indonesia. This localized

approach not only helps students understand the content of the story more easily but also builds a stronger emotional connection to the material being studied.

This media has been developed with supporting features such as:

- Attractive illustrations that complement the dialogue.
- Short sentences structured according to CEFR A2 descriptors.
- Audio pronunciation features to support pronunciation.
- Ease of access via digital devices (Laptops, Mobile Phone and Tablets).

Figure 1. Digital Comic Cover "Aller à une exposition d'art Balinais"

#### 4.2 The Effectiveness of Media: Pre-test and Post-test Result

The effectiveness of the media was measured by conducting pre-tests and post-tests on 13 students. The assessment was carried out on three main skill indicators:

- Compréhension écrite (ability to read short texts),
- Identification des erreurs linguistiques (mastery of language structure and error correction),
- Pronunciation (pronunciation and sentence intonation).

Table 1. Recapitulation of Pre-test dan Post-test Scores

| No  | Name | Pre-test |    | Post-test | Increase |
|-----|------|----------|----|-----------|----------|
| 1.  | C    | 35       | 41 | +6        |          |
| 2.  | J    | 33       | 39 | +6        |          |
| 3.  | B    | 30       | 37 | +7        |          |
| 4.  | H    | 24       | 32 | +8        |          |
| 5.  | AL   | 21       | 30 | +9        |          |
| 6.  | EV   | 14       | 27 | +13       |          |
| 7.  | GR   | 13       | 25 | +12       |          |
| 8.  | GU   | 9        | 22 | +13       |          |
| 9.  | TE   | 14       | 26 | +12       |          |
| 10. | IS   | 11       | 23 | +12       |          |
| 11. | RO   | 6        | 18 | +12       |          |
| 12. | MUS  | 5        | 15 | +10       |          |
| 13. | LAM  | 19       | 29 | +10       |          |

After using Tapas-based digital comics in learning, there was a noticeable change in the students' learning achievements. The scores obtained from the post-test showed a steady increase compared to the pre-test results, both in terms of reading comprehension, language structure mastery, and pronunciation. In general, all participants experienced an increase in their scores, indicating that the developed media had a real impact on their mastery of *compréhension écrite* and other linguistic aspects. This improvement was observed not only in participants with high initial abilities, like C and J, but also in those who initially faced considerable difficulties, such as GU, RO, and MUS.

#### Figure 2. Pre and Post-test Score Comparison

One of the most notable aspects of these results is how the visualization and narrative in comics help students understand French texts more easily. Comics composed of simple sentences and thematic vocabulary have proven to be an effective bridge between the text and comprehension. Some participants, who previously had difficulty answering questions about the meaning of words or specific information in the reading material, began to grasp the story's content as a whole after participating in comic-based learning.

In terms of pronunciation, the audio feature integrated into the comics greatly helped participants to imitate and improve their pronunciation. Although not all students were immediately perfect, the improvement in clarity of articulation and intonation was quite noticeable. Even students who previously scored 0 in this aspect began to show better effort and results in the post-test. In addition to technical aspects of language, the increase in scores also indicates the comfort and emotional involvement of students during the learning process. They feel more connected to the material because the stories they read are not just rigid foreign texts, but lively, relatable, and realistic stories.

### 5. Discussion

Improved scores are not just a matter of numbers, but also an indicator that learning approaches tailored to students' needs and characteristics can deliver a more effective, enjoyable, and meaningful learning process. The results from the post-test not only show quantitative improvement but also reflect a qualitative change in how students understand and respond to learning materials. After participating in a series of learning activities using Tapas-based digital comics, students appeared more enthusiastic, active, and emotionally engaged in the French learning process.

The improvements covered several aspects, ranging from understanding the content of reading texts and the ability to recognize and correct sentence structure to clarity of pronunciation. Each aspect showed consistent progress, both among participants who were previously in the fairly good category and among students with limited initial abilities. The comic media used proved to be effective in providing a learning experience that was easier to understand, more visually appealing, and closer to the

students' real world. Through light and contextual stories, students can learn the language without feeling burdened. This supports the theory that language learning will be more successful when delivered through a humanistic and communicative approach.

After being given an intervention in the form of digital comics, almost all participants showed a sharp improvement in their comprehension of simple French texts. The visualizations in the comics helped students predict text content, recognize characters, and understand the story's context, even though they had not yet fully mastered the entire vocabulary. Participants such as GU and RO, who initially had great difficulty understanding the theme of the reading, were able to grasp the meaning of the story after reading the comic. This was because the text was supported by character expressions, familiar settings, and natural dialogue structures. This reinforces Paivio's view in Dual Coding Theory, that when information is conveyed through text and images simultaneously, the comprehension process becomes more effective and faster.

Digital comics present grammatically correct sentences, arranged in a lively dialogue format. This allows students to become accustomed to seeing correct language structures repeatedly, without having to learn them explicitly as in conventional grammar books. Some participants, such as C and J, showed improvement in their ability to identify errors, such as noun gender errors, plural usage, or basic verb conjugation. They became more sensitive to errors because they were accustomed to seeing the correct patterns in the comics. In addition, because comic texts are short and focused, students feel less burdened when reading them, unlike regular reading texts, which are long and full of unfamiliar vocabulary that is not contextualized.

The improvement in pronunciation is very noticeable, especially among participants who initially scored very low on the pre-test. The audio feature in digital comics greatly helps students recognize the correct sounds and intonation of words. Some students admitted that they felt more confident imitating pronunciation after listening to the characters' dialogues in the comics. The combination of sound and visual narrative made the learning experience enjoyable and less stressful, especially for students who were usually shy or hesitant to speak French. For example, participants such as Ev and TE, who previously scored 0 in pronunciation, showed very impressive improvement after practicing with the audio content from the comics. The results of this study show that the use of Tapas-based digital comics significantly improves students' reading, basic writing, and pronunciation skills in A2-level French language learning. This media innovation is not only cognitively effective but also positively impacts students' emotional and motivational aspects.

Beyond the improvement in linguistic performance, the findings also highlight the sociocultural potential of digital comics in foreign language education. The developed comic adopts the narrative characteristics of bandes dessinées, an authentic form of cultural expression that has long been associated with Francophone literary and

visual traditions. Although the storyline was intentionally localized through the inclusion of Indonesian cultural settings, the comic retained essential features of French narrative discourse, dialogue patterns, and communicative conventions. This combination enabled learners to engage with the target language in culturally meaningful contexts while simultaneously relating the content to their own experiences. Such an approach supports the development of intercultural awareness by encouraging students to compare cultural perspectives, recognize similarities and differences between societies, and understand that language functions as a medium of social interaction rather than merely a collection of vocabulary and grammatical rules. Consequently, the educational value of the digital comic extends beyond improving reading comprehension and pronunciation to fostering learners' intercultural communicative competence, which is increasingly recognized as a fundamental objective of contemporary foreign language education.

The proposed model is also adaptable across different proficiency levels. While the current study focused on A2 learners, the same instructional framework can be extended to A1 learners by simplifying linguistic complexity and increasing visual scaffolding. Conversely, for intermediate and advanced learners (B1–C1), digital comics may incorporate longer narratives, more sophisticated grammatical constructions, authentic cultural issues, and critical discussion tasks. This flexibility enables digital comics to function as scalable instructional media capable of supporting learners at different stages of language development while preserving learner engagement and contextualized language exposure.

## **6. Conclusion**

The conclusion can be drawn that the developed media has a positive impact on students' language skills. The increase in scores from the pre-test to the post-test shows that learners experienced real progress, especially in reading comprehension, recognition of basic language structures, and pronunciation. Even learners with low initial abilities showed significant improvement after using this digital comic media. In addition, the comic book's story successfully used local themes, such as tourism in Indonesia, to create an emotional connection between students and the material, making them more motivated and confident in learning French.

Furthermore, the findings suggest that Tapas-based digital comics contribute not only to the development of learners' reading comprehension and pronunciation but also to the cultivation of intercultural awareness through meaningful engagement with Francophone-inspired visual narratives. By integrating authentic comic conventions with culturally relevant local contexts, the developed learning medium promotes both linguistic competence and intercultural communicative competence. Consequently, this study demonstrates that digital comics can serve as an interdisciplinary educational resource that connects language learning, digital technology, and cultural understanding, thereby contributing to broader discussions within technology-enhanced language learning and intercultural education.

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